



2024 PROCEEDING

3RD INTERNATIONAL VIRTUAL CONFERENCE ON
SOCIAL SCIENCES, EDUCATION AND INNOVATION 2024



3rd IVCoSEI 2024



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GLOBAL ACADEMIC EXCELLENCE (M) SDN BHD
2024

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**3RD INTERNATIONAL VIRTUAL CONFERENCE ON
SOCIAL SCIENCES, EDUCATION AND INNOVATION 2024**



3rd IVCoSEI 2024

**28th-29th September 2024
Virtual**

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**Website: www.egax.org
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PREFACE

It is our great pleasure to present the proceedings of the 3rd International Virtual Conference on Social Sciences, Education, and Innovation 2024 (3rd IVCoSEI 2024). This conference serves as a platform for scholars, researchers, educators, and innovators from across the globe to share their knowledge, ideas, and cutting-edge research in the intersecting fields of social sciences, education, and innovation. The 2024 edition of the conference continues our commitment to fostering dialogue and collaboration in an increasingly digital world, where global challenges require interdisciplinary approaches and innovative solutions.

The world is at a critical juncture, where education, technology, and social sciences are playing pivotal roles in shaping the future of societies. From addressing educational disparities and advancing new teaching methodologies, to exploring the socio-economic impact of technological innovations, the 3rd IVCoSEI 2024 brings together an array of diverse perspectives aimed at pushing the boundaries of traditional disciplines. It is in this spirit of collaboration and interdisciplinary exchange that we invite participants to engage in discussions that are as intellectually enriching as they are practically relevant.

Despite the challenges of hosting virtual events, the success of 3rd IVCoSEI 2024 demonstrates the resilience of the academic community in adapting to changing circumstances. Virtual platforms have allowed us to transcend geographical boundaries, enabling participants from various parts of the world to connect, share insights, and forge new partnerships. We are proud that 3rd IVCoSEI 2024 continues to provide an inclusive and accessible forum for global participants, ensuring that the exchange of knowledge remains unimpeded by physical constraints.

The proceedings of this conference reflect the diversity of thought and innovation that define our times. The range of papers and presentations cover topics that are not only of academic interest but also crucial to addressing the pressing issues facing education systems, social policies, and technological advancements today. We hope that these contributions inspire further inquiry, spark dialogue, and encourage the development of ideas that will make a meaningful impact in the years to come.

On behalf of the organizing committee, we would like to extend our heartfelt gratitude to the contributors, participants, reviewers, and everyone involved in making the 3rd IVCoSEI 2024 a success. We are confident that the insights shared here will contribute significantly to the broader discourse on social sciences, education, and innovation, and we look forward to witnessing the long-term impacts of the discussions held during this conference.

We hope you find the proceedings informative, thought-provoking, and inspiring.

Sincerely,

Log. Dr. Ezanee Mohamed Elias

Conference Chair,

3rd International Virtual Conference on Social Sciences, Education, and Innovation
2024 (3rd IVCoSEI 2024)

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ETHNOGRAPHIC APPROACHES IN RESEARCHING STATELESS AND UNDOCUMENTED POPULATIONS: A SCOPING REVIEW

Dayang Hajyrayati Awg Kassim^{1,2*}
Noor Azlan Mohd Noor²

¹Department of Anthropology and Sociology, Faculty of Social Sciences and Humanities, University Malaysia Sarawak, Kota Samarahan, Malaysia

²Department of Sociology and Anthropology, International Islamic University Malaysia, Selangor, Malaysia.

Abstract: *The scoping review explores the challenges and potential of an ethnographic approach in the study of stateless and undocumented people, shedding light on how these approaches portray the lives and legal invisibility of at-risk and marginalized populations. Stateless individuals, or persons who lack nationality, and undocumented migrants, or people who reside in a country without any formal recognition of their migration status, are two interconnected yet distinct phenomena encountered by many countries worldwide. It is argued that researchers utilizing ethnographic methods, due to their significant focus on detailed and immersive investigations within real-world environments, are uniquely positioned to uncover and address the complex issues that affect these populations. A literature review has been conducted using sources from Google Scholar, Scopus, ProQuest, and Science Direct. Based on the review, ethnography approaches used in analysing statelessness condition not only reveals a widespread instance of socio-legal oppression involving exclusions from healthcare, education, and the legal system, but also captures the social networks, coping mechanisms, and identity struggles that stateless and undocumented individuals experience. To a certain extent, ethnographic studies are useful in addressing the shortcomings of quantitative research, which often fails to recognize the significance of the everyday realities these populations face in their interactions with the state and society. Despite the strengths of ethnographic approaches, this review also discusses methodological limitations, including issues of researcher bias, access to populations, and ethical concerns related to the documentation of illegal or precarious statuses. The review concludes with recommendations for future research, emphasizing the need for ethnographic work that engages directly with policy implications and human rights frameworks, to contribute more effectively to solutions for the stateless and undocumented. By bridging the gap between lived experiences and policy, ethnographic approaches hold the potential to foster more inclusive legal and social reforms.*

Keywords: *Ethnography, Statelessness, Undocumented, Scoping Review*

Introduction

Statelessness and undocumented populations present a considerable global socio-legal and humanitarian challenge. Stateless people, who are defined as people who are not recognised as nationals by any state, and undocumented migrants, who do not have formal immigration status, are subjected to social exclusion. These individuals are denied access to basic rights, including healthcare, education, and social services, due to their lack of legal identity. With their emphasis on in-depth, real-world investigations, ethnographic methods have become a critical instrument for investigating the lived experiences of stateless and undocumented populations. This scoping review synthesises the existing literature on the use of ethnographic approaches in the study of statelessness, emphasising the extent to which these methods offer varied insights into the socio-legal dynamics of these vulnerable groups. Considering the wide-ranging nature and significance of the phenomenon of "illegal" migration and statelessness in

the current historical context, it is posited that ethnography can be crucial for benefiting not only anthropologists and other social scientists but also policymakers, politicians, and the general public about the complex realities of illegality within particular host society contexts and in comparative global terms (Willen, 2007).

The legal status of stateless and undocumented populations differs worldwide, frequently due to complex intersections involving international, national, and regional laws. Statelessness may arise from deficiencies in nationality legislation, lack of birth registration, discrimination based on race, gender, or political beliefs, or from the dissolution of governments.

Ethnographic studies of statelessness capture the lived realities of these groups in ways that legal and quantitative studies often overlook. Through immersive fieldwork, participant observation, and qualitative interviews, ethnographic research documents the social, cultural, and political experiences of stateless persons. These methods reveal how stateless individuals navigate exclusion, form coping mechanisms, and create social networks, despite their legal invisibility.

Legal Dimensions of Statelessness

The concept of statelessness is primarily defined in legal terms. The 1954 Convention Relating to the Status of Stateless Persons provides the international legal framework for statelessness, defining a stateless person as "someone who is not considered a national by any state under the operation of its law." Stateless individuals can be categorized as *de jure* (those who legally have no nationality) or *de facto* (those who cannot prove their nationality or are unable to receive state protection) (Owen, 2018). However, these legal frameworks often fail to address the complex, lived realities of stateless populations.

Legal studies on statelessness frequently focus on the barriers posed by national laws and administrative processes, which prevent stateless individuals from obtaining citizenship. In Malaysia, for example, the *jus sanguinis* principle, which grants citizenship by descent, excludes children of undocumented or stateless parents from acquiring nationality (Razali, Nordin, & Duraisingam, 2015). Similarly, administrative challenges, such as the requirement for birth certificates and marriage documentation, further marginalize indigenous and rural populations (Duraisingam, 2016). Ethnographic research in this context reveals how legal frameworks interact with social and political dynamics, exposing the everyday challenges faced by stateless persons.

Hence, the key contributions of this scoping review are as follows:

- a. Offering a summarization of existing literature on ethnographic research related to stateless and undocumented populations, providing a valuable reference for comparison and refining the focus of our review.
- b. Discussing the strengths and limitations of ethnographic approaches, particularly in the study of statelessness.
- c. Highlighting the current gaps in ethnographic research on stateless and undocumented populations and proposing potential future research directions and emerging trends.

The rest of this review is organized as follows: The remainder of the Introduction outlines related works and the rationale for conducting this review. The Methods section explains the search strategy, eligibility criteria, study selection, and synthesis process. In the Results section, the selected studies are reviewed, and their key findings are discussed. The Discussion section provides an in-depth analysis of the findings, comparing the benefits and challenges of the

different ethnographic approaches. Finally, the Conclusion summarizes the main contributions, implications, and directions for future research.

Methods

Databases including Google Scholar, Scopus, ProQuest, ScienceDirect, and JSTOR were systematically searched by two independent reviewers for literature published between 2010 and May 2023. The search terms were tailored to ethnographic research on stateless and undocumented populations and included the following: (1) "ethnography" OR "ethnographic study" OR "qualitative research" OR "fieldwork" OR "participant observation", (2) "statelessness" OR "stateless populations" OR "undocumented" OR "undocumented migrants" OR "irregular migration", and (3) "identity" OR "citizenship" OR "legal status" OR "marginalization". Gray literature, conference proceedings and book chapters were not included due to time constraints, and references of the included studies were also examined for relevant citations. The articles featured in this review were chosen systematically, and it is important to note that the evidence examined may not be comprehensive. The articles were subsequently discussed through consensus among two reviewers.

Based on the selection criteria and consensus among reviewers, this scoping review incorporated articles that specify the use of ethnographic methods to examine stateless or undocumented populations in their studies. The review included a range of original ethnographic studies, incorporating both qualitative and mixed-methods research, published in English, and was inclusive of studies from any geographical location. Only studies with complete texts were included, whereas abstracts and studies lacking accessible full texts were excluded. On the other hand, studies were omitted if they did not concentrate on stateless individuals or undocumented populations, were not directly related to issues faced by stateless or undocumented communities, were not grounded in empirical ethnographic research, or were published in languages other than English.

Results

This scoping review includes 10 ethnographic studies (refer to Table 1) focused on statelessness and undocumented populations. The studies conducted between 2007 and 2024 which indicate a continuous and growing interest on research related to the lived experiences of stateless persons and undocumented populations via ethnographic research approaches.

Study Design and Methodology

Among the selected studies, the majority (8 out of 10, 80%) employed qualitative ethnographic designs, focusing on in-depth fieldwork, participant observation, and interviews to capture the nuances of statelessness and undocumented populations. These studies utilized immersive ethnographic approaches to explore how these communities navigate their lack of citizenship, legal status, and access to resources. Two studies (20%) used mixed methods, combining qualitative ethnographic insights with quantitative surveys to provide a more comprehensive analysis of statelessness, particularly in cases such as the Bajau Laut in Sabah and the Rohingya in Myanmar.

Table 1: Summary of Studies Included in The Review

Article	Authors	Year	Method	Main Findings
'Us' Versus 'Them': Revisiting the Daily Life Struggle of Stateless Community in Sabah, Malaysia	Peter Aning Tedong et al.	2024	Mixed-methods with in-depth interviews and face-to-face surveys	Stateless communities in Sabah face dire living conditions, limited employment opportunities, and lack of documentation, restricting access to services and perpetuating poverty.
Statelessness and the Lives of the Children of Migrants in Sabah, East Malaysia	Catherine Allerton	2014	Ethnographic fieldwork with participant observation and interviews	Stateless children born to migrants in Sabah experience perpetual 'foreignness,' struggle for recognition, and face barriers to education and health services.
Patients of the State: An Ethnographic Account of Poor People's Waiting	Javier Auyero	2011	Ethnographic fieldwork with participant observation and interviews	Waiting becomes a mechanism of control and subjugation for the poor, transforming them into 'patients of the state' rather than active citizens.
Diagnosing Statelessness and Everyday State Illegibility in Northern Thailand	Janepicha Cheva-Isarakul	2020	Ethnographic fieldwork with participant observation and informal interviews	Stateless individuals in Northern Thailand face complex bureaucratic processes and systemic discrimination, leading to difficulties in obtaining legal status.
Everyday Statelessness in Italy: Status, Rights and Camps	Nando Sigona	2016	Ethnographic methods including in-depth interviews and participant observation	Stateless Roma communities experience partial inclusion, bureaucratic barriers, and challenges in negotiating rights and membership within camps.

Recovering from Statelessness: Resettled Bhutanese-Nepali and Karen Refugees Reflect on Lack of Legal Nationality	Lindsey N. Kingston and Kathryn R. Stam	2015	Semi-structured qualitative interviews with ethnographic methods	Statelessness violates human rights, creating barriers to recognition, education, and employment for resettled Bhutanese-Nepali and Karen refugees.
Life in De Facto Statelessness in Enclaves in India and Bangladesh	Hosna J. Shewly	2013	Ethnographic fieldwork involving participant observation and interviews	Enclave residents in India and Bangladesh experience de facto statelessness, facing exclusion from citizenship rights and relying on informal networks for survival.
Looking Beyond Invisibility: Rohingyas' Dangerous Encounters with Papers and Cards	Natalie Brinham	2019	Narrative and ethnographic research with focus groups and interviews	Identity documents have emancipatory, repressive, and destructive powers for the Rohingya, shaping their experiences of statelessness and oppression.
Seeing like the Stateless: Documentation and the Mobilities of Liminal Citizenship in Cambodia	Laurie Parsons and Sabina Lawreniuk	2018	Ethnographic fieldwork with semi-structured interviews	Ethnically Vietnamese in Cambodia face liminal statelessness, with their citizenship rights determined by discriminatory practices and bureaucratic barriers.
Toward a Critical Phenomenology of 'Illegality': State Power, Criminalization, and Abjectivity among Undocumented Migrant Workers in Tel Aviv, Israel	Sarah S. Willen	2007	Ethnographic fieldwork with in-depth interviews and participant observation	Illegality is not just a legal status but an embodied experience, with undocumented migrants in Tel Aviv living in fear, marginalization, and a sense of being hunted.

Geographical Focus

Studies revealed a significant focus on Southeast Asia, predominantly in nations such as Malaysia, Cambodia, and Thailand. This regional concentration illustrates the significant challenges of statelessness impacting various communities, including the Bajau Laut (Tedong et al., 2024), Filipino migrants (Allerton, 2014), and the ethnically Vietnamese (Parsons & Lawreniuk, 2018), highlighting the widespread persistence of statelessness within the socio-political structures of these nations. The focus on Southeast Asia highlights the systemic issues related to statelessness in this region, where historical legacies, migration trends, and inflexible nationality laws often marginalise entire communities.

Meanwhile, Europe is exemplified by studies on the stateless Roma populations in Italy (Sigona, 2016) and the experiences of refugees throughout the continent (Kingston & Stam, 2015), suggesting that statelessness extends beyond less developed areas and presents numerous obstacles even in nations with well-established legal systems. These European cases reveal how bureaucratic barriers and systemic discrimination continue to hamper the inclusion and recognition of stateless individuals, suggesting that statelessness is a persistent issue even within seemingly inclusive and democratic societies. A study conducted in the Middle East examines the experiences of undocumented migrant workers in Israel (Willen, 2007), highlighting the intersection of illegality, state power, and marginalisation in the production of statelessness. This highlights how state practices of criminalisation and exclusion sustain the vulnerabilities experienced by migrant populations.

Finally, the research conducted in South Asia regarding life in de facto stateless enclaves in India and Bangladesh (Shewly, 2013) contributes to our comprehension of statelessness, illustrating how geographic and political isolation can exacerbate challenges related to identity and belonging.

Emerging Themes

a. Identity and belonging

A common theme in various studies is the difficulty faced by stateless and undocumented individuals in forming a sense of identity and belonging. Allerton (2014) demonstrated that children of migrant parents in Sabah experience a continuous feeling of "foreignness," as they are not fully accepted by either their parents' country of origin or Malaysia, their birthplace. This notion of identity limbo echoed Parsons and Lawreniuk's (2018) examination of Vietnamese communities in Cambodia, where they presented the idea of "liminal statelessness," emphasising that citizenship transcends mere legal status and is influenced by societal perceptions and state practices. Additionally, Sigona (2016) highlighted that Roma communities in Italy navigate a paradoxical existence characterised by partial inclusion while fundamentally remaining excluded from full citizenship, thereby perpetuating a sense of 'outsiderness.' These studies collectively highlight that statelessness transcends a mere legal void; it represents a significant challenge in securing one's position within a society that frequently perceives these individuals as perpetual outsiders.

b. The importance of documentation

The value, implications, and effects of identity documentation emerged as a crucial theme. Brinham's (2019) study on the Rohingya illustrates that identity documents can function in two capacities: as mechanisms of empowerment that provide recognition and rights, or as means of oppression that sustain control and surveillance. Cheva-Isarakul's (2020) study on statelessness in Northern Thailand highlighted the role of documentation practices in perpetuating exclusion and discrimination, as stateless individuals faced nearly insurmountable bureaucratic obstacles

to prove their citizenship status. The findings align Sadiq's (2008) notion of administrative citizenship, which posits that documentary practices frequently perpetuate statelessness by excluding individuals who fail to satisfy stringent documentation requirements, despite possessing valid claims to citizenship. These studies collectively indicate that a focus on documentation frequently leads to exclusionary practices, preventing individuals from asserting their identity and placing them in a state of limbo.

c. The lived experiences of bureaucratic encounters

Sigona's (2016) research on the Roma in Italy emphasised that complex and inconsistent bureaucratic procedures obstruct access to rights and essential services, thereby perpetuating their marginalised status. Cheva-Isarakul (2020) demonstrated that state illegibility in Thailand poses obstacles for stateless individuals seeking legal status, leading to a continuous cycle of exclusion and uncertainty. Meanwhile, Willen (2007) expanded this analysis by investigating the ways in which undocumented migrants in Israel navigated the state's oppressive and arbitrary practices, which categorised them as criminalised subjects rather than individuals deserving of protection. These studies demonstrate that bureaucratic structures frequently operate not as impartial systems of governance but as active contributors to the marginalisation and exclusion of stateless populations.

d. Socioeconomic exclusion and vulnerability

The lack of citizenship often results in socioeconomic exclusion and increased vulnerability. Kingston and Stam's (2015) research on Bhutanese-Nepali and Karen refugees illustrates that statelessness significantly limits access to education, employment, and healthcare, thereby hindering these communities' ability to overcome poverty. Tedong et al. (2024) examined the Bajau Laut in Sabah, revealing that stateless communities frequently occupy low-paying, precarious employment and lack access to essential social services. Willen's (2007) research on undocumented migrants in Israel indicates that stateless individuals frequently endure labour exploitation and live in persistent fear of detention or deportation. These studies highlight the manner in which statelessness sustains a cycle of poverty and marginalisation, as the absence of legal recognition results in restricted access to socioeconomic opportunities.

e. Human Rights Violations and State Power

Numerous studies highlight that statelessness leads to systemic human rights violations, frequently intensified by state authority. Willen (2007) demonstrated that undocumented migrants in Israel face criminalisation and live in perpetual fear of state surveillance and control, illustrating the state's exercise of power to sustain the 'illegality' of these individuals. Cheva-Isarakul (2020) and Brinham (2019) demonstrated that identity documentation serves as a tool of state power, facilitating control, limiting mobility, and denying rights. Parsons and Lawreniuk (2018) examined statelessness in Cambodia as a form of structural violence, wherein the lack of citizenship results in the deprivation of fundamental human rights.

Discussion

Ethnographic research provides major advantages in the examination of statelessness and undocumented populations, facilitating a comprehensive and nuanced understanding of the lived experiences of individuals frequently marginalised and obscured by state systems. Nonetheless, it presents limitations that warrant consideration, especially regarding representation, accessibility, and ethical challenges.

Strengths of Ethnographic Approaches

Ethnography is especially useful at documenting the everyday realities and complexities of statelessness, aspects frequently neglected by quantitative or legalistic approaches. Allerton's (2014) study on the children of migrants in Sabah employed participant observation and in-depth interviews to uncover the emotional and psychological aspects of statelessness, including feelings of ongoing foreignness and their effects on identity formation. This method enables researchers to examine the lived experiences of stateless individuals within their natural contexts, revealing their strategies for navigating systemic barriers, discrimination, and social exclusion. On the other hand, ethnographic methods effectively illustrate how stateless individuals demonstrate agency and resilience amidst structural violence and state oppression. For instance, Willen's (2007) research in Tel Aviv, Israel, reveals the ways in which undocumented migrants resist and adapt to state control and criminalisation, demonstrating the daily experiences and negotiations of illegality. Ethnographers, through immersion in the communities they study, can effectively capture the nuanced interactions of stateless individuals with state power, the negotiation of their identities, and the development of coping strategies to navigate their precarious circumstances (Parsons & Lawreniuk, 2018).

Furthermore, ethnographic studies serve as a platform for stateless and undocumented individuals to articulate their experiences, thereby contesting prevailing narratives and stereotypes. Sigona's (2016) research on the Roma communities in Italy contests the perception of stateless individuals as mere victims, instead depicting them as active agents who engage with intricate bureaucratic systems and resist exclusion. Hence through the documentation of narratives, the approach has the ability to effectively humanise stateless individuals and challenges dehumanising representations, thereby serving as a significant method for advocacy and policy reform (Brinham, 2019).

Ethnographic research also effectively captures the cultural, social, and historical contexts that contribute to statelessness. Herein, it provides insights into the influence of social norms, traditions, and community dynamics on experiences of statelessness. Cheva-Isarakul's (2020) research on statelessness in Northern Thailand illustrates how cultural perceptions and bureaucratic practices contribute to ongoing exclusion.

Limitations of Ethnographic Approaches

Accessing stateless and undocumented populations can be difficult due to their marginalized status and fear of legal repercussions. Consequently, ethnographers encounter difficulties in establishing trust and obtaining access to these communities, potentially constraining the research scope. For example, Willen (2007) noted the challenges in forming relationships with undocumented migrants due to their fear of exposure and deportation, which could result in biases in the portrayal of their experiences. Ethical considerations and risks in ethnographic research include prolonged engagement with vulnerable populations, which raises concerns regarding confidentiality, informed consent, and the potential for harm. Parsons & Lawreniuk (2018) emphasised the ethical dilemma associated with documenting the lives of stateless Vietnamese communities in Cambodia, noting that revealing their status may result in legal consequences. Ensuring participant anonymity and safety is essential; however, it may restrict the depth and specificity of the collected data.

A notable criticism of ethnographic research is its restricted generalisability, stemming from its emphasis on particular communities or individuals. This approach provides detailed insights; however, its applicability to broader stateless populations may be limited. The experiences of the Bajau Laut community in Sabah (Tedong et al., 2024) may not be indicative of other

stateless groups across varying geographical or cultural contexts. It is essential to recognise that the strength of ethnography resides in its capacity to offer depth and context, as opposed to breadth. Ethnographic research is characterised by its time-intensive nature, necessitating prolonged immersion within the community. This limitation restricts the number of cases or regions that a single study can encompass, resulting in reduced efficiency compared to alternative research methods in delivering a comprehensive overview of statelessness. The close involvement of the researcher may introduce subjective interpretations or biases, which could influence data collection and analysis (Sigona, 2016). Reflexivity and self-awareness are essential for addressing biases; however, they continue to pose inherent challenges in ethnographic research.

Conclusion

Stateless and undocumented populations have yielded important insights from ethnographic study; yet, there are still large gaps that must be filled in order to obtain a complete and more sympathetic picture of these marginalised groups. One of the most notable gaps is the lack of intersectional analysis in current ethnographic work. Numerous studies often examine statelessness as a singular situation, neglecting to appropriately account for how intersecting elements such as gender, ethnicity, age, and socioeconomic status further influence the experiences of stateless individuals. Cheva-Isarakul (2020) and Willen (2007) elucidate the structural barriers encountered by stateless populations; however, there is insufficient examination of how these challenges vary for women, children, or elderly stateless individuals, who may endure increased vulnerabilities due to intersecting forms of discrimination. Future ethnographic research should take an intersectional perspective to more accurately represent the varied experiences of statelessness (Crenshaw, 1989).

Another critical gap is the limited engagement with how statelessness intersects with environmental precarity and climate change. Anthropological study increasingly acknowledges the effects of climate displacement on at-risk people, necessitating ethnographic investigations that investigate how environmental conditions intensify statelessness, especially in areas susceptible to climate disasters (McAdam, 2012). This new trend in climate anthropology necessitates research that examines how stateless groups confront the dual challenges of climatic instability and absence of legal recognition, so providing a more comprehensive understanding of their difficulties.

Furthermore, much of the existing ethnographic research focusses on the experiences of stateless and undocumented people in specific national contexts, disregarding the transnational implications of statelessness. Statelessness transcends national borders and is often influenced by regional and global factors, including migration, border enforcement, and international policy frameworks. Subsequent research ought to investigate the transnational experiences of stateless individuals, elucidating their navigation of many legal systems, cultural identities, and national boundaries (Glick Schiller, 2003). This method would enhance our comprehension of the production and contestation of statelessness across various geopolitical contexts.

Ethnographic study must extend beyond merely chronicling the pain and victimisation of stateless individuals to encompass their resilience, agency, and techniques of resistance. Although prior research, including that of Sigona (2016) and Allerton (2014), has advanced our understanding of how stateless individuals assert agency within oppressive frameworks, further investigation is required to examine how these communities mobilise, resist, and establish alternative modes of belonging and solidarity. By emphasising acts of resistance and

resilience, anthropologists can provide a more equitable and uplifting narrative that recognises the agency and inventiveness of stateless populations.

Finally, as digital technology progressively influences the interactions of stateless and undocumented individuals with the world, there is a necessity for ethnographic research that investigates the utilisation of digital tools and platforms by these communities. Digital technology is vital for stateless individuals in accessing necessary services and organising resistance activities; nonetheless, it remains a largely underexamined subject in ethnographic research (Miller et al., 2016). Future study may explore how digital environments provide stateless people with opportunities to declare their identities, access resources, and establish support networks, thereby broadening the field of ethnographic investigation.

In summary, although ethnographic research has greatly enhanced our comprehension of statelessness and undocumented populations, it must progress by integrating intersectional perspectives, considering environmental factors, examining transnational dimensions, emphasising agency, and interacting with digital practices. By adopting these growing themes and research avenues, ethnography can enhance the understanding of stateless individuals' experiences and aid in the formulation of more inclusive and equitable policy interventions that acknowledge the dignity and rights of those residing at the periphery of nation-states.

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DEVELOPING THE MALAYSIA MADANI MILLENNIAL FINANCIAL LITERACY FRAMEWORK (M3-FLF)

Sahaida Laily Md Hashim¹

Nor Edi Azhar Mohamad²

Normaisarah Abdul Manaf³

Suzaida Bakar⁴

Nor Salwati Othman⁵

Nor Hamisham Harun⁶

^{1,2,3,4,5,6}UNITEN Business School (UBS) Sultan Haji Ahmad Shah Campus, Universiti Tenaga Nasional

Abstract: *Personal bankruptcy is one of the major issues highlighted in the current era. The report by the Malaysian Department of Insolvency indicated there were 233,483 bankruptcy cases reported until December 2023, while people aged 25 to 44 years old contributed about 56.99% to bankruptcy cases. Even though prior literature has linked financial literacy to financial inclusion, there are scanty empirical studies that examine the financial literacy of the millennials, especially in developing countries like Malaysia, and support the slogan of our Prime Minister, 'Malaysia MADANI'. However, no research has attempted to model and validate the Malaysia MADANI Millennials Financial Literacy Model. Hence, this study aims to capture the best-fit framework for the Malaysia MADANI Millennials Financial Literacy (M3-FLF) by integrating the technology acceptance theory. This paper is based on a literature review of journals on financial literacy, financial attitude, financial knowledge, financial skill, financial behavior and financial technology along with Theory Acceptance Model (TAM). The outcome of this study will complement the Malaysia National Strategy for Financial Literacy 2019–2023, Malaysia MADANI's directions to the Prime Minister, and support Social Development Growth for Societal Harmony and Happiness. Therefore, M3-FLF acts as a significant tool to signal the policymaker and provide self-awareness monitoring for individuals to help the future millennials navigate their financial well-being.*

Keywords: *Millennials, Bankruptcy, Financial Literacy*

Introduction

According to the Merriam-Webster Dictionary, the term Millennials generally refers to the generation of people born between the early 1980s and 1990s. Additionally, ICMR (2021) referred Malaysian Millennials as those born between years 1981 to 1996, and now currently aged between 28 to 44 years old. Malaysians millennials have been reported to have poor personal financial management due to low financial literacy (Tay et al., 2019) with almost 70 percent of Malaysians need support in terms of financial literacy knowledge (Hidayah & Ariffin, 2022). By being financial literate, it was expected that individuals should be vigilant in reading and comparing information on financial products prior to daily financial decisions making such as savings, investment and consumption. Unfortunately, a survey done by Malaysia Financial Planning Council (MFPC) through the Financial Capability & Utilization of Financial Advisory Services in Malaysia (2020) reported that the level of financial capability and financial literacy of Malaysians is alarmingly low and reveals that an alarming number of Malaysians generally have the low financial capability, do not know how to manage their money, and do not plan ahead and save.

Consequently, poor financial literacy among Malaysians especially among the millennials provide a challenge toward financial well-being of an individual that contributed to various financial consequence as such bankruptcy issues (Aziz & Kasim, 2020). Report by Malaysian Department of Insolvency (MDI) revealed an alarming issue for Malaysians aged within the range of 25 to 44 years old facing with the indebtedness, whereas the older generations face the serious financial challenges of retirement. It was testified a number of 233,483 of bankruptcy cases has been reported from 2019 until December 2023. What more alarming is, Malaysian aged between 25 up to 44 years old contribute about 56.99 percent of the bankruptcy cases. Subsequently, the millennials generation are reported as the largest contributors to the bankruptcy cases in Malaysia which encounter more than half out of the total cases. Additionally, the statistics for number of bankruptcy cases by type of employment indicating 62.42 percent are contributed by working Malaysian categorized by MDI as business owner, private and public sector, self-employed and professional. Additionally, recent report by RinggitPlus Financial Literacy Survey (RMFLS) among the millennials evidenced that Malaysians' personal financial habits remain worrying, since many Malaysians are still susceptible to financial shocks, and a considerable amount continue to spend beyond their means (RMFLS, 2021).

Without doubt planning and managing personal finances for personals and also professional purposes is a lifelong process required through learning and understandings the necessary skills. If the issues is left untacked, it will become worsen with serious impact on the individuals, their families and dependents, as well as on Malaysia's social and economic development. Furthermore, this will impede the achievement of Malaysian MADANI's visionary. Looking at the Prime Minister's Malaysia MADANI vision for a civilized, skilled, and inclusive society based on six core values, namely Sustainability, Prosperity, Innovation, Respect, Trust, and Compassion; the significant of financial literacy is among the critical component of achieving this vision. This is especially vital since the millennials is the Malaysia's largest demographic group and the future generation that will contribute to nation building. Thus, having millennials who are fully equipped with sound financial security and adequate financial resources will navigating their understandings towards the environmental and social impact of their financial decisions, supporting the sustainable and ethical businesses, which can lead to a more sustainable economy. The burden with the stigma of being extravagant, savings and investment difficulty, high lifestyle and consumptive (Nurfadillah & Matoati, 2022) yet digitally savvy (RMFLS, 2021; Nurfadillah & Matoati, 2022), their behavior indeed a challenge towards priory behavioral theory in personal financial management research that might provide insightful findings.

Therefore, it is very important to develop Malaysia MADANI Millennials Financial Literacy framework (M3-FLF) that captures the indicators include internal and external (attitude, knowledge, skill, behavior and technology) factors of financial literacy levels among Malaysian Millennials to ensure the millennials have sound financial security and adequate financial resources. Thus, helps the Malaysian millennials navigate their personal finances in ensuring a sustainable financial wellbeing of the millennials thus enable them to participate more fully in the economy that is critical to achieving Malaysia's MADANI visionary goals.

Literature Review

Definition of Financial Literacy among the Millennial

The literacy theorist Brian Street explains that literacy is best understood as "particular ways of thinking about and doing reading and writing (Street, 2001). While the Literacy Definition Committee and National Adult Literacy Survey defined literacy as "using printed and written

information to function in society, to achieve one's goals, and to develop one's knowledge and potential" (Kirsch et al., 2001). The literacy idea had been expended to certain skills set such as computer literacy, digital literacy, statistical literacy, financial literacy, artificial intelligence literacy and food literacy among others. Being one of the literacy spectrums, the essence of financial literacy being linked towards individual ability in making a well-versed and firmed decisions concerning personal finances such as the financial resource, personal spending, investments, and savings (Mavlutova et al., 2022).

Malaysian MADANI is one of the national leadership policies proposed by the 10th Prime Minister of Malaysia, Dato Seri Anwar Ibrahim which was launched in January 2023. In general, Malaysia Madani focuses on the harmony of plural society, sustainable development and good governance. Malaysia MADANI represents the six pillars of M (sustainability/keMampanan), A (modernity/kesejahteraan), D (creativity/Daya cipta), A (respect/hormat), N (trust/keyakinan) and I (kindness/ Ihsan) which are pillars in charting Malaysia's path to a developed nation state and peace. It is undeniable that a sustainable financial well-being of the rakyat itself is one of the methods to achieve Malaysian MADANI, and that a framework that is able to steer the citizen towards achieving Malaysian MADANI is important. According to Zhang and Chatterjee (2023), the capacity to manage one's own finances well is an essential life skill that contributes to a society's long-term economic viability and prosperity. Because those who are financially literate can handle their money well and are less vulnerable to the effects of short-term economic fluctuations and better able prepared for their long-term financial demands. Thus, it's clear that financial literacy is one of the important indicators that in developing a holistic wellbeing of the citizens thus contribute towards the prime Minister's Vision of Malaysia MADANI.

For the millennial, they are expected to embrace the mixture of multi-dimensional concept of knowledge, skills, attitudes and actual behavior (Morgan & Trinh, 2019) related towards individual's competence and ability to demonstrate the acquired financial knowledge in practice (Lusardi & Mitchell, 2017). Thus, to be considered as financially literate, they must understand some financial transaction that posits greater impacts to millennial financial wellbeing such as how checking account works, what is the consequences of using credit card, how to minimized or avoiding debt, also effective management of financial risk and avoiding financial pitfalls. A study by Fessler et al., (2020) evidenced equal distribution of financial literacy across age groups. Yet, they also reported difference among millennials compare to others age cohort in several aspects such as relatively low levels of financial literacy, less financially organized, and showing riskier and less forward-looking behavior. However, they are more open to digital means of payments and financial innovations in general (Fessler et al., 2020).

The Behaviors of Malaysian's Millennials

Millennials were known among others as the Net Generation, Echo Boomers, Nexteer, the Nexus Generation and Generation Y (Noor et al., 2022). ICMR (2021) refers Malaysian Millennials as those born between 1981-1996; now currently aged in between 28 to 44, becoming a significant proportion of the labor force and economic power in Malaysia. Thus for, millennials can be categorized from diverse range of experience such as from lower commitments beginners in the workforce to those in late 30's with larger commitment yet more stable positions. Generally, millennials being defined as grown up immersed in the world of digital technologies and amongst tech-savvy, given they were born within the era of technological innovation with most connected generation of internet of things. They stay connected with others using laptops and smartphones thus being the active users of social

media platforms such as Facebook, Twitter, Instagram and Tik -Tok for personal used (study, undertake projects, and resolve life challenges asides from having fun).

In term of millennial's financial behavior, the 2021 RinggitPlus Financial Literacy Survey (RMFLS, 2021) evidenced that the youths of Malaysia are more digitally savvy based on the heavily relied on e-wallet usage and greater willingness to invest in digital assets yet having worse personal finance habits compared to the rest of the population. The survey also concludes that Malaysians' personal financial habits remain worrying since many Malaysians are still susceptible to financial shocks, and a considerable amount continue to spends beyond their means (RMFLS, 2021). Research on the neighbor's country, Indonesia millennials also showing the same attribute which revealed that only 10.7% of the income generated by the millennial generation was used for savings, while the remaining 51.1% of the millennial generation's income was used for consumptive needs and only 2% is used for investment (IDN Research Institute, 2019). Thus showings the same behavioral patent, which might be contributed by the uniqueness of the millennial's behaviors attribute by their characteristics which tends to be more dynamic, creative, technologically savvy and pragmatic (Nurfadillah, & Matoati, 2022).

Dion (2020) exerts that millennial financial behavior on savings objective and consumption were driven by two main principles hold by the millennials. The first principles are "you only live once" that inspire the millennial savings and spending habits for self-fulfillment. As such, savings for a vocation to be spend with large expenses visiting viral place with main objective of sharing their outfit of the day (OOTD) in social media, instead of saving for retirement that still far beyond. While the second principles are "fear of missing out" that stand their decisions in spending for unnecessary trending items for the sake of being in trends.

Theory Acceptance Model (TAM) for Millennial's Financial Literacy Framework

The theory of Technology Acceptance Model (TAM) emphasizes the most important factors in foreseeing the behavior of intention towards the utilization of technology from the consumer's point of view (Davis, 1989). Five latent variable was discussed in TAM theory comprise of external factors, Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude toward Using (ATU) and Behavior Intention (BI). (Purnamasari, 2020). The TAM theory interrelated with the millennial adoption of technology in their mainstream activities; resulting from a psychological theoretical method explaining users' philosophies, attitudes, interests and behavior relationships (Akbar et al., 2021). Consequently, TAM becoming a widely acceptance theory used in priory literature embracing the Industrial Revolution 4.0 converging on the adoption of information and communication technology into financial transaction such internet banking, online purchase and e-wallet (Akbar et al., 2021, Sarengat & Mahadwartha, 2021). The need of improved financial literacy among the millennial is importance to match with the escalating of financial technology (fintech) development; drivers towards complex financial landscape.

Construct of Financial Literacy

Current study proposing the internal and external construct to measure the financial literacy of the millennials. The attribution theory developed by (Heider, 1958) explain that individual's internal and external contribution able to determine the success or failure on future expectations. Chariri et al., (2018) exert that internal attribution can be measured as an individual treat (ability, effort, nature, character, and attitude). While external attribution can be a pressure situation that affects individual behaviors (luck, culture, political, economic and social values). Within the era of millennials, their financial outcomes are depending on their

financial behavior and interrelated choices within the domain of financial literacy, thus more literate individuals will exhibit healthy behaviors in multiple issues of household financial management (Cwynar 2020, Stolper & Walter 2017).

Financial attitude is referring to the ability and preparedness of individual to utilize and apply financial skills and knowledge in many situations (Świecka et al., 2019). Rey-Ares et al., (2021) investigated on how an individuals' self-control influences their financial choices, as millennials recently facing financial difficulties which will affects their financial well-being. Aside from defining financial literacy as knowledge, it's also being define from the perspective of financial skills (Hamdan & Mohammed, 2021). Prior literature explaining financial literacy as the ability to efficiently used the individual's financial knowledge and financial skills during their life time in achieving financial wellbeing (Finke et al., 2017; Engstrom & McKelvie, 2017). Hence, the dimension of financial literacy is beyond the financial knowledge on the concepts of finance.

Soekarno, & Pranoto (2020) conclude that millennials with high basic financial literacy level among those with higher education level and profession related to economy. They also indicated that millennials having high basic and/or advanced financial literacy level, overconfident and focus on learning economics tend to participate in the stock market. An individuals' financial well-being is directly influenced by low level of financial knowledge as well as understanding of financial literacy (Kenayathulla et al., 2020). Financial technology (fintech) related towards the utilization of software, applications and digital platforms as a means to provide financial services to consumers and businesses through digital devices (Morgan et al., 2019). Yet, the higher level of financial literacy is required for effective utilization of fintech services. Basic knowledge of digital financial products and services will help the millennial to understand the digital financial products and services thus build awareness towards the existence of financial products and services provided through knowledge of digital financial products and services, through digital means such as the internet and mobile phones (Morgan et al., 2019).

Methodology

Qualitative research is concerned with verbal data, such as focus group transcripts, interview notes, open-ended questions answered, video recording transcriptions, information gathered from online sources, books, journals, and the like. Both primary and secondary data can provide information for qualitative data. Researchers can obtain information from rich online sources such as books, journal articles, conference papers, and others that are based on secondary data. The authors of this study collected data from a few chosen journal papers, most of which included a thorough analysis of the key variables and indicators that affect financial literacy. Each journal has a unique point of view. In order to create a thorough framework, the authors are taking part in the comparison of material from those sources. This research use content analysis, both relational and conceptual analysis. The author gathered information from interpersonal interactions and theoretical concepts related to financial literacy and the variables that affect it.

Discussion

The author attempts to create a framework by highlighting the variables and indicators that affect financial literacy based on the literature research. The proposed framework made of five factors that may affects the financial literacy, with TAM as the moderating variables.

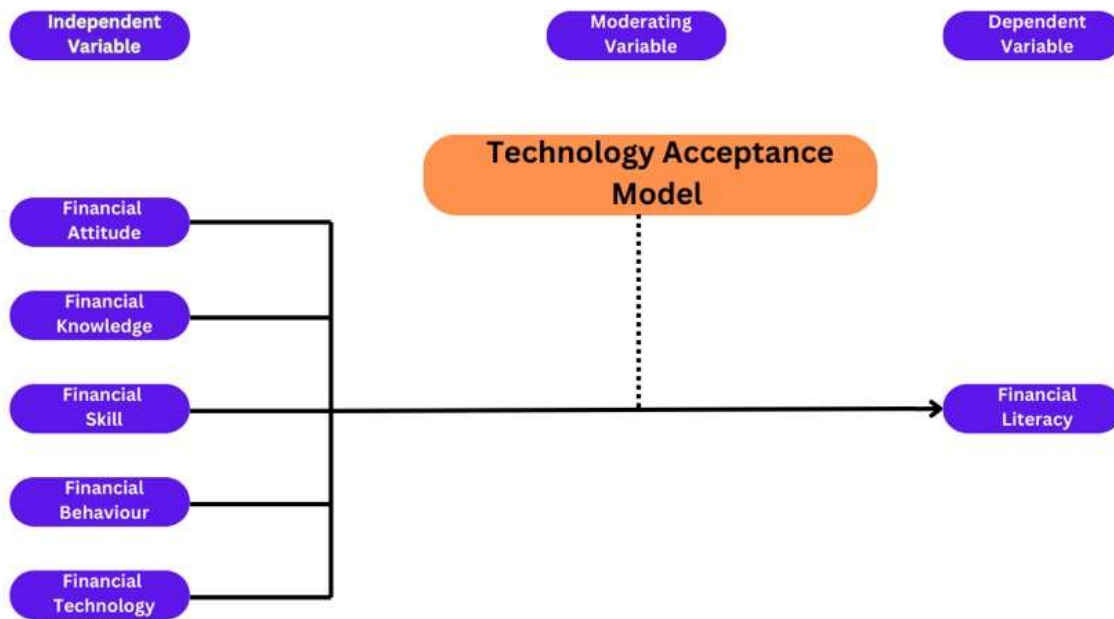


Figure 1: Conceptual Framework Linking Financial Attitude, Financial Knowledge, Financial Skill, Financial Behavior, Financial Technology and TAM as Moderating Variables

Prior literature revealed lack of literacy and display less healthy behaviors of the millennials compared to previous generations (Cwynar 2020; Kim, et al., 2019) thus they be challenge with inferior financial accomplishments compared to others generation (Cwynar 2020). The study by Rey-Ares et al., (2021) found that self-control does affects the individuals' financial attitudes for Spanish adult population, regardless their ages range from 18 to 79 years. Other than that, in the case of financial behavior, only millennials shown high self-control influenced by behavior. The relations of financial literacy and financial skills was evidenced by Hamdan & Mohammed (2021) that reported a positive significant relationship with financial behavior, financial attitude, and financial skills towards the financial literacy among the micro entrepreneurs. While, financial illiteracy and poor financial skills lead to various financial issues such as indebtedness leading to bankruptcy filings, poverty, divorce, and depression (Tandon & Tandon, 2021). They revealed that youths from low-income group are highly exposed to the financial knowledge as compared to middle- and high-income group. The study shows no difference in financial literacy regardless gender and income group, while undergraduates' students have moderate level of financial attitude, and high level of financial knowledge and behavior (Kenayathulla et al., 2020. Setiawan et al., (2020) focus on Indonesian's millennial by associating the digital financial literacy (DFL), current saving behavior, current spending behavior, and foresight of future spending and saving behavior. Their study evidenced the association of social-economic standing with DFL thus improving their current saving and spending behavior that will reshape their future saving and spending.

Swiecka (2019) model of financial literacy using the four elements of financial knowledge financial attitude, financial skills, and financial behavior will be used as the foundation in developing the holistic framework of Malaysia MADANI Millennial's Financial Literacy (M3-FLF). Stemming from the financial literacy concept by Swiecka (2019), current study proposing more comprehensive financial model embracing the unique behavior of millennials by considering internal and external construct of financial literacy. The Swiecka literacy model

only emphasized of the internal constructs that explicitly focus on the personal attribute of an individual. Integrating external constructs will generate more comprehensive M3-FLF model capturing millennials literacy. Additionally, the millennials are having more complex behavior compared to others generation, integrating the Technology Acceptance Model (TAM) in constructing the new M3-FLF of millennials will be a contribution towards priori literature on financial literacy.

Conclusion

In this article, a conceptual framework linking financial literacy, financial attitude, financial knowledge, financial skill, financial behavior, financial technology and TAM was put forward. A literature review served as the paper's design and approach. To ensure that Malaysian Millennials have adequate financial resources and sound financial security, it is crucial to develop the MADANI Millennials Financial Literacy framework (M3-FLF), which captures indicators of financial literacy levels among Millennials. These indicators include internal and external factors such as attitude, knowledge, skill, behavior, and technology. It is anticipated that this framework will assists Malaysian millennials in managing their personal finances and ensures their long-term financial security, allowing them to actively engage in the economy and contributing to the realization of Malaysia's MADANI aspirational objectives.

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A CONCEPT PAPER: “THE DEVELOPMENT OF SKY ARMS: A NOVEL SYSTEM FOR ALLEVIATING EDEMA USING THE 4D DEVELOPMENT MODEL”

Khin Thandar Aung¹

Thurein Aung²

Rafiza Abdul Razak³

¹Assistant professor, Critical Care Nursing Department, Kuliyah of nursing, IIUM, Malaysia, (khin_ta@iiu.edu.my)

²PhD candidate, Institute for Advance Studies, University of Malaya, Kuala Lumpur, Malaysia (thurein69@gmail.com)

³Associate professor, Department of Curriculum and Instructional technology, Faculty of Education, University of Malaya, Kuala Lumpur, Malaysia, (rafiza@um.edu.my)

Abstract: Millions of people worldwide suffer from oedema, a condition that frequently shows up as swelling in the upper extremities and is characterized by an abnormal buildup of fluid in tissues. Efficient management of oedema is crucial for alleviating symptoms and improving patient outcomes, typically through elevating the limbs to aid in fluid drainage. However, current methods, such as traditional arm slings and bandages connected to IV stands, have significant drawbacks, including limited adaptability, discomfort, inadequate support, and environmental issues due to frequent bandage changes. This concept paper introduces Sky Arms, an innovative device designed to revolutionise the management of upper limb oedema. Sky Arms is a limb elevation platform that incorporates cutting-edge materials, digital technology, dynamic customisation, and data-driven feedback. It has been developed using the 4D Development Model and aims to provide a user-friendly, secure, and adaptable experience. This study examines the features of Sky Arms, the role of the 4D Model in enhancing therapy effectiveness, the potential impact on patient care and recovery, and the opportunities for collaboration in the social sciences, education, and innovation. Sky Arms offers a promising solution to the persistent problem of oedema through the implementation of the 4D Development Model. This study highlights its innovative methodology and potential benefits, advocating for interdisciplinary cooperation to bring this technology to fruition. Sky Arms represents a significant advancement in oedema treatment, offering the potential for improved patient outcomes, a higher quality of care, and reduced healthcare costs.

Keywords: Sky Arm, Oedema, Alleviation System, 4D Developmental Model

Introduction

Oedema, a condition characterised by the abnormal buildup of fluid in tissues, affects a significant number of individuals worldwide (Scallan et al., 2010; Hettrick & Aviles, 2022). Swelling in the upper limb is a common manifestation of oedema, causing discomfort, stiffness, and limited movement. Efficient management of oedema is crucial for relieving symptoms and improving patient outcomes. One approach involves elevating the affected limb to facilitate the return of fluid to the central circulation (Besharat et al., 2021). However, current methods of oedema management, such as manual arm slings or bandages connected to intravenous (IV) stands, have several drawbacks that hinder effective patient care (Borman, 2018).

Conventional arm slings, typically made of cloth, have limited flexibility and can cause discomfort when worn for extended periods. This discomfort can lead to improper alignment and hinder the outflow of fluid. Moreover, manual slings may not provide sufficient support,

especially for heavier limbs, reducing their effectiveness (Baker et al., 2010). On the other hand, bandages connected to IV stands may offer greater stability, but they can be easily displaced, increasing the risk of falls and compromising patient safety. Additionally, the frequent changing of dressings generates more waste, raising concerns about the environmental impact and long-term sustainability of these conventional approaches (Miller, 2021).

This concept paper introduces Sky Arms, an innovative device designed to revolutionise the management of upper limb oedema in response to the challenges posed by this condition. Sky Arms is developed using the 4D Development Model, which incorporates state-of-the-art materials, digital technology, personalised customisation, and data-driven feedback. This approach ensures that the system addresses the limitations of current methods by providing a user-friendly, secure, and customisable platform for elevating the upper limb. The main objectives of this concept paper are to highlight the unique features of the Sky Arms system, explain how the 4D Development Model enhances the effectiveness of oedema treatment, explore the potential impact of Sky Arms on patient care and recovery, and examine opportunities for interdisciplinary collaboration in the fields of social sciences, education, and innovation.

Background of The Study

Oedema, a prevalent illness, is characterized by the abnormal accumulation of fluid in the body's tissues, resulting in swelling and discomfort. Possible causes include heart failure, kidney illness, or chronic venous insufficiency (Scallan et al., 2010). Oedema may also occur during surgical procedures or traumatic injuries, leading to localized oedema. When it affects the upper extremities, it can cause significant discomfort, pain, and stiffness, restricting mobility and interfering with everyday activities. Effective management of oedema in the upper limb is vital for relieving symptoms and improving overall quality of life (Borman, 2018).

Oedema is caused by the abnormal buildup of fluid in the interstitial, which is the area found beneath the skin or in body cavities such as the lungs. Visible swelling occurs when there is an accumulation of 2.5 to 3 litres of fluid in the interstitial space, either in a specific area or throughout the body (Scallan et al., 2010). Normally, the lymphatic system removes the excess fluid and channels it into the veins. However, if the lymphatic drainage system becomes overwhelmed, the fluid remains in the interstitial space, causing the affected limb to appear swollen. Oedema is primarily caused by four factors: reduced plasma oncotic pressure, elevated plasma hydrostatic pressure, increased vascular permeability, and impaired lymphatic drainage. Factors such as starvation, burns, brain injury, liver disease, or high levels of protein in the urine can decrease plasma oncotic pressure. In some cases, there may be an increase in capillary hydrostatic pressure due to excessive fluid volume or blockage of veins, leading to elevated intravenous pressure. Inflammation and increased vascular permeability can contribute to the development of localized or widespread oedema. When there is an increase in capillary permeability in injured areas, proteins migrate into the interstitial space and generate osmotic pressure, which draws fluid towards the area. Additionally, the production of inflammatory cytokines increases capillary permeability in cases of ischemia and viral diseases (Lent-Schochet, 2023).

Multiple strategies are available for managing oedema. Swelling may persist for an extended period, especially if the joint has been immobilized for a prolonged duration. It may take several months for the swelling to diminish. Not all patients with oedema require medication therapy. Occasionally, limiting sodium intake and elevating the lower limbs above the level of the left atrium may be sufficient. However, the majority of patients will need to use diuretics

along with nonpharmacologic therapy, such as reducing salt intake. The choice of diuretic, route of administration, and dosing regimen will depend on the underlying condition, its severity, and the urgency of the situation (King, 2017).

Elevating the injured hand above heart level is a fundamental method for managing oedema. This can be achieved by using a pillow or cushion for support while sitting or resting, and by keeping the hand elevated during movement. Healthcare providers and medical professionals should be mindful of how long a limb is elevated to prevent stiffness in the upper extremity (Miller et al., 2017; Abbal et al., 2023). Another effective therapy for hand oedema is contrast bathing. This technique involves alternating between cold and warm water to promote blood circulation and relieve oedema. The patient should immerse their hand in cold water for one minute (or a comfortable duration) to form a fist, and then transition to warm water for three minutes. This process should be repeated for a total of 10 minutes, ending with warm water. However, individuals with open wounds or circulatory impairments in the hand or upper limb should avoid this technique. Nurses should supervise the treatment to prevent any potential harm (Breger et al., 2009).

Massage therapy can also help reduce swelling in the affected hand. The hand should be elevated above heart level, while the elbow is supported on a firm surface. Applying firm pressure and stroking the hand from the fingertip to the elbow can effectively reduce swelling by promoting drainage. Using a lubricating cream can enhance the massage procedure. Occupational therapists or physiotherapists can administer this treatment, and nurses should assess the condition of the skin afterwards (Patel et al., 2022).

Traditional Methods of Oedema Management

The traditional method of controlling oedema in the upper limb involves raising the affected limb above the level of the heart. This helps with fluid removal and reduces swelling. Typically, manual arm slings or bandages are used and attached to drip stands. However, these approaches have certain limitations that can affect their effectiveness and patient comfort. Adjusting manual arm slings can be challenging, making it difficult to find the optimal angle for efficient fluid drainage. Prolonged use of these slings can lead to discomfort and the development of pressure sores, causing patients to deviate from their prescribed treatment (Sibbald, et al., 2020). Bandages secured to intravenous poles are inherently unstable and prone to slipping, increasing the risk of falls and accidents. Additionally, the constant need to replace these dressings generates a significant amount of medical waste, raising concerns about sustainability and the environment (Hettrick & Aviles, 2022).

Conventional therapies for oedema include the use of compression garments, manual lymphatic drainage, and pharmaceutical therapy. However, compression garments can be uncomfortable and challenging to apply, resulting in poor patient compliance. Manual lymphatic drainage, although effective, is time-consuming and not accessible to everyone. Pharmacological therapies, such as diuretics, carry inherent risks and may not be suitable for all individuals (Ely, et al., 2006).

Incidence and Management of Hand Injuries

A study conducted at Beacon Hospital in Petaling Jaya revealed that approximately 90 out of every 100,000 patients suffer from hand injuries. Chinese patients make up the majority of cases, followed by Malays and Indians. The number of cases is increasing. Raising the injured hand is essential for reducing pain and swelling, as well as for the rehabilitation process and regaining full functionality. However, consistently raising the injured hand can be challenging.

Conventional slings often cause discomfort and may discourage patients from using them. Moreover, they can negatively affect shoulder mobility, leading patients to prefer shorter periods of immobilisation. Applying and removing a sling can also be difficult for patients with hand injuries, making it hard for them to comply with the treatment. As a result, some hand surgeons may recommend elevating the hand using nearby objects like cushions. However, this approach carries the risk of patients not adhering to the need for elevation. Minimizing inflammation is crucial to prevent limitations in joint movement and stiffness in the fingers and wrists (Miller, 2021).

The Need for Innovative Solutions

Considering the limitations of traditional approaches and the significant impact of oedema on patients' well-being, there is a clear need for innovative treatments. Current therapies often lack flexibility, causing discomfort and reducing patient compliance. Makeshift remedies, such as using bandages attached to drip stands, are unstable and increase the risk of falls and injuries. Additionally, regularly replacing bandages leads to the accumulation of medical waste and raises concerns about environmental sustainability.

Sky Arms is an advanced technique developed to alleviate oedema. By integrating advanced materials, digital technology, dynamic customisation, and data-driven feedback into the 4D development model, it overcomes the limitations of older approaches. This comprehensive technique provides a user-friendly and adaptable platform for elevating the upper limbs, thereby improving the effectiveness of oedema treatment. Sky Arms aims to enhance patient care and recovery outcomes, reduce the burden on healthcare providers, and promote sustainability.

Sky Arms improves patient compliance with the treatment plan by offering a pleasant, secure, and customisable platform for elevating limbs. As a result, it increases the efficiency of fluid evacuation and reduces oedema. The system's real-time monitoring and dynamic adjustments ensure that patients consistently receive optimal support throughout the treatment process, minimizing complications and facilitating a faster recovery.

In summary, Sky Arms represents a significant advancement in the management of upper limb oedema. This groundbreaking procedure addresses the limitations of traditional procedures and has the potential to improve patient care, optimize recovery outcomes, reduce the burden on healthcare providers, and promote sustainability. By fostering interdisciplinary collaboration, Sky Arms can facilitate further research and development in the fields of healthcare, social sciences, and innovation. The goal is to enhance the quality of life for individuals suffering from oedema.

Problem Statement

Elevating the hand is crucial for effectively managing oedema caused by hand injuries, as it can alleviate pain and discomfort. However, a significant challenge in managing oedema is that patients often fail to adhere to recommended elevation regimens. One common reason for this lack of compliance is the absence of appropriate orthotics specifically designed to assist in hand elevation (Tan, 2021). Traditional slings are generally not recommended because they may cause shoulder problems and exacerbate the situation by allowing the hand to hang below the level of the heart (Murrell, 2003).

The persistent use of slings to elevate the affected hand remains a serious issue. Studies have shown that 38% of patients find traditional slings uncomfortable, leading to a significant

number of patients discontinuing their use (Kroeze et al., 2019). Additionally, immobilizing the shoulder with a sling can have a negative impact on shoulder mobility. As a result, there has been a shift towards shorter periods of immobilization, particularly after procedures involving the glenohumeral joint (Muraoka et al., 2019). After sustaining an injury or undergoing surgery on the upper extremities, patients face significant challenges when it comes to independently applying and removing slings. This difficulty hampers their ability to engage in everyday activities or participate in hand rehabilitation. Consequently, many hand surgeons opt not to use slings and instead recommend that patients elevate their hands using shoulder movement, hold them over their heads during movement, or support them with items such as blankets or small pillows when at rest. These procedures can be physically and mentally demanding for patients, increasing the likelihood of non-compliance (Miller, 2021).

Hand elevation is a common practice in therapeutic settings in Malaysia, where blankets and small cushions are often used. However, this technique has various issues. Patients frequently fail to readjust the position of their hands properly after activities such as using the toilet or eating. The hot and humid climate in Malaysia exacerbates discomfort, causing patients to remove the supports due to perspiration. This prolongs the recovery time and hinders the reduction of oedema. An orthopaedic device designed to allow convenient hand elevation in Malaysian conditions could effectively address these concerns by immobilizing the hand and reducing the risk of upper-limb stiffness caused by manual elevation.

Although there are treatments available for oedema, significant gaps still remain. Traditional procedures are uncomfortable and inconvenient, leading to poor patient compliance and hindering the effectiveness of treatment (Fullarton et al., 2004; Yu et al., 2020). Additionally, existing systems do not have the capability to actively monitor and adjust for individual variations in swelling, which makes it difficult to achieve optimal management. Currently, the available options do not effectively tailor treatment to meet the specific needs of each patient, resulting in inconsistent outcomes (Hettrick & Aviles, 2022). These gaps highlight the need for an innovative solution that prioritizes comfort, real-time monitoring, and personalised treatment.

There is an urgent need for a groundbreaking solution that addresses these shortcomings by providing a more pleasant, efficient, and personalized approach to managing oedema. An effective solution should utilize state-of-the-art technology to continuously monitor and adapt to the patient's condition in real-time, ensuring the best possible therapy and improved patient outcomes. The Sky Arms system, developed using the 4D Development Model, aims to fill these gaps by incorporating cutting-edge materials, digital technology, customizable features, and data-driven feedback. This approach will fulfil the following requirements:

- i. Improved comfort and adherence: Intelligent fabrics will be used to provide optimal compression while ensuring comfort, thereby promoting better patient compliance.
- ii. Real-time monitoring and adjustment: Wearable sensors and mobile applications will enable continuous monitoring and immediate adjustments based on the patient's condition.
- iii. Personalized treatment: Patient data will be collected and used to customize treatment protocols according to everyone's unique needs and physiological responses.

The main objectives of this innovation are to simplify the setup process of Sky Arms for nurses, reduce the setup time compared to manual arm slings, and effectively reduce hand oedema in

patients, thereby enhancing their overall quality of life. By addressing these critical shortcomings, Sky Arms has the potential to significantly improve patient care, compliance, and treatment outcomes for hand oedema.

Significance of The Innovation Project

The objective of the Sky Arms innovation project is to create a new way to manage hand oedema that overcomes the limitations of existing solutions. Sky Arms aims to offer a more comfortable, efficient, and personalized approach by incorporating advanced materials, digital technology, and data-driven feedback. Implementing this solution will improve patient adherence, enable continuous monitoring and adjustments, and ultimately lead to better treatment outcomes and faster recovery for individuals with hand oedema.

The Sky Arms system is a highly innovative development in the treatment of oedema, offering several potential advantages. This new approach can effectively reduce hand oedema in patients, thereby decreasing the risk of infection and enhancing overall quality of life. The sustainable materials used in Sky Arms are durable and have a longer lifespan, minimizing their ecological impact and reducing the amount of waste generated from frequent replacements. This method significantly reduces the workload of nurses by including an adjustable strap that can be easily customized to fit the patient's hand size, eliminating the need for time-consuming manual configurations. As a result, nurses can save valuable time and focus on other important tasks in the hospital. Additionally, Sky Arms can help reduce healthcare costs by shortening recovery periods and preventing complications from prolonged therapy. The system also provides enhanced educational opportunities for healthcare workers through innovative training and simulation technologies. Furthermore, it promotes social and technological innovation, stimulating further research and development in related fields. Therefore, the Sky Arms system has the potential to greatly improve patient care, optimize healthcare efficiency, and ensure the long-term sustainability of medical practices.

Research Methodology

Sky Arms is a system for managing hand and arm oedema that has been developed using the 4D development methodology, which includes four stages: Define, Design, Develop, and Deliver.

The Define phase aims to identify the limitations and shortcomings of existing methodologies. Sky Arms aims to improve the efficiency, user-friendliness, and security of elevation systems by addressing issues such as limited adjustability, discomfort, and unreliable attachment techniques that pose safety risks. Additionally, Sky Arms addresses the environmental impact of frequent bandage changes and the labour-intensive tasks faced by nurses when using conventional methods.

In the Design process, Sky Arms prioritizes patient comfort and healthcare provider efficiency, taking into consideration the challenges at hand. The product includes an adjustable strap for individual height preferences, a steel support that can be securely moved and locked into place for stability and flexibility, and a system consisting of a hook and strap for convenient attachment and detachment. The use of resilient, launderable fabrics ensures extended durability and reduces unnecessary waste.

During the Develop phase, a fully functional prototype of Sky Arms was created. The prototype will undergo testing to evaluate its functionality, adaptability, and user experience. This allows for improvements to be made before mass manufacturing.

In the Deliver phase, Sky Arms will be deployed in real-world settings through clinical trials to assess its effectiveness in controlled circumstances. Healthcare personnel will receive extensive training on the proper installation and use of Sky Arms. Following this, Sky Arms will be incorporated into current procedures and practices in hospitals and home care environments.

Comparative Analysis

The diagram below illustrates a comparison between the manual arm sling currently used for patients with hand oedema in the hospital setting (figure 1) and the innovative Sky Arms (figure 2), which aim to enhance the quality of services for these patients.



Fig 1: Current Arm Sling

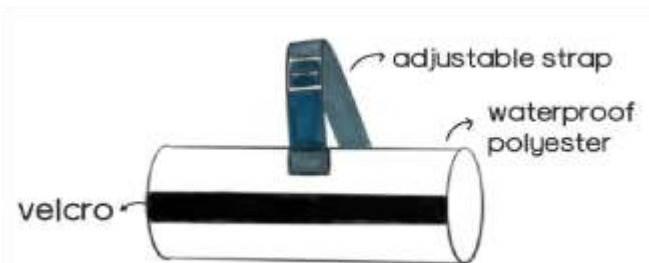


Fig 2: Sky Arms

Potential Benefits of Sky Arms

Sky Arms is a comprehensive method for managing swelling in the hands and arms. The goal is to decrease the intensity and duration of swelling by using effective and comfortable treatments. This strategy improves patient compliance and satisfaction by offering user-friendly and non-invasive alternatives. By providing healthcare practitioners with up-to-the-minute data, it facilitates well-informed judgments and modifications, promoting interdisciplinary research and development that crosses the divides between technology, healthcare, and social sciences. The pioneering design of Sky Arms has a multitude of benefits for both patients and healthcare providers.

Patients benefit from enhanced comfort provided by an adjustable strap and padded cuff, improved security due to a sturdy steel support and brake system, facilitated healing through consistent elevation that promotes proper lymphatic drainage, and reduced risk of infection due to easy cleaning and disinfection capabilities.

Sky Arms enhances the efficiency of healthcare professionals by reducing the time spent on adjusting and monitoring arm elevation. It also improves patient outcomes by ensuring consistent and effective oedema management. Additionally, it reduces the workload of skilled nursing staff by allowing them to focus on more complex patient needs. Moreover, it promotes environmental sustainability through its durable design, which reduces the frequency of replacements and minimizes waste.

Conclusion

Sky Arms utilizes the 4D development model to address the persistent problem of oedema. This concept paper highlights the innovative methodology and potential impact of the system, emphasizing the need for collaboration among the fields of social sciences, education, and innovation to effectively develop this revolutionary technology. The Sky Arms system represents a significant breakthrough in oedema treatment, as it overcomes the limitations of current therapies using cutting-edge technology and a patient-centred approach. By addressing gaps in knowledge and practice, this project has the potential to significantly improve patient outcomes, enhance the quality of care, and reduce healthcare costs.

Ethical Considerations

This study will adhere strictly to all ethical protocols for conducting research with human subjects. These protocols include obtaining informed consent from participants and ensuring the confidentiality of their information. Before commencing the study, it will undergo a comprehensive review and approval process by an Institutional Review Board.

Estimated Cost for Each Item			
Items	Price	Quantity	Cost
Wheels (50mm) with	RM 3.50	3	RM 10.50
Swivel Fix Brake	RM 3.50	3	RM 10.50
Stainless steel stand (1.1-2M X 0.4M)	RM 52.99	1	RM 52.99
Adjustable Limb Restraint Strap	RM 4.39	1	RM 4.39
Adjustable Cuff	RM 8.90	1	RM 8.90
Screw 4 flat head	RM 1.76	3	RM 5.28
Total cost			RM 92.56

*RM (Ringgit/ Malaysia currency)

Contact Information

Dr. Khin Thandar Aung
Project leader/ Assistant professor
Critical Care Nursing Department
Kulliyyah of nursing
IIUM
Email: khin_ta@iium.edu.my
Mobile: +60129677943

Call to Action

We invite researchers, healthcare experts, educators, and innovators to join us in a discussion about the Sky Arms system and explore potential collaborations. Together, we can drive progress in patient care and health technology.

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CROSSING BRIDGES: CROSS-CULTURAL ADAPTATION OF INTERNATIONAL STUDENTS IN MALAYSIA

Pragash, M¹
Sultana, M. A.²

¹Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman, Malaysia, (pragashm@utar.edu.my)

²Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman, Malaysia, (sultana@utar.edu.my)

Abstract: *The globalization of education has led to a significant rise in international student mobility, with Malaysia emerging as a key destination. Despite this growth, research on the cross-cultural adaptation of international students in Malaysia remains limited. This study aims to fill this gap by examining the adaptation experiences of international students in Malaysia, focusing on their perceptions of interactions and relationships with Malaysians. Using a descriptive analysis approach, data were gathered from 958 international undergraduate students across 20 universities in Malaysia, representing 15 countries. The study utilized the Statistical Package for the Social Science (SPSS) for data analysis. The findings reveal that 81.94% of respondents exhibit high levels of cross-cultural adaptation, while 18.06% display low levels. This indicates that a significant majority have successfully navigated the cultural transition. Furthermore, the study explores students' perceptions of emotional closeness, understanding, friendliness, approachability, integration, sense of togetherness, and familial bonds with Malaysians. Results show that many international students feel emotionally close and understood by Malaysians, view them as friendly and approachable, and perceive themselves as well-integrated into Malaysian society. However, a notable proportion of students experience feelings of emotional distance and lack of togetherness, highlighting areas for improvement in fostering social connections and inclusivity. The study underscores the importance of effective support mechanisms, such as orientation programs, cultural sensitivity training, and peer mentoring, to enhance the cross-cultural adaptation of international students. Initiatives to promote cultural exchange and understanding between local and international students are crucial for building strong relationships and creating a welcoming environment. The findings also emphasize the need for continued efforts to address the challenges faced by international students, ensuring their well-being and successful integration into Malaysian society. By implementing these recommendations, universities and policymakers can significantly improve the educational and social experiences of international students in Malaysia.*

Keywords: *Cross-cultural Adaptation, International Students, Higher Education, Social Integration, Malaysia*

Introduction

The globalization of education has led to a remarkable increase in the number of international students worldwide. According to UNESCO (2024), there are currently more than 6.4 million students participating in international study programs out of a global total of 254 million students. Malaysia has emerged as a prominent destination, welcoming over 170,000 international students from 162 countries. This number is expected to grow further, aligned with Malaysia's ambitious target of attracting 250,000 international students by 2025 (The Star, 2023). This trend highlights Malaysia's rising popularity as a preferred destination for global students seeking higher education opportunities.

Despite the growing number of international students in Malaysia, research specifically focusing on their adaptation experiences within the Malaysian context remains notably limited (Zhao *et al.*, 2023). This scarcity underscores the urgent need for current research initiatives to provide valuable insights into the dynamics of cross-cultural adaptation among international students in Malaysia. Understanding these dynamics is crucial for universities and policymakers to develop effective support mechanisms that enhance the overall experience and well-being of international students in Malaysia. Therefore, this study discusses the descriptive analysis of cross-cultural adaptation of international students in Malaysia, focuses on international students' perceptions of closeness, understanding, friendliness, approachability, integration, sense of togetherness, and familial bonds with Malaysians. By exploring these responses, the study aims to will reveal how international students perceive their interactions and relationships with Malaysians, shedding light on the emotional and social dimensions of their adaptation process.

Based on above discussion, present study aims to investigate the level of cross-cultural adaptation among international students studying in Malaysia and perceptions towards interactions and relationships with Malaysians. As such, the research poses the following questions:

RQ1: What is the level of cross-cultural adaptation among international students studying in Malaysia?

RQ2: What are the overall perceptions of international students towards their interactions and relationships with Malaysians?

Literature Review

Cross-cultural Adaptation

When students travel abroad for study, their process of cross-cultural adaptation encompasses not only learning academic and social norms but also navigating emotional, psychological, and practical challenges inherent in living in a foreign country (Cao *et al.*, 2023). Interactions between diverse cultures often lead to conflicts and contradictions during this adaptation, which are nearly unavoidable. International students frequently contend with culture shock (Tseu *et al.*, 2023), anxiety (Razgulin *et al.*, 2023), and other challenging social and psychological conditions (Okunishi & Tanaka, 2023), resulting in homesickness, boredom, fluctuating emotions, heightened sensitivity, and feelings of isolation (Mohamud & Madderla, 2024). These difficulties are evident when significant disparities exist in geography, lifestyle, values, and other aspects between their home and host cultures, exacerbating the process of adapting to the new cultural environment. Various other factors also influence the cross-cultural adaptation process, including the student's personality, social support, language proficiency, and prior intercultural experiences (Zakaria & Yusuf, 2022). Furthermore, they face challenges such as adjusting to new diets and accommodations, financial limitations, unfamiliar academic schedules and methodologies, as well as overcoming language and various cultural or personal obstacles (Koo & Nyunt, 2023). These transitional difficulties affect both daily life and cultural adaptation.

Theoretical Background

Kim's (2005) Integrative Communication Theory (ICT) offers insights into cross-cultural adaptation, the process of adjusting to a new culture. It explains how individuals undergo transformation through interactions with the new environment when moving from their familiar home culture. ICT emphasizes affiliative, dominance, and anxiety behaviors as influential in communication during adaptation, stressing the role of cultural context in shaping

communication norms. For international students, adapting to a new culture often involves navigating language, nonverbal cues, and cultural norms, all of which ICT suggests can significantly impact their adjustment process. Overall, ICT provides a valuable framework for understanding how communication behaviors affect cross-cultural adaptation, underscoring the importance of cultural context in analyzing such behaviors.

Methodology

Sample

The study focused on international undergraduate students aged 18-29 studying in Malaysia, adhering to Ruben and Kealey's (1979) recommendation of a minimum six-month foreign residence for observing cross-cultural adaptation. Only students meeting this criterion were included. Employing purposive sampling, the study targeted students from 20 universities, both public and private combined, across Malaysia, including Sabah and Sarawak, to ensure diverse representation and comprehensive insights into their adaptation experiences. Data were gathered from targeted respondents using online questionnaire distributed through multiple social media platforms, which yielded 958 valid and usable responses.

Instrument

This study utilized a self-administered survey questionnaire comprising two sections: demographic data and cross-cultural adaptation. The demographic section included questions on gender, nationality, age group, undergraduate status confirmation, year of study, and duration of stay in Malaysia. Subsequent sections contained questionnaires designed to measure cross-cultural adaptation. The Social Connectedness Scale (SCS) developed by Lee and Robbins (1995) was adapted for this variable. This scale focuses on social belonging and adjustment, originally used among Asian American college students. It has also been applied by Sun *et al.* (2021) to study connectedness and adaptation among Chinese international students in the U.S., and by Yang *et al.* (2022) to examine perceived discrimination and adaptation among international students in China. In this study, the SCS was adopted and employed to gauge cross-cultural adaptation among international students in Malaysia. The scale consists of six items rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Reliability test was performed to assess the extent to which these items are correlated with each other. High internal consistency indicates that the items are measuring the same underlying construct consistently. This is important because it ensures that the scale is reliable and that the items are indeed measuring what they are intended to measure.

Table 2: Reliability Test Result

Item	Cronbach's alpha
CCA 1 - I feel close to Malaysian around me.	.803
CCA 2 - I feel understood by the people I know here in Malaysia.	.781
CCA 3 - I see Malaysians as friendly and approachable.	.771
CCA 4 - I fit in well in this new environment of Malaysia.	.774
CCA 5 - I have little sense of togetherness with my Malaysian peers.	.772
CCA 6 - My Malaysian friends here are like my family.	.818

Table 2 shows the Cronbach's alpha value of each item is above the cut-off range of 0.7, which indicates that these items are reliable and good to proceed with further analyses (Hair *et al.*, 2022).

Findings and Discussion

Respondents' Profile

Table 1: Respondents' Demographic (n=958)

Demographic	Category	Frequency	Percentage (%)
Gender	Male	356	37.2
	Female	602	62.8
Country	Mauritius	4	0.40
	Brunei	5	0.50
	Japan	5	0.50
	Maldives	5	0.50
	Taiwan	7	0.70
	Kenya	11	1.10
	Thailand	13	1.40
	Ghana	17	1.80
	South Africa	18	1.90
	India	23	2.40
	Indonesia	60	6.30
	Nigeria	85	8.90
	Pakistan	95	9.90
	Bangladesh	142	14.80
	China	468	48.90
Age Group	18-21	53	5.5
	22-24	275	28.7
	25-27	349	36.4
	28-29	208	21.7
	Above 29	73	7.6
Year of Study	First	345	36.0
	Second	380	39.7
	Third	197	20.6
	Fourth	20	2.1
	Fifth	16	1.7

Table 1 shows breakdown of the respondents' demographic profile. A total of 958 respondents (n = 958) have participated in this study, consists of 356 male (37.2%) and 602 (62.8%) female respondents. Respondents from 15 countries have responded to the survey. International students from China contributed the largest number of participants, with 468 respondents making up nearly half (48.90%) of the total sample. Bangladesh, Pakistan, and Nigeria also made substantial contributions, comprising 14.80%, 9.90%, and 8.90% of the total sample, respectively. The distribution reflects a diverse participant base, highlighting contributions from across Asia (including Southeast Asia and South Asia) and Africa. In regards to respondents' age group, majority of participants are in the age groups of 25-27 years (n=349, 36.4%), indicating a significant proportion of young adults in the study. The minority age groups include 18-21 years with 53 participants (5.5%). The distribution shows a relatively even spread across the age groups, with notable concentrations in the mid-20s to late 20s. While younger adults (18-24 years) make up a substantial portion, there is also a presence of

participants in their late 20s and older. Largest groups of the respondents are in their second year of study, comprising 380 participants (39.7%), followed by the first year with 345 participants (36.0%). Fourth- and fifth-year students constitute the smallest segments of the sample, accounting for 2.1% and 1.7% of respondents, respectively.

Analysis

Data obtained from SCS scale was analysed using the Statistical Package for the Social Science (SPSS) version 22.

RQ1: What is the level of cross-cultural adaptation among international students studying in Malaysia?

The total score of the cross-cultural adaptation scale is 30. Score of 16 and above is considered a high-level cross-cultural adaptation, and vice-versa for score 15 and below. First, the scores are totalled up using the *Compute Variable* feature in SPSS. With the help of *Recode into different Variables* option, the computed data was recoded to two groups namely *High* and *Low*, to indicate the high and low levels of cross-cultural adaptation. Score of 15 and below are labelled as *Low*, while score of 16 up to 30 are labelled as *High*.

Table 3: Level of Cross-Cultural Adaptation

Level	Frequency	Percentage (%)
High (score of ≥ 16)	785	81.94
Low (score of ≤ 15)	173	18.06
Total	958	100

Based on the results shown in Table 3, 81.94% of the respondents have scored 16 and above for the cross-cultural adaption scale, indicating a high level of adaptation to cross-cultural situations. Followed by 18.06% of respondents who have scored 15 and below in the scale, indicating low level of cross-cultural adaptation.

RQ2: What are the overall perceptions of international students towards their interactions and relationships with Malaysians?

Item CCA1: I feel close to Malaysians around me

The descriptive analysis of each item is discussed in this section. Item CCA1 “*I feel close to Malaysians around me*” measures the respondents’ sense of emotional closeness to Malaysians in their social circle.

Table 4: Descriptive Analysis of CCA1

Response	Frequency	Percentage (%)
Strongly Disagree	46	4.8
Disagree	190	19.8
Not sure	366	38.2
Agree	256	26.7
Strongly Agree	100	10.4

Table 4 provides a detailed breakdown of responses to item CCA1. The distribution across response categories reveals a diverse range of sentiments among respondents regarding their

emotional closeness to Malaysians. The majority of respondents expressed *Not sure* (38.2%). However, the combined percentage of those who respondents *Agree* (26.7%) and *Strongly Agree* (10.4%) is 37.1%, indicating that most respondents have developed meaningful relationships and feel accepted within their Malaysian social environment, and also have assimilated into the cultural and social milieu. Respondents' sense of closeness to Malaysians signifies a deep understanding and acceptance of local customs and behaviors (Lyu, 2024). Furthermore, these results emphasize Malaysia's reputation as a hospitable destination and highlight the importance of cultivating inclusive environments within educational institutions.

On the other hand, the relatively high percentages of *Disagree* (19.8%) and *Strongly Disagree* (4.8%) indicate that a notable portion of respondents do not feel emotionally close to Malaysians. This highlights a potential area for improvement, suggesting that some international students may struggle with forming close relationships or feel isolated from the local community. These feelings of disconnect could be due to various factors, such as cultural differences, language barriers, or a lack of opportunities for meaningful interaction. Addressing these challenges is essential for promoting social cohesion and ensuring the well-being of international students. Universities can enhance their efforts by providing more support services, creating platforms for cultural exchange, and encouraging local students to engage with their international peers. By fostering an inclusive and supportive environment, educational institutions can help international students feel more connected and integrated into the Malaysian community.

These findings reflect both the successes and areas for improvement in supporting the cross-cultural adaptation of international students in Malaysia. While many students feel a sense of emotional closeness to Malaysians, continued efforts are necessary to ensure that all international students have the opportunity to build strong, supportive relationships within their host community.

Item CCA2: I feel understood by the people I know here in Malaysia

The second item, CCA2, "*I feel understood by the people I know here in Malaysia*", assesses the respondents' perception of being understood by the people they interact with in Malaysia.

Table 5: Descriptive Analysis of CCA2

Response	Frequency	Percentage (%)
Strongly Disagree	20	2.1
Disagree	137	14.3
Not sure	353	36.8
Agree	336	35.1
Strongly Agree	112	11.7

Table 5 provides a detailed breakdown of responses to item CCA2, highlights respondents' perceptions on whether they feel understood by the people they know in Malaysia. The majority of respondents were *Not sure* (36.8%), indicating a degree of uncertainty about their sense of being understood. However, the combined percentage of those who *Agree* (35.1%) and *Strongly Agree* (11.7%) is 46.8%, suggesting that a significant portion of international students feel understood by their social circles in Malaysia. This sense of being understood is critical for the cross-cultural adaptation of international students, as it reflects their ability to communicate effectively and connect with others on a deeper level. Feeling understood helps students build strong relationships and navigate social interactions more successfully.

The relatively low percentages of *Strongly Disagree* (2.1%) and *Disagree* (14.3%) further emphasize the general positivity of the students' experiences. These low percentages indicate that only a small fraction of respondents feel misunderstood, suggesting that negative experiences are not widespread among the surveyed international students. These results underline the importance of maintaining and enhancing cultural exchange and understanding within Malaysian universities.

The overall positive feelings of being understood likely result from ongoing efforts to promote social cohesion and inclusivity. Initiatives such as language support programs, cultural sensitivity training, and opportunities for meaningful interactions between international students and local Malaysians contribute to creating an environment where students feel recognized and valued.

Item CCA3: I see Malaysians as friendly and approachable

The third item, CCA3, "*I see Malaysians as friendly and approachable*", which assesses international students' perceptions of Malaysians as friendly and approachable.

Table 6: Descriptive Analysis of CCA3

Response	Frequency	Percentage (%)
Strongly Disagree	10	1.0
Disagree	97	10.1
Not sure	275	28.7
Agree	404	42.2
Strongly Agree	172	18.0

Table 6 provides a detailed breakdown of responses to item CCA3, reveals a substantial portion of respondents view Malaysians positively in terms of friendliness and approachability. A notable 60.2% of respondents *Agree* (42.2%) or *Strongly Agree* (18.0%) that Malaysians are friendly and approachable. This positive perception is crucial for the cross-cultural adaptation of international students, as feeling welcomed and accepted facilitates their integration and enhances their overall experience in Malaysia (En *et al.*, 2023). These students likely benefit from positive social interactions, supportive university environments, and inclusive cultural practices that contribute to their sense of belonging.

Conversely, the percentages of *Disagree* (10.1%) and *Strongly Disagree* (1.0%) indicate that a smaller portion of respondents do not perceive Malaysians as friendly or approachable. This suggests that while the majority have positive experiences, there are still some who may face challenges in their interactions with Malaysians, potentially due to cultural differences or communication barriers (Alasmari, 2023). The percentage of respondents who are *Not sure* (28.7%) highlights a significant level of ambivalence about their perceptions. This could indicate varying experiences among international students or a need for more opportunities for meaningful interactions and cultural understanding. These findings underscore the importance of promoting cultural exchange and understanding within Malaysian universities.

While many international students perceive Malaysians as friendly and approachable, there is room for continued efforts to promote mutual understanding and strengthen social cohesion. By addressing these aspects, universities can ensure that all students, regardless of their background, feel valued and supported in their educational experience in Malaysia. Initiatives such as cultural sensitivity training, language support programs, and social integration

activities can help bridge gaps and foster positive relationships between international students and Malaysians. By creating a welcoming and inclusive environment, educational institutions can support international students in their cross-cultural adaptation journey and enhance their overall academic and personal growth.

Item CCA4: *I fit in well in this new environment of Malaysia*

The fourth item, CCA4, “*I fit in well in this new environment of Malaysia*”, which assesses international students’ feelings of fitting in well within the new environment of Malaysia.

Table 7: Descriptive Analysis of CCA4

Response	Frequency	Percentage (%)
Strongly Disagree	2	.2
Disagree	51	5.3
Not sure	211	22.0
Agree	438	45.7
Strongly Agree	256	26.7

Table 7 shows the results of CCA4, a significant 45.7% of respondents *Agree* and an additional 26.7% *Strongly Agree* that they fit in well, making a combined total of 72.4%. This suggests that a substantial majority of international students feel they have successfully adapted to their new surroundings in Malaysia. This high percentage of agreement is crucial for the cross-cultural adaptation of international students, as feeling integrated and accepted is essential for their overall well-being and academic success (Pazil *et al.*, 2023). These students likely benefit from supportive university programs, social interactions, and inclusive community practices that help them adjust to their new environment.

The percentage of respondents who are *Not sure* (22.0%) indicates that while a majority feel positive about their adaptation, there is still a significant portion of students who are uncertain about their level of integration. This ambivalence could highlight areas where further support and resources are needed to help these students feel more confident and comfortable in their new environment.

The relatively low percentages of *Disagree* (5.3%) and *Strongly Disagree* (0.2%) indicate that only a small fraction of respondents do not feel they fit in well. This suggests that negative experiences of integration are not widespread, but they are still present and should not be overlooked. These feelings of disconnect could be due to various challenges such as cultural differences, homesickness, language barriers, or a lack of social support (Wang & Mafa, 2024). Addressing these issues is important for improving the overall experience of international students.

Overall, these findings reflect the successes and challenges faced by international students in adapting to the Malaysian environment. While many students feel a sense of belonging and fit in well, continued efforts are necessary to support all students in their cross-cultural journey, ensuring they have the resources and opportunities needed to thrive in their new surroundings.

Item CCA5: *I have little sense of togetherness with my Malaysian peers*

The fifth item, CC5, “*I have little sense of togetherness with my Malaysian peers*”, measures the respondents’ feelings of unity and connection with their Malaysian peers.

Table 8: Descriptive Analysis of CCA5

Response	Frequency	Percentage (%)
Strongly Disagree	150	15.7
Disagree	365	38.1
Not sure	331	34.6
Agree	95	9.9
Strongly Agree	17	1.8

Table 8 shows the results of CCA5, a combined 53.8% of respondents (15.7% *Strongly Disagree* and 38.1% *Disagree*) feel that they do not have a little sense of togetherness with their Malaysian peers. This indicates that a majority of international students perceive a moderate to strong sense of togetherness with their Malaysian peers, suggesting a level of connection and integration within their peer groups (Pazil *et al.*, 2023). However, a significant proportion (34.6%) of respondents are unsure about their level of togetherness with Malaysian peers. This uncertainty could reflect varying experiences, perceptions, or a neutral stance regarding their social integration. In addition, total of 11.7% respondents reported *Agree* (9.9%) and *Strongly Agree* (1.8%) with the statement, indicating that they feel they have little sense of togetherness with Malaysian peers. While this percentage is relatively low, it still signifies that a minority of international students perceive a lack of connection or unity within their peer group.

The findings suggest that while a majority of international students feel some level of togetherness with their Malaysian peers, there is a notable proportion who are unsure or feel disconnected. Efforts to enhance social integration and foster a sense of community among international and local students could help address these perceptions. Initiatives such as cultural exchange programs, peer support networks, and inclusive social activities may contribute to creating a more cohesive and supportive environment within Malaysian universities. This, in turn, could enhance the overall experience and well-being of international students studying in Malaysia.

Item CCA6: I have little sense of togetherness with my Malaysian peers

The last item, CC6, “My Malaysian friends here are like my family”, assesses international students’ feelings towards their Malaysian friends and peers as familial.

Table 9: Descriptive Analysis of CCA6

Response	Frequency	Percentage (%)
Strongly Disagree	27	2.8
Disagree	102	10.6
Not sure	309	32.3
Agree	384	40.1
Strongly Agree	136	14.2

Table 9 shows results of CCA6, a combined 54.3% of respondents *Agree* (40.1%) or *Strongly Agree* (14.2%) that their Malaysian friends are like family. This suggests that a significant portion of international students feel a strong bond with their Malaysian friends, viewing them as supportive and integral to their social network. This familial bond is crucial for the emotional well-being and sense of belonging of international students, as it helps alleviate feelings of homesickness and loneliness while studying abroad.

Conversely, the percentages of *Disagree* (10.6%) and *Strongly Disagree* (2.8%) indicate that a smaller portion of respondents do not feel their Malaysian friends are like family. This may be due to various factors such as cultural differences, limited time spent together, or differences in expectations of friendship. The percentage of respondents who are *Not sure* (32.3%) highlights a significant level of undecided about their feelings towards their Malaysian friends as family. This could reflect varying experiences among international students or a need for more time and shared experiences to develop deeper bonds.

While many international students perceive their Malaysian friends as family-like, there are variations in these perceptions. Continued efforts to promote friendship and support networks can help strengthen these bonds and contribute to a more positive and enriching experience for international students studying in Malaysia.

Conclusion

This study provides valuable insights into the cross-cultural adaptation experiences of international students in Malaysia, based on responses to six survey questions. A significant portion of respondents feel emotionally close to Malaysians, suggesting they have found acceptance and assimilation within the local social environment. However, a notable minority reports feeling emotionally distant, indicating opportunities for improving social connections and inclusivity. Many international students feel understood by their Malaysian peers, which is crucial for effective communication and relationship building, underscoring the positive impact of ongoing efforts to promote cultural understanding. Moreover, a majority of respondents perceive Malaysians as friendly and approachable, contributing to a welcoming environment. Addressing perceptions of unfriendliness among a minority remains essential to enhance overall inclusivity.

The study also reveals that a substantial majority of international students feel they have successfully integrated into Malaysian society, indicating positive adaptation outcomes. However, addressing uncertainties among some students about their integration status is crucial for providing comprehensive support. While most feel a sense of togetherness with their Malaysian peers, a notable proportion remains unsure or feels disconnected, suggesting a need for structured programs and peer support networks to mitigate feelings of isolation. Lastly, many international students view their Malaysian friends as family-like, highlighting strong social bonds that support their emotional well-being. Efforts to deepen connections among students who feel less familial with their peers can further enrich the overall student experience. Malaysia offers a positive cross-cultural experience for international students, characterized by acceptance, understanding, and integration into both academic and social realms. Continued efforts in enhancing support services, promoting cultural exchange, and fostering inclusive environments are crucial for sustaining and improving these perceptions, ensuring that all students, regardless of background, feel valued and supported throughout their educational journey in Malaysia.

Practical Implications

Based on these findings, several implications can be drawn to enhance the cross-cultural experience of international students in Malaysia. Firstly, it is crucial for universities to enhance support services such as orientation programs, cultural sensitivity training, and peer mentoring. These initiatives not only foster smoother integration, as highlighted in the study's findings where a significant majority of international students feel they have successfully integrated into Malaysian society, but also enhance social support networks, reflecting positive adaptation

outcomes. Secondly, local students can play a pivotal role by actively engaging in cultural exchange initiatives and inclusive social activities, as discussed in the study, where perceptions of Malaysians as friendly and approachable contribute to a welcoming environment for international students. This foster understanding and friendship between local and international students, crucial for building strong relationships and promoting cross-cultural dialogue. Concurrently, the Malaysian government's support for policies promoting diversity and inclusion within educational institutions, aligns with efforts to enhance international students' social and cultural experiences. By promoting community involvement and cross-cultural dialogue, as emphasized in both the discussion and conclusion parts, Malaysia can create a more inclusive environment beneficial to both international students and the broader community. Collaborative efforts among universities, local stakeholders, and governmental bodies will not only strengthen Malaysia's reputation as a welcoming destination for international students but also improve student retention rates and contribute to its global academic standing.

Limitation and Recommendations

Based on the findings of the study on international students' cross-cultural experiences in Malaysia, several limitations and recommendations for future research can be identified.

Firstly, the study employed purposive sampling to target international undergraduate students aged 18-29 studying in Malaysia. This method may introduce sampling bias by excluding students who are less active online or have different adaptation experiences. Consequently, the sample may not fully represent the diversity of international students in Malaysia. Future studies should consider employing more diverse sampling methods to mitigate sampling bias. For example, combining online surveys with in-person interviews or campus-wide surveys could capture a broader spectrum of international students, including those who are less digitally engaged or have varying levels of adaptation experiences.

Secondly, the findings may lack generalizability beyond the specific universities and regions sampled in Malaysia. Variations in institutional characteristics, geographical locations (urban vs. rural), and program structures across different Malaysian universities could limit the transferability of results to the entire international student population in the country. Future research could enhance generalizability by expanding the scope of universities included in the study. Including institutions from diverse regions and with varying academic programs would provide a more comprehensive understanding of cross-cultural adaptation experiences across Malaysia.

Thirdly, the study utilized a cross-sectional design, capturing a snapshot of international students' perceptions at a single point in time. This approach limits the ability to establish causal relationships or track changes in adaptation experiences over time. To address this limitation, future studies should consider longitudinal designs that track international students over extended periods. Longitudinal studies would enable researchers to observe how adaptation processes unfold over time, including fluctuations in students' perceptions, challenges, and integration experiences.

Furthermore, future studies may consider conducting comparative studies that explore the experiences of international students from different countries or regions. This approach can highlight unique cultural challenges, successes, and adaptation strategies specific to Malaysia, contributing to a richer understanding of cross-cultural dynamics. Besides, qualitative approaches can provide deeper insights into the lived experiences, emotional dimensions, and

interpersonal interactions of international students in Malaysia, particularly in their interactions with local peers. Hence, employing qualitative methods such as interviews or focus groups to complement the quantitative findings are recommendable. Last but not least, it is crucial for future research to ensure active engagements with diverse stakeholders, including international and local student communities, university administrators, and policymakers. Collaborative research efforts can generate more holistic insights and promote inclusive educational environments for international students.

By addressing these recommendations, future studies can overcome current limitations and contribute to a more nuanced understanding of international students' cross-cultural adaptation experiences in Malaysia. This, in turn, will support the development of effective support mechanisms and policies that enhance the overall educational experience and well-being of international students in Malaysian universities.

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CUSTOMER PERCEPTION AND SATISFACTION ON FOOD SERVICE TECHNOLOGY SERVICE QUALITY IN RESTAURANT OPERATIONS

Kee Kai Wei¹
Kwa Chu Chin²
Lim Shu Kee³
Ishikawa Yuka⁴

¹ Faculty Hospitality, Sunway University, Malaysia, (aliciakkw@gmail.com)

² Faculty Hospitality, Sunway University, Malaysia, (chuchinkwa@gmail.com)

³ Faculty Hospitality, Sunway University, Malaysia, (shukee6869@gmail.com)

⁴ Faculty Hospitality, Sunway University, Malaysia, (yukaishikawa06@gmail.com)

Abstract: *The primary objective of this research is to investigate the customer perception and satisfaction regarding the service quality of food service technology (FST) in restaurant operations. This study focuses on the customers' perception on the various types of food service technology used in restaurant operations and how these perceptions will influence customer satisfaction. The variables examined are feature, functionality, security and performance. A total of 345 data samples were collected using the convenient sampling approach through online survey forms distributed via WhatsApp, Instagram and Xiao Hong Shu. The data were analysed by using SPSS to generate relevant information, with statistical techniques including Pearson's Correlation, Linear Regression and others. The findings indicate that all the variables have a significant relationship with customer perception of food service technology. Performance demonstrated the highest significant value, followed by feature. Consequently, this study provides a framework and can be used as an outline for food and beverage and service-related industries to appropriately implement relevant strategies to enhance customers satisfaction on food service technology service quality. The limitations and future studies are discussed as follows: Since the data samples were obtained primarily from the Klang Valley, the results may be limited to this specific location. Therefore, geographical variances may produce different outcomes, limiting the applicability of these findings to the entire nation of Malaysia. Future research should investigate both the positive and negative impacts of FST on customer perception to further comprehend its use in restaurant businesses. Additionally, investigating the relationship between customer satisfaction with FST and intentions to revisit could provide insights into how FST implementations influence customer loyalty.*

Keywords: *Food Service Technology, Customer Perception, Customer Satisfaction, Service Quality*

Introduction

The food service industry is one of the main sectors that significantly contributes to Malaysia's growing economy. An increasingly essential resource for company survival is a competitive advantage gained through providing high-quality services, as many industry sectors mature. The restaurant business is certainly subject to growing customer demands of quality or greater competition. The restaurant business in Malaysia is going through a significant upheaval and is facing more competition (Yap & Kew, 2007).

According to Mordor Intelligence, there were over 31 thousand restaurant outlets in Malaysia in 2023, the number of outlets has increased approximately 4.18% from the year before (Table

1.0). The food service restaurant global revenue in Malaysia is constantly rising and has a CAGR of 0.59% (Table 1.1). Hence, in the constantly shifting market, foodservice operators must emphasise market knowledge to maintain a competitive edge in the fiercely competitive foodservice industry, given the constantly shifting nature of the market (Abdullah et al, 2011).

Table 1.0: Number of Outlet Units by Foodservice Channels in Malaysia from 2017-2023

Year	Number of outlets ,000s	% of change	CAGR
2018	33.2		
2019	35.2	5.68	
2020	30.7	-14.65	-1.08%
2021	28.3	-7.81	
2022	29.8	5.03	
2023	31.1	4.18	

Source: Mordor Intelligence

Table 1.1: Global Revenue Performance of Food Service Restaurant in Malaysia from 2017 – 2023

Year	Global Revenue Performance	% of change	CAGR
2017	325.08		
2018	326.16	0.33	
2019	327.30	0.35	
2020	312.54	-4.72	
2021	319.69	2.23	0.59%
2022	320.89	0.37	
2023	338.80	5.29	

Source: Mordor Intelligence

The restaurant industry is a cyclical industry due to its nature and changes in expectation on the service quality and consumer preferences. The sector is dealing with huge shifts in the market as there are many variables that affect customer's perception and experience. (Ivkov et al., 2016). These shifts are influenced by the global economic crisis as well as the needs current consumers and the changing demographics. Abhari et al. (2022) has reported that the issue among business in the tourism industry, including food and beverage sector was caused by the economic repercussions of the pandemic, which resulted in an exceedingly difficult time for Malaysian industries.

In the past few decades, technology has enabled significant expansion in every industry involving human interaction. The pandemic has resulted in a significant environmental change which encourages business to implement digital technology actively and widely (Priyono et al., 2020). Additionally, the number of employees who work remotely thus the urgency with which businesses must implement digital transformations; without them, they will not be able to run efficiently. Thamaraiselvan et al. (2019) mentions that digital applications have become one of the fastest-growing advances in food delivery as given that customers may now select from a range of cuisine at the same time from a selection of food businesses listed in the e-commerce platform.

Research Objectives

The purpose of this research is to examine the factors influencing customer perception and satisfaction on food service technology service quality in restaurant operation. The factors include feature, functionality, security, performance, how these factors may influence the perception of the customers in the food service technology and how perception of food service technology may have influence towards the customers satisfaction.

Literature Review

Food Service Technology (FST) and Service Quality

The rise of food service technology has had a significant impact on the way people eat, order and communicate with restaurants (Young,2015). Technologies touch on different aspects such as online ordering, QR order, Point of Sale (POS) System, self-service kiosks and others.

The most contribution to measure service quality is SERVQUAL Model which launched by Parasuraman et al. (1988). SERVQUAL Model includes five dimensions: Tangibles (physical facilities, equipment, and appearance of personnel), Reliability (ability to provide the given service consistently and accurately), Responsiveness (willingness to assist customers and provide), Assurance (ability to inspire trust and confidence) and lastly Empathy (the organizations provide caring and attention to its customers) (Parasuraman et al.,1988). The model has known a wide applicability in the field of measuring customer satisfaction, especially the model is constructed using the “perceptions” minus “expectations” method (Souca, 2011).

A study from Appiah (2021) measures the service quality of KFC-Ghana by using the SERVQUAL Model dimensions and the result shows that all the dimensions had an impact on the service quality. However, the study of Razak et al. (2020) show that the implement of SERVQUAL in Malaysia restaurant, responsiveness and tangibility do not affect customer satisfaction while assurance, empathy, price and reliability are significant.

Attributes of FST

Food Service Technology (FST) Feature

Berger et. al., (2015) explained that feature is typically used to refer to a system’s functional and non-functional attributes. Features serve as the main components of software usage in software product line engineering and are utilised to differentiate between the various items within a product line. Furthermore, Widarsyah (2022) defined that features of FST includes functions that allow the performance of tasks. For example, enhanced security of payment methods, instant payment, cross-promotion of menu items, self-ordering system, effortless digital registration for loyalty reward programmes, persistent customer feedback and decreased labour intensity.

This allowed customer to ensure that their orders are placed and directly sent to the kitchen without error. Not to mention FST also provides complete details about each menu item, as well as digital security that ensure safe mobile payments. As a result, features of FST have an influence on customer perception of FST and how customers evaluate their service experience. H₁: FST Feature has a significant relationship on customer perception of restaurant food service technology.

Food Service Technology (FST) Functionality

Han et. al., (2019) explained that functionality refers to a product’s performance. Key characteristics of functionality includes the actions required or facilitated by the user when the

user is engaging with the system. Moreover, according to Pai et al., (2022) functionality can be defined as the technology's effectiveness in providing services promptly, the convenience of use, and accuracy of service deliverables. In their study, the results indicate that functionality has a positive influence on customer satisfaction.

It is an important element that affects the quality of the service that the customer receives. To enhance the quality of service provided to customers in the food service industry, service providers should implement a user-friendly and reliable food ordering system. Functionality contributes to the efficiency of FST and enables customers to experience superior overall service.

H₂: FST Functionality has a significant relationship on customer perception of restaurant food service technology.

Food Service Technology (FST) Security

Pai et al. (2022) explained security as ensuring that people feel safe without threat, risk, or suspicion when interacting with FST. It refers to customers' trust in using FST handling their personal information responsibly and their belief that there is no risk of fraud in using the technology. Lin and Hsieh (2011) also mentioned that security describe the perceived safety from intrusion, fraud, and the loss of personal information. Moreover, in their study, they explained that security is a crucial factor in evaluating technology-based services that might be a barrier to the adoption of FST for the food service industry.

Food service industry must be able to uphold customer data confidentiality, prevent financial fraud, secure online transactions, and maintain low risk profile while keeping the high competency in the field of E-commerce and its reputation when they are utilizing technologies to ensure that customers return for the services in the future since security directly influence the customers' attitudes (Arilaha et al., 2021). According to the result of the study by Lin and Hsieh (2011), security is one of the factors that contribute to customer perception. This statement can be supported with the result from Arilaha et al. (2021), the result of hypothesis testing showed that security has a positive effect on customer perception.

H₃: FST Security has a significant relationship on customer perception of restaurant food service technology.

Food Service Technology (FST) Performance

According to Venkatesh et al. (2003), performance expectancy is referred as the degree to which a person anticipates enhancing their performance using technology system. Performance in food service technology is a significant indicator of a user's willingness to accept new technologies (Chaiyasoonthorn et al., 2019). In this study, performance expectancy is presented as how service technology makes the food ordering, payment and food delivery process more effective. Liu et al. (2023) showed that performance expectancy has a positive effect on customer satisfaction with Mobile Food Ordering App (MFOA) and their continuance intention to use MFOA.

On the other hand, Zhou et al. (2010) concluded that performance expectancy was a strong predictor of customer's perception and customer's inclination to adopt mobile payment. Thus, using performance concept as one of the factors in determining food service technology service quality to determine customer perception and satisfaction indicates greater intention. As a result, performance expectancy is thought to be an important variable of UTAUT that has significant relationship on customer perception and satisfaction.

H₄: FST Performance has a significant relationship on customer perception of restaurant food service technology.

Customer Perception

According to Mahmood and Khan (2014), perception involves the way individuals choose, arrange, and understand information gathered from their surroundings. Customer perception plays a crucial role in the food service industry since customers often rely on their perception of a brand based on their experiences or reviews from their family and friends before making a purchase or using a product (Sachin & Kavatekar, 2022). Perceived quality and perceived value are two important customer perceptions that enhance customer satisfaction. Perceived quality represents a cognitive aspect of customer decision-making. And perceived value refers the overall customers' assessment of what they received (benefits) compared to what they give (costs) (Cha & Borchgrevink, 2019).

The recent trend of growing E-commerce and E-business shifted customer perception into a positive affirmation towards using technologies in the food service industry (Kale et al. 2020). In the study of Arilaha et al. (2021), customer perceptions are important factors for determining the quality of E-services (technologies). The effectiveness and efficiency of technology services compared to traditional offline methods, along with the factors such as service speed and user-friendly design as perceived by customers will significantly influence the success of using technology in the food service industry. The finding of Seopela & Zulu (2022) states that the higher customer perception, the greater pleasure experienced by customers. Therefore, customer perception positively enhances customer satisfaction.

H₅: Customer FST perception has a significant relationship on customer satisfaction on the restaurant food service technology.

Conceptual Framework and Hypothesis

This study includes four factors: feature, functionality, security and performance. We adapt the variables from the papers of Kasavana and Cahill (2003), Jeon et al. (2020), Shahid Iqbal et al. (2018), Pai et al. (2022), Uzir et al. (2021), Zhao and Bacao (2020), Negahban and Chung (2014), Ratten (2014) and lastly is Xu et al. (2020).

A conceptual framework was constructed to measure the perception and customer satisfaction on food service technology (FST) service quality in restaurant operations. The framework is represented in Figure 2.1.

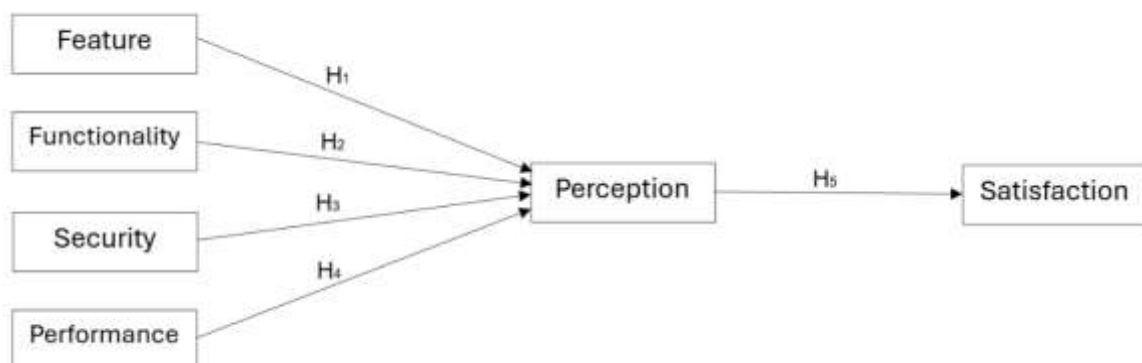


Figure 2.1: Conceptual Framework

Methodology

Data Sampling

The convenience sampling method was used to collect the data for this research. 323 is the sample size for this research calculated by using the sample size calculator (refer to Appendix 1) aim to take 95% of confidence level with 5% margin error that covering 70% of population proportion in the Klang Valley area. The population of Klang Valley in 2023 was 8,622,000 (Macrotrends, 2024).

The sample data were collected from random respondents which includes students, people who are unemployed, employed, self-employed, and others. Therefore, utilizing the convenience sampling method enabled us to obtain the data evenly from targeted demographics as we chose the potential respondents by ourselves. Moreover, the convenience sampling method was the appropriate way for our study due to the limited time and cost needed to conduct the sampling.

Data Collection

We collected the data by distributing the electronic questionnaire which created on Google Forms to the potential respondents. We have distributed our questionnaire from 28th May 2024 to 22nd June 2024 by face-to-face within the Klang valley and via online platforms including WhatsApp, Instagram, and Xiao Hong Shu application.

Instrumentation

In creating the survey form, we adapted all variables from our key papers to make our research easy and reliable. Furthermore, we thoroughly discussed the variables chosen from the key papers with our supervisor to ensure the variables were appropriate for our study. The questionnaire was created on Google Forms, a total of 38 questions divided into 4 sections which are from section A to section D. The questionnaire is presented in Table 3.0.

Table 3.0: Questionnaire Design

Variables	Source Adaption
(IV)	
IV 1: FST Feature	
The FST feature design is attractive (size, color, and more).	Kasavana & Cahill (2003)
The FST feature option is easy to navigate (touch-screen, switch, and more).	
The FST feature provides a clear instruction in multi-language.	
The FST feature includes simple and easy-to-understand icons.	
The FST feature is acceptable and able to support the restaurant's operation (order system, delivery, payment system, and more).	
The FST used in the restaurant allowed overall operations automated processes.	
IV 2: FST Functionality	
The FST will provide multiple functions to make the food service experience more efficient.	Jeon et al. (2020)
The FST prevents service errors.	Shahid Iqbal et al. (2018)
The FST ease the service process (ordering, billing, and more) without any hassle.	Pai et al. (2022)
The FST guarantees error-free.	Uzir et al. (2021)
The FST allows self-service process.	Zhao & Bacao (2020)

IV 3: FST Security

The transaction performed by the FST is secure.	Jeon et al. (2020)
The FST provider applies security measures to protect user payment.	Shahid Iqbal et al. (2018)
The FST provider can verify user's identity to ensure payment security.	Pai et al. (2022)
A clear privacy policy is stated in the FST.	Uzir et al. (2021)
The information provided by the FST is reliable.	Zhao & Bacao (2020)

IV 4: FST Performance

The FST enables effective service operation for food ordering.	
The FST enables effective service operation for the food delivery process.	
The FST enables effective service operation for the payment process.	Jeon et al. (2020)
The FST operation speed is better than manual operation.	Shahid Iqbal et al. (2018)
The FST allows navigation of the service flow from the ordering process to the pick-up/food service process.	Pai et al. (2022)
	Uzir et al. (2021)
	Zhao & Bacao (2020)

(AV)

AV1: FST Customer Perception

The FST is user-friendly.	
The FST enables users to complete tasks.	
The FST is easy to use.	
The FST can be trusted.	
The FST is close to my ideal service technology.	Negahban & Chung (2014)

(DV)

DV1: FST Customer Satisfaction

I am satisfied with the FST offered by the firm.	
Most of the FST experiences I've had exceeded my expectations.	
I will recommend others to use the FST.	
I support the continuous use of the FST in restaurant operation.	
The FST is reliable and accurate.	Jeon et al. (2020)
	Shahid Iqbal et al. (2018)
	Pai et al. (2022)
	Uzir et al. (2021)
	Zhao & Bacao (2020)

Data Analysis

Respondents' Profile

The demographic profile of respondents is shown in Table 4.1. The demographic featured in our present study include gender, age, current employment status and education level. The result presented in Table 4.1, respondent gender was distributed with 37.8% male and 62.2% female. Next, it can be observed that the majority of the respondents in the survey are between the ages of 18 to 24, which amounts to 45.1% of the total respondents. The ages between 25 to 34 takes up 18.3% (n= 60), followed by the age of 45 to 54 which takes up 16.2% (n= 53), the age range of 35 to 44 takes up 13.7% (n= 45) and respondents who are above 55 years old takes up 6.7% (n= 22).

Table 4.1: Respondents' Profile Analysis

Profile		Frequency(n)	Percentage (%)
Gender	Male	124	37.8
	Female	204	62.2
Age	18-24	148	45.1
	25-34	60	18.3
	35-44	45	13.7
	45-54	53	16.2
	55 and above	22	6.7
Current Status	Employed	156	47.6
	Self-employed	26	7.9
	Unemployed	15	4.6
	Student	129	39.3
	Retired	2	0.6
Education Level	Certificate Qualification	28	8.5
	Certified Professional Qualification	20	6.1
	Postgraduate	47	14.3
	Pre-University Program	11	3.4
	Undergraduate	186	56.7
	Upper-secondary	36	11

Frequency of FST Usage analysis

The result presented in Table 4.2 indicates that a significant number of respondents had experience in using QR order, results in 94.5%. The frequency analysis of respondents' usage of the FST revealed 53% reported using FST in almost all restaurants that implement it. The results of analysis of how often the respondents experience with FST relevant to food service shows that both dine-in restaurants and online food ordering shows varying levels of usage frequency.

Table 4.2: FST usage Analysis

General Questions		Frequency Percentage	
		(n)	(%)
Which one the following FST functions that you have experienced in the restaurant	Restaurant website	165	50.3
	reservation	310	94.5
	QR order	280	85.4
	Tablet ordering system	268	81.7
	Bell service	242	73.8
	Screen order progress	205	62.5
	Application order for	292	89
	self-pick up	277	84.5
	E-wallet payment/QR	222	67.7
	Payment		
	Self-service kiosk machine		
How frequent do you use the FST	Service robot		
	I use in almost all restaurant that are using FST.	174	53
		105	32

	I only use in some restaurants that are using FST.	13	4
	I only use FST for online food delivery order.	18	5.5
	I only use FST when I am familiar with the operation method.	18	5.5
	I only use FST if there is no other choice.		
How long have you been experienced in using these technologies relevant to food service (dine-in at restaurants/ online food ordering)	Very often	139	42.4
	Often	136	41.5
	Once in a while	40	12.2
	Seldom	11	3.4
	New user	2	0.6

Correlation Analysis

The Correlation Between FST And Customer Perception

Refer to Table 4.3, FST factors use in this study shows a significant relationship between perception of restaurant customer. The variables value mainly shows greater than 0.05.

In addition, Table 4.4 shows that performance has most significant relationship with perception (0.737), whereas security has the least significant relationship with perception, at 0.699.

Table 4.3: Correlation of The Study Variables

Variables	1	2	3	4	5
Feature	1.000				
Functionality	0.693**	1.000			
Security	0.600**	0.686**	1.000		
Performance	0.680**	0.687**	0.600**	1.000	
Perception	0.719**	0.706**	0.699**	0.737**	1.000

Notes:

Determinant = .008

Extraction Method: Principal Component Analysis.

a. Reproduced communalities

b. Residuals are computed between observed and reproduced correlations. There are 5 (69.4%) nonredundant residuals with absolute values greater than 0.05.

Table 4.4: Pearson Correlation between Factors and Perception

	Pearson Correlation	P value (sig.)
Feature -> Perception	0.719	< 0.001
Functionality -> Perception	0.706	< 0.001
Security -> Perception	0.699	< 0.001
Performance-> Perception	0.737	< 0.001

The Correlation Between Customer Perception and Satisfaction On FST

From the results presented in Table 4.5, perception and satisfaction has a strong significant relationship with correlation value of 0.826.

Table 4.5: Pearson's Correlation between Perception of FST and Customer Satisfaction

	Pearson Correlation	P value (sig.)
Perception-> Satisfaction	0.826	<0.001

Hypothesis Analysis

The result presented in Table 4.6 shows that the VIF of the perception of FST factors are low, FST Features (VIF=2.327), FST Functionality (VIF=2.719), FST Security (VIF=2.062) and FST Performance (VIF= 2.293). Besides, the VIF of Perception towards restaurant customers satisfaction level also considered low, which is 1.

In terms of the relationship between factors and perception, performance has a most significant relationship with the perception of FST 33.6 % ($p < 0.05$). In addition, FST Functionality contributes as 12.85% ($p < 0.05$), FST Security interprets as 22.9% ($p < 0.05$), and FST Feature interprets as 28% ($p < 0.05$). Moreover, Perception of FST shows a significant relationship towards restaurant customer satisfaction level 82.7% ($p < 0.05$).

Therefore, when compared to FST Feature, FST Functionality, and FST Security, FST Performance is the most important factor that affect the customers perception of FST. Generally, all the factors of FST towards perception and perception of FST on satisfaction are supported (refer to Table 4.7)

Table 4.6: Multiple Linear Regression Analysis on Perception of FST Factors and Satisfaction Level of Restaurant Customers

Variables	Unstandardized Coefficient Beta	t	Sig.	VIF
Feature	0.280	5.415	<0.001	2.327
Functionality	0.128	2.560	0.011	2.719
Security	0.229	6.086	<0.001	2.062
Performance	0.336	6.773	<0.001	2.293
Perception	0.827	26.49	<0.001	1

Perception of Food Service Technology Factors: $R^2 = 0.694$; ANOVA results: $F = 183.102$; $p < 0.001$

Satisfaction Level of Restaurant Customers: $R^2 = 0.683$; ANOVA results: $F = 701.726$; $p < 0.001$

Table 4.7: Hypothesis Result

Hypothesis	Decision
H ₁ : Feature has a significant relationship on customer perception of food service technology.	Supported
H ₂ : Functionality has a significant relationship on customer perception of food service technology.	Supported
H ₃ : Security has a significant relationship on customer perception of food service technology.	Supported
H ₄ : Performance has a significant relationship on customer perception of food service technology.	Supported
H ₅ : Restaurant customer quality perception has a significant relationship on customer satisfaction.	Supported

Discussion & Conclusion

Implication of the findings

The information on variables that affect customers perception of service technology is helpful for businesses to implement marketing strategies aimed to boost sales in restaurants. Restaurant might be able to reduce staff usage to maintain expenses by installing service technology such as kiosk, table ordering system, QR ordering system, bell service, online payment and many others. Therefore, food service businesses will have a competitive advantage thanks to marketing initiatives aimed at utilising cutting-edge technology.

In addition, our research present empirical data about a customer-facing service technology that is attracting much attention from the restaurant industry, which is still in the early phase of adopting technology innovation. The current study has identified that performance is the most important factor in determining customers perception towards technology application in restaurants. To ensure the food ordering and payment process to be more efficient and accurate than the conventional procedure, the food service providers must guarantee the effectiveness of these food service technology as well as the speed of process. These applications should be functional to allow customers to insert their orders and make payment with ease.

According to the results, FST feature is also an essential component to understand customer perception. It is necessary that customers can understand user instruction easily and allow customers to utilise the application without inconvenience. For ease of usage, user instructions for menu and payment should come with clear descriptive in multiple languages.

A significant correlation was also found between functionality and customer perception of food service technology. Restaurant managers should make sure these applications are maintained and tested regularly so to make sure these devices are functioning properly to reduce errors in the service process. Lastly, the restaurant sector must constantly gather feedback from customers to assess the level of service and the effectiveness of the FST as a way to enhance user experience in the future.

Limitation and Recommendations

The results of this study may only be applicable to Klang Valley since the data samples were collected in this area. Therefore, variations in different geographical locations may yield different outcomes and may not be applicable for the entire Malaysia. In addition, this study has a limitation of generalizability. 148 respondents which represent 45.1% of the total respondents were in the age range of 18 to 24 years old that may not represent the wider population of Malaysia. This is due to the use of convenience sampling method to collect the data that we approached to potential respondents directly for our convenience, especially in Sunway area by face-to-face and via online platforms.

Furthermore, this research tested the correlation between FST factors and customer perception as well as between customer perception and customer satisfaction showing whether the relationship between the two variables is significant and how strong the relationship is. Therefore, the result of this study is limited to identifying the significance level since there is no indication of whether the relationship between the two variables is positive or negative.

To conduct comprehensive study and achieve thorough results, it is recommended to collect the data from larger and diverse samples. This approach should aim to collect the data evenly

from a wider age range of FST users and cover different generational groups to strengthen the reliability of the conclusions.

Moreover, future research could examine the positive/negative impact of FST factors on customer perception that enhances comprehension regarding the use of FST in restaurant businesses. Besides, it is suggested to explore the relationship between customer satisfaction on FST and customers' revisit intention to further understand how helpful installing FST in the restaurant businesses is for obtaining the customers' loyalty.

Conclusion

In summary, this study is intended to investigate the relationship between food service technology factors and customer perception in restaurants. As technology is rapidly evolving, improvements in the food service technology are expected to become an important aspect for service providers in the future. Following to this pattern, service companies across the industry have made major financial investment to the instalment of FST.

In this research, a total of 328 respondents were obtained to generate a reliable result. This quantitative research, we utilised Google Forms with close-ended questions and distributed the surveys through Instagram, WhatsApp and Xiao Hong Shu. Furthermore, SPSS was also used to analyse the data collected. The results show that all the variables have a strong relation with customer perception of food service technology ($P \text{ value} \leq 0.05$).

Performance and customer perception have the most significant relationship with a correlation value of 0.737 on the other hand, security and customer perception has the least significant relationship with a correlation value of 0.699. Moreover, there is high correlation value of 0.826 between customer perception and satisfaction.

Therefore, it was found that all hypotheses in this study are supported. This also indicates that these four factors of FST (Feature, Functionality, Security and Performance) will have an influence towards restaurant customer perception.

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EVALUATING THE EFFECTIVENESS OF A NEW EXAMINATION INFORMATION DISSEMINATION APPROACH (FSPPP EXAM KIT)

Noorie Haryaniee Moulton ¹

Nor Ezrine Yusoff ²

Jeniwaty Mohd Jody ³

Nasyrah Ahmad ⁴

Nurul Hidayana Mohd Noor ^{5*}

Ummi Ramizahana Rosli⁶

¹Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM), Malaysia, (noori639@uitm.edu.my)

²Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM), Malaysia, (norezrine@uitm.edu.my)

³Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM), Malaysia, (jeniwaty@uitm.edu.my)

⁴Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM), Malaysia, (nasyrah185@uitm.edu.my)

⁵Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM), Malaysia, (hidayana@uitm.edu.my)

⁶Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM), Malaysia, (ramizahana@uitm.edu.my)

Abstract: *Communication has many forms and is the basis of organizational success, including academic institutions such as universities and colleges. Communication is the primary key to achieving the university's objectives. It is an important medium to ensure the entire university community understands, appreciates, supports, and gets involved in implementing university goals and strategic plans. There are many communication channels and processes practiced in universities, either formally or informally, especially in aspects of the delivery of services and delivery of information. Problems in the communication system and the delivery of information are some of the reasons why much information provided by the universities or faculties cannot reach the students. We need to change how we deliver information through various communication platforms. Thus, the research has been carried out to examine the effectiveness of a new examination information dissemination approach, which is also known as the FSPPP Exam Kit. The study examines the student perception of the kit and assesses the outcome of the kit implementation. This includes disciplinary issues such as cheating, improper dress code, missing examination slips, and late/absenteeism for examination. A survey study has been employed on undergraduate students at the Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM) Seremban, Negeri Sembilan. Valid data from 187 respondents have been evaluated using descriptive analyses. The study results found that most students have widely accepted this kit, and it helps reduce examination disciplinary issues. The kit can be an alternative to the faculty's formal communication tool with appropriate improvements.*

Keywords: *Information Dissemination, Examination, Technology, Evaluation*

Introduction

The communication carried out can be in the form of direct and indirect communication. Direct communication generally refers to face-to-face communication. Meanwhile, indirect communication refers to communication via communication channels or media (Hyland-Wood et al., 2021). Communication generally creates mutual understanding or pleasure, influences

attitudes, improves good relationships, and creates action. Those functions are signs of effective communication (Zerfass et al., 2020). Establishing effective communication takes work. Many factors affect communication, and we must consider them before putting together a communication plan according to the theory of communication strategy. The components of communication, the levels of communication, and the communication barriers should also be considered to ensure that the purpose of communication can be achieved well (Van Ruler, 2020). In the 21st century, the role of technology creates a fundamental transformation in the communication paradigm. The integration of technology could improve the effectiveness of learning and understanding. Generation Z, or Gen Z, was born between the 1990s and early 2010s. Gen Z is considered a digital resident because they were born and grew up in an era of sophisticated digital technology and the emergence of smartphones and social media (McCoy, 2020). The fact that they were born in an era of advanced digital technology has a significant impact on the attitudes and behavior of Gen Z, making them different from the previous generation, which is more fluent in technology, active in socializing, expressive, and able to do much innovation (Munsch, 2021).

The Internet meets our communication and information needs by providing a more reliable source of information in a matter of seconds. This situation encourages Gen Z to utilize social media as a reference and source of information in all aspects of their lives (Serbanescu, 2022). Gen Z uses social media to interact online. In addition, users can view videos and photos on their devices, communicate without physically meeting, and check the status of other users. The ease of accessing the Internet through smartphones, along with life in the era of globalization, has created a generation that depends on the Internet (Dadvari & Do, 2019). This facility makes the Internet the most essential reference source for finding information. By maximizing the potential of technology, Malaysia can produce a generation of students who are not only technically skilled but also equipped with critical thinking skills, creativity, and digital ethics (Katz et al., 2022).

Therefore, to ensure effective communication strategies, a group of researchers from the Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM), has come out with strategies to disseminate important information on examination by creating an FSPPP Exam Kit that encompassed QR code and apps as one-stop center information. Educators have the main task of delivering material and information to students effectively. For the learning process to be effective and attract students' attention, a variety of preparations and creativity are needed. One of the ways is to prepare and develop media that match the material and characteristics of the students. Social media has become a platform or medium that is easy to use and user-friendly for anyone to communicate and deliver information to various users who have access to the Internet (Baumann et al., 2022). For example, the interaction of faculty academic management with students will be faster, more efficient, more accessible, and more transparent in managing information delivery with a social media presence. This gives space and opportunity to an organization to use it as an essential medium to build and improve relationships with users. This study hopes to help lecturers and students understand the examination procedures, rules, and regulations. Disciplinary problems that arise nowadays can be categorized into four types, namely crime, negative behavior, absence, and cheating. Providing appropriate guidelines and information could help shape the students' physical, spiritual, intellectual, moral, or social values.

Literature Review

Osgood-Schramm Model of Communication

Osgood and Schramm's communication model has several characteristics, namely: 1) focus on encoding and decoding, 2) two-way communication, 3) there is a concept of feedback so that it is easier for the sender of the message to know if the message is interpreted well by the receiver of the message, 4) it does not ignore the concept of interference or noise, 5) the recipient of the message and the sender of the message can exchange roles in delivering and receiving the message, 6) dynamic and valuable in practice, and 7) semantic interference or semantic noise is a concept that can help understand the problems that can occur during the interpretation of messages (Pavenkov & Rubtcova, 2021). Osgood and Schramm's communication model shows that the communication between the message's sender and receiver's message is not a linear but circular process (Anrieta, 2020). Communication is described as a never-ending circle. This shows that communication does not stop when the message has been transmitted. About the teaching material, content that has been prepared, compiled, and delivered by the speaker (encoding process) is not only heard and accepted by the students (Dimbleby & Burton, 2020). Students have their way of understanding and meaning so that what they hear will be processed in their thinking (decoding process). Audiences process what is presented and respond to the content in various ways. They can forget the material they receive because it is irrelevant to their experience and knowledge. Another critical factor in Osgood and Schramm's model is that an encoder can also be a decoder. This means that a speaker must be able to interpret the message his/her audience sent. For the flow of communication to run, educators and students must be effective interpreters of the message conveyed, where the message is not simply related to the material being discussed but also to the complexity of the communication process (Zhuang et al., 2023). Therefore, by providing one-off information, the students will find it easier to recap the information, and by creating the FSPPP Exam Kit, the fast and reachable information is continuously maintained.

Information Management and Dissemination Effectiveness

The information quality factor is a significant element in evaluating an application's user satisfaction aspect. The quality of information is evaluated based on the content quality that increases user satisfaction with online communication (Yang et al., 2023). The quality of information is also an essential aspect of information sharing because users will only share quality and important information with other users (Yang et al., 2022). Researchers define the quality of information as data that has value to users (Molinillo et al., 2021) or the extent to which information is appropriate and meets users' needs (Rezvani et al., 2022). In addition, the quality of information needs to be evaluated based on the usefulness of the information required because the characteristics of the quality of information are different according to the context and purpose of using the information (Yang et al., 2022). Based on several studies, several elements are used to measure the quality of information on social media. There are nine (9) main characteristics of quality information such as accuracy, cohesiveness, conciseness, completeness, believability, understandability, objectiveness, informativeness, and presentation (Rezvani et al., 2022; Wijaya et al., 2021). Information quality can be determined based on the information's accuracy, ease of understanding, completeness, usefulness, and date. The accuracy of information also means the extent to which the information conveyed is correct, reliable, and free of errors (Miller, 1996). The feature of easy-to-understand information means the extent to which the information presented is clear and understandable to the user. Complete information is measured by the extent to which the information is sufficient and detailed. Apart from that, Alshikhhi and Abdullah (2018) believe that quality information contains exciting and valuable content for users. Helpful information or content can expose users to something new that facilitates their daily life or work (Todoran et al., 2015).

Examination Information Dissemination

The primary step to ensure zero student discipline problems in higher learning institutions is to establish clear rules and strict procedures if they break them. The faculty should have a clear and comprehensive examination discipline handbook to remind students. This handbook should list all the rules, procedures, and disciplinary actions to be taken in case of student violations. It should also include student rights and responsibilities. The lecturers and academic staff can play a role in ensuring that all students understand the rules and discipline procedures. This action can be done through effective information dissemination. Students need to be exposed to the consequences that will be faced if they break the rules. Thus, ensuring all students know their responsibilities to maintain good communication practices, provide easy access to essential and valuable information, and provide effective communication methods is essential. Formal communication channels should characterize the formal communication of rules, laws, and procedures. Communication also acts as a medium to flow information, data, opinions, ideas, and views. We often rely on formal communication tools like email to connect with colleagues and students.

However, there is now a new social media communication pattern that has changed the way we communicate. The advantages of social media as a communication tool by using technological assistance have increased the ability to interact and perform essential management functions, contributing to internal communication's effectiveness. PSP Exam Kit utilizes both QR codes and app applications. QR Code has several advantages compared to traditional methods: 1) it can store more information in one code, 2) it can be read more quickly and easily using a smartphone, and 3) it can be integrated with other applications and systems. Generation Z lives in a digital era that triggers high expectations for technological advancement. Generation Z's interest in the latest technology is based on its features, ease of use, and social, economic, and environmental impact. Generation Z shows great interest in sustainable technology. Thus, the kit is regarded as the most appropriate information strategy that needs to be employed by the faculty. Figure 1 shows the interface of the FSPPP Exam Kit apps.

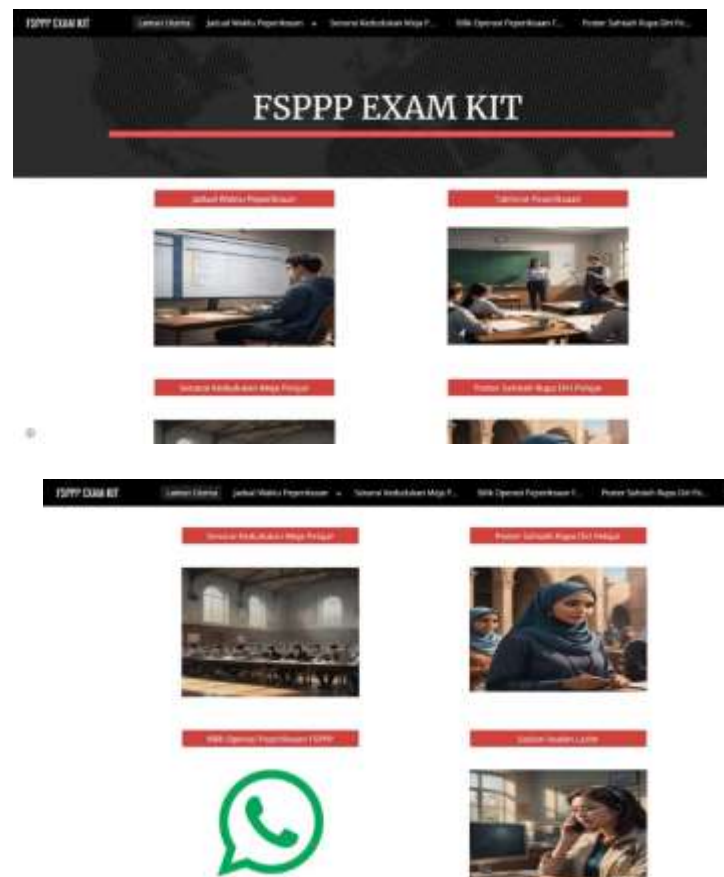


Figure 1: FSPPP Examination Kit

Methodology

This study uses quantitative methods to obtain data. A systematic sample of 200 respondents from the Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM), Seremban, Negeri Sembilan, have been selected to provide feedback through the distributed questionnaire. The questions are designed using a 5-point Likert scale from Score 1 to Strongly Disagree, Score 2 as Disagree, Score 3 as Neutral, Score 4 as Agree, and Score 5 as Strongly Agree. Before the questionnaire was distributed to the respondents, the researchers first made a pre-test for 30 students to test the question items submitted in the form. After the test was completed, some confusing and irrelevant items were amended and improved. This study received 187 responses out of a total of 200 questionnaires. The data was analyzed using the Statistical for Social Science (SPSS) software version 26. Descriptive analysis was employed to describe and summarize the collected data. Although it cannot predict the future, descriptive analysis helps to summarize the data and make it easier to understand. Statistical techniques used in descriptive analysis usually focus on data patterns, making it easier to identify inappropriate data.

Findings

Based on Table 1, most students are aware of the establishment of the FSPPP Exam Kit (n=157, 83.4%). Moreover, most of them agreed that the kit provided sufficient information (n=123, 65.8%). In examining whether the kit is easy to use and access, 115 respondents (61.5%) agreed, and 115 respondents also agreed that the kit is to understand and has stability (n=115, 61.5%). Moreover, 120 respondents (64.2%) agreed that the kit provided comprehensive

information. Thus, most respondents have seen the kit as a positive platform for examination information dissemination.

Table 1: Student Perception of the Kit Effectiveness

		Frequency (n)	Percent (%)
Awareness of the kit	Yes	157	83.4
	No	30	16.0
The kit can provide sufficient information	Strongly Disagree	0	0
	Disagree	0	0
	Neutral	19	10.2
	Agree	123	65.8
	Strongly Agree	45	24.1
The kit is easy to access	Strongly Disagree	0	0
	Disagree	0	0
	Neutral	19	10.2
	Agree	115	61.5
	Strongly Agree	53	28.3
The kit is to understand and has stability	Strongly Disagree	0	0
	Disagree	0	0
	Neutral	23	12.3
	Agree	115	61.5
	Strongly Agree	49	26.2
The kit provides comprehensive information	Strongly Disagree	0	0
	Disagree	0	0
	Neutral	20	10.7
	Agree	120	64.2
	Strongly Agree	47	25.1

Table 2 shows the number of comparisons between Examination Disciplinary Cases before and after the implementation of the kit. A significant reduction of cases can be observed for cheating, improper dress code, missing examination slips, and late/absenteeism for examinations where the number is declining. For example, the cheating cases have been reduced from 11 to 8. Next, improper dress code cases have been reduced from 75 cases to 12 cases. Then, the number of missing examination slip cases was reduced from 58 cases to 26 cases. Finally, late/absenteeism for examination cases has been reduced from 1 case to zero case.

Table 2: Examination Disciplinary Cases

	Before the Kit Implementation (July 2023)	After the Kit Implementation (February 2024)
Cheating	11	8
Improper Dress Code	75	12
Missing of Examination Slip	58	26
Late/Absenteeism for Examination	1	0

Discussion

Valid data from 187 respondents have been evaluated using descriptive analyses. The study results found that most students have widely accepted this kit, and it helps reduce examination disciplinary issues. This study is significant because it currently assesses student perception of the information platform. The user's evaluation of the characteristics of the information content is likely to determine user satisfaction with the quality of information. Through communication, humans can know the opportunities available to be utilized, preserved, and avoided. Communication is also essential for improving the knowledge of individuals and groups in their surrounding communities. Through communication, people can learn about an event or procedures to follow. Through communication, people can develop and deepen the knowledge they learn based on their experience or the information they receive from their environment. When information is communicated clearly and in detail, disputes or misunderstandings between the parties involved can be avoided while creating a harmonious atmosphere.

The accuracy of the information is crucial to ensure the information conveyed is correct, reliable, and free from errors (Molinillo et al., 2021). Information features must be easy to understand so that the information presented is straightforward and can be understood by users (Todoran et al., 2015). Complete information is measured by how far the information provided is sufficient and detailed. In addition, the quality of information needs to be ensured by providing exciting and valuable content to the user. Helpful information or content can expose users to something new that makes life easier or their day jobs (Shamala et al., 2017). Timely updating information also determines the extent to which the information provided is up to date. Data and information that are constantly updated affect the understanding of users and, in turn, positively affect the perception of the credibility of the information sources shared (Romero-Rodríguez et al., 2016).

Conclusion

Communication is a process of delivering information or messages from one party to another that affects a person's actions. This can be proven by the recipient's response, effect, or action after receiving the message's content. Many experts assess that communication is essential in social life. Because of that, without communication, society is unlikely to be formed; on the other hand, without society then, humans are unlikely to be able to develop communication. Communication is said to be successful when there is an understanding between the recipient and the signaller. Information needs to be communicated correctly so that no adverse effects occur. Generation Z was born and raised in the Internet era and is accustomed to unlimited access to information and rapidly developing technology. This makes them a technologically literate, creative, and adaptive generation with a different mindset from the previous generation. Gen Z grew up in an environment full of digital technology.

By having appropriate information and technology tools, we are delivering the correct information to this generation. The study has delivered new insights into the current literature of information management studies. However, several limitations have been identified. First, the study is a cross-sectional survey. Thus, the relationship pattern examined is a portrait or static of a moment. Future research must use a longitudinal approach to view behavioral changes over time. The research sample was also limited to students from one faculty only; thus, the research results cannot be widely generalized. Further research is expected to focus

on the sample from other contexts. Future research is also expected to adopt the interview method because the questionnaire might lead to bias.

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CORPUS-BASED TRANSLATION STUDY ON THE SIMPLIFICATION OF CHINESE SUBTITLES IN ENGLISH-LANGUAGE FILMS

Su Tingting¹

Mohamed Abdou Moindjie²

Manjet Kaur Mehar Singh³

¹School of Languages, Literacies & Translation, Universiti Sains Malaysia (USM), Malaysia, (sttserena@163.com)

²School of Languages, Literacies & Translation, Universiti Sains Malaysia (USM), Malaysia, (mohdmoindjie@usm.my)

³School of Languages, Literacies & Translation, Universiti Sains Malaysia (USM), Malaysia, (manjeet@usm.my)

Abstract: *While previous research has explored simplification in literary translation studies, this study's focus on universals in audiovisual translation studies (AVT), especially in subtitling. In the era of advancing technology, where machine translation and automated translation analysis tools play a crucial role, the study of simplification as a universal phenomenon provides valuable insights. Understanding which translation features are universal across different language pairs can guide improvements in modern translation analysis tools and methods, and enhance translation accuracy. This study delves into the realm of translation studies to investigate simplification in Chinese subtitles of English-language films compared to Chinese subtitles of Chinese-language films. The research explores the presence of simplification in translation by examining three key aspects: lexical variety, lexical density, and high-frequency words. The findings reveal that Chinese subtitles of English-language film, as translated text, exhibit a reduced level of lexical variety when compared to Chinese subtitles of Chinese-language films, as the non-translations. Specifically, Chinese subtitles of English-language films employ more function words and fewer content words, resulting in lower lexical density than Chinese subtitles in Chinese-language films. The statistical analysis of high-frequency words further supports the notion that high-frequency words are used more frequently in translated Chinese subtitles than in the original Chinese subtitles. These results align with the simplification hypothesis proposed by Laviosa (1998) and Hu (2007). This research aims to enhance the comprehension of the intricacies of Chinese translation, not only across linguistic boundaries but also in the realm of technology, contributing to the reference of translation studies and practice.*

Keywords: *Audiovisual Translation, Corpus-based Translation Studies, Simplification, Subtitles, Universals*

Introduction

Subtitling is a thriving research area within the broader discipline of translation studies, encompassing various fields such as technology, linguistics, cross-cultural communication, and translation. With the rapid evolution of technology, subtitling has seen new opportunities and challenges, drawing widespread academic attention. Many studies in subtitling have concentrated on areas such as translating humor (De Rosa et al., 2014), swear words (Mattsson, 2006), gender (De Marco, 2012), or multimodality (Chen, 2019). And most of these previous studies were based on individual films and case studies. But translation studies should not be limited solely to individual films or case studies, although they can offer some in-depth insights. Following the guidance of Descriptive Translation Studies (DTS), there is necessity to move beyond individual case studies and isolated descriptions in order to discover patterns

(such as universals, laws, norms, strategies, and procedures) presents additional challenges associated with the creation, access, and analysis of corpora (Gambier & Pinto, 2018).

Thanks to the development of computer technology, there have been endeavors to create larger corpora to identify patterns across a broader range of audiovisual products in various genres, decades, and countries in the last decade, such as the Veiga corpus, a multimedia corpus of subtitled films used to analyse both English intralingual subtitling and English-Galician interlingual subtitling (Sotelo Dios, 2015), the CORSUBIL corpus by Rica Peromingo (2014) built to obtain a list of lexical units of English or Spanish subtitles in American films, and the OpenSubtitle2018 corpus (Lison & Tiedemann, 2016), which is a new collection of translated movie subtitles from <http://www.opensubtitles.org>. While there have been corpus-based translation studies of subtitles in many languages like English and Spanish, there is a notable lack of research on Chinese subtitles.

Baker (1993) served as a pivotal figure, marking the initiation of corpus-based studies in translation universals. Following Blum-Kulka's (1983) explicitation hypothesis, various new universals hypotheses have emerged. For instance, Vanderauwera (1985) explored disambiguation, simplification, and generalization in translated texts, while Laviosa-Braithwaite (1996) investigated simplification features within translation universals. Kenny (2014) compared the presence of generalization features in German literary texts and their English translations. From Toury's (1979) "inter-language" to Frawley's (1984) "third code" and further to Olohan's (2004)'s "features of translation", the research focus has shifted from socio-cultural and historical factors to the linguistic characteristics of translation itself (Hu & Zeng, 2011). The concept of translation universals has faced continuous scrutiny and challenges since its inception. Chesterman (2004) made a significant distinction in universals hypotheses between potential source-language universals (S-universals) and potential target-language universals (T-universals).

Chesterman (Chesterman, 2004) explored the essence of universals and linguistic relationships by introducing three types of textual comparisons: translations, source texts and non-translations, and two linguistic relations: equivalence and textual fit. Based on the two relationships among the three types of texts, Chesterman further distinguishes two types of universals: S-universals and T-universals. Potential S-universals refers to source text related universals, including: lengthening, the law of interference, the law of standardization, dialect normalization, reduction of complex narrative voices, the explicitation hypothesis, sanitization, the retranslation hypothesis, reduction of repetition, while potential T-universals are comparison between translations and non-translations, including: Simplification, Conventionalization, Untypical lexical patterning, Under-representation of TL-specific items.

Literature Review

Simplification

Simplification is often studied in two aspects. Firstly, as a translation technique involving the reduction of certain aspects of the original text. Simplification as a technique aims to enhance the readability by eliminating redundancies or inappropriate content present in the source text, such as repetitions, sensitive or offensive language. This simplification is between the source language and the target language. Secondly, simplification is also investigated as the universal in translation, referring to the overall tendency of translated texts to have a simplified language compared to non-translations as described by Baker (1996). Key simplification features in corpus-based translation studies include generalization, a decrease in lexical density (more functional words and fewer content words), simplification of sentence structures (Hu, 2020).

Simplification is defined by Blum-Kulka and Levenston (1983, p. 119) as "the process and/or result of making do with less words". Lavisa (1998) compared translated and non-translated texts within the English Comparable Corpus (ECC), focusing on specific linguistic features (lexical density, mean sentence length, list heads and high-frequency words). The research results indicate that the translated texts have lower lexical density and repetition of the most frequent words, which is a strong evidence of the simplification of the universals hypothesis. Zanettin (2000), based on an examination of a parallel corpus of 1.5 million words in English and Italian, found that translated texts exhibit lower lexical variation (type-token ratio) compared to original texts. Hu (2007) conducted research on the vocabulary characteristics of Chinese translated novels and identified a tendency for reduced lexical variation and increased word frequency for common words in translated Chinese. Ippolito (2014) built a comparable corpus containing classic fiction for children, comprising both translated and non-translated works. The findings indicate that within the translational subset, processes such as simplification, explicitation, and normalization do not dominate over the non-translational subset. Seracini (2021) conducted a research using a parallel corpus of EU legislative texts translated from English into Italian and a reference corpus of national non-translated legislation. The findings revealed evidence of simplification, manifesting in the omission of unnecessary repetitions, avoidance of complex sentence structures, and a preference for the active voice. Pastor et al (2008) initiated a project applying Natural Language Processing (NLP) techniques to comparable corpora of Spanish translated and non-translated texts. The research findings indicated that translated texts exhibited significantly lower lexical density and richness compared to non-translated texts, and appeared to be more readable. Surprisingly, translated texts had a notably lower proportion of simple sentences and shorter sentences. The simplification features were more pronounced in technical translation corpora and even more so in medical translation corpora.

The research on simplification mentioned above spans various languages and different domains, yielding different results. Some scholars have conducted their studies based on general corpora, while others have employed specialized or self-compiled corpora specific to particular fields. Regardless of the approach, all these studies serve as valuable supplements in the exploration of universals. They provide additional support and evidence for understanding common patterns in translation and offer insights into how simplification varies in different linguistic and domain contexts.

Research Design and Methods

Data Collection

The corpus constructed for this study is a comparable corpus, primarily consisting of two monolingual corpora with similar sizes: the Chinese Subtitles of English-language Films and the Chinese Subtitles of Chinese Films. There are many sampling methods, purposive sampling is commonly used in corpus-based studies (Saldanha & O'Brien, 2014). The samples choice mainly considers the following aspects: 1) Diversity: These films encompass various film genres, including drama, science fiction, action, horror, comedy, etc. This diversity helps in studying translation differences in different types of films; 2) Time Periods: The selected films span different decades, from classic films from the 1960s to contemporary modern films; 3) Directors and Actors: Some films are directed by renowned directors or feature well-known actors. These films may have unique language usage and translation characteristics and are of higher quality and research value. 4) Cultural Backgrounds: These films cover different cultural backgrounds, including the United States, the United Kingdom, Australia, etc; 5) Language Styles : Some films may contain informal, slang, or specialized language styles, which may

require special handling in translation; 6) Audience : These films are usually widely popular, so their subtitle translations may undergo careful scrutiny to ensure they are suitable for a broad international audience; 7) Awards and Influence: Some films are Oscar-winning films or have had a profound impact, and they may have higher translation requirements to maintain the quality of the original work.

Taking the mentioned factors into consideration, this study has chosen the Chinese subtitles of 50 English-language films. Through a word count analysis of the text in these 50 film's subtitles, a total of 500,391 words were identified (after tokenization). It's important to note that comparability is a key characteristic of a comparable corpus, with the aim of minimizing potential interference from other variables that could affect the results (Saldanha & O'Brien, 2014). In order to enhance comparability, meaning similarity in type and size, a selection of 70 Chinese language films was made, which yielded a word count of 511,117 words. The two corpora are comparable in terms of both type and quantity. The primary sources of data for this research are derived from OpenSubtitles(<http://www.opensubtitles.org>) for Chinese subtitles of English-language films and Shooter(<https://assrt.net>) for Chinese subtitles of Chinese-language films.

Data Collation

The procedures for data collation including text transition, data clean, data tokenization, and data annotation. Firstly, to facilitate the analysis process, the subtitles undergo format conversion using Aegisub, transitioning from .srt to .txt format. Secondly, in order to get clean text, various mistakes such as "\N" are replaced with spaces, as they serve as defaults generated by software. Thirdly, the collected data, after being tokenized and annotated using Sketch Engine (<https://www.sketchengine.eu>), becomes available for statistical analysis and can be used to generate word lists that include part-of-speech tags and annotations.

Data Analysis

This study focuses on comparing English-language film subtitles to Chinese-language film subtitles to explore the presence of simplification. The research primarily employs statistical analysis in the following areas: 1) lexical variety, 2) lexical density, and 3) high-frequency words. With the help of Voyant Tools (<https://voyant-tools.org/>), metrics such as TypesCountMean, TypesCountStdDev, Vocabulary density, RelativeFrequency can be employed to determine which corpus exhibits higher lexical diversity. Lexical density is primarily concerned with examining the distribution of content words and function words in the two corpora. High-frequency words, on the other hand, are compared using a word list generated through Sketch Engine to assess their usage across the two corpora.

Discussion and Findings

Lexical Variety

Currently, there are numerous readily available statistical tools that, upon input of text, can generate relevant data. From the data generated by Voyant Tools, metrics are directly exported for the three corpora, including TokensCount, TypesCount, TypesCountMean, and TypesCountStdDev, as shown in the table 1 below. Among these, TypesCount signifies how many different vocabulary words are present, while TokensCount represents the total number of occurrences of these words in the text. TypesCountMean, calculated as TokensCount divided by TypesCount, serves as a measure of lexical variety. When the value of TokensCount/TypesCount is higher, it indicates lower lexical variety in the text, meaning that relatively fewer different vocabulary types are frequently repeated. Conversely, if TokensCount/TypesCount has a smaller value, it signifies higher lexical variety in the text,

with different vocabulary types being more evenly distributed throughout the text. TypesCountStdDev refers to the standard deviation of different vocabulary types (or words in the vocabulary list). Standard deviation is a statistical measure used to gauge the degree of dispersion or variation in a set of data. If TypesCountStdDev is higher, it suggests a significant variation in the distribution of different vocabulary types in the text, meaning that some vocabulary types may appear very frequently while others appear less often. This may indicate an uneven distribution of vocabulary in the text, with certain vocabulary types dominating. On the contrary, if TypesCountStdDev is small, it suggests a more uniform distribution of different vocabulary types in the text, with minimal variations in frequency among vocabulary types. This may indicate a relatively even distribution of vocabulary in the text, without any distinct dominant vocabulary types (Hu, 2020). CSEF here represents the Chinese Subtitles of English-language Films corpus, while CSCF represents the Chinese Subtitles of Chinese-language Films corpus.

Table 1: Basic Information of Two Corpora

Title	TokensCount	TypesCount	TypesCountMean	TypesCountStdDev
CSEF	500391	18890	26.48973	343.02615
CSCF	511117	19651	26.00972	326.06952

Through comparison, it can be observed that, between two corpora of similar sizes, the TypesCountMean in CSEF is higher than that in CSCF. Thus, from an overall perspective, the lexical variety in Chinese subtitles of English-language films (translated text) appears to be lower than in Chinese subtitles of Chinese films (non-translation). CSEF also exhibits a higher TypesCountStdDev compared to CSCF, indicating significant variations in the distribution of different types of vocabulary in CSEF texts. Some vocabulary types may occur very frequently, while others are less common. This suggests that the vocabulary distribution in CSEF is relatively uneven, with certain vocabulary types dominating. Both sets of data support the hypothesis of simplification in Chinese translations of English-language movie subtitles.

Lexical Density

Furthermore, the parts of speech tagging for these three corpora were coded for statistical analysis. Part of speech tagging, using Sketch Engine, was categorized into three main classes for analysis: Content words, which include verbs (v), nouns (n), adverbs (a), adjectives (j), and numerals (m); Function words, which consist of pronouns (d), prepositions (p), conjunctions (c); and Others, encompassing habitual language (i) and miscellaneous categories (x). The Chinese Penn Treebank part-of-speech tagset, which is integrated into Sketch Engine, is employed for the part of speech tagging and analysis.

Two methods were employed to calculate lexical density. The first method, TTR (Type/Token Ratio), is akin to TypesCountMean mentioned earlier and is not reiterated here. The second method involved calculating the proportion of content words and function words as a percentage of the total tokens in the two corpora. The results are summarized in the following table 2.

Table 2: Percentage of Content Words and Function Words

Corpus	Content Words	Function Words
CSEF	67.18%	19.84
CSCF	69.61	16.89

Through a comparison of the proportion of content words and function words, it was found that CSEF contain more function words and fewer content words compared to CSCF. This suggests that the number of content words used in the Chinese subtitles of English-language film is lower than in the original Chinese. On the other hand, the use of function words in English-language film subtitles is higher than in Chinese-language film subtitles. This indicates that the use of function words in translated Chinese is higher in the subtitles than in the original Chinese. An increase in the use of function words and a decrease in content words suggest lower lexical density. This, in turn, makes the subtitles more easily comprehensible to the movie's audience in a limited amount of time. The lower lexical density also supports the simplification hypothesis for translated texts. That is, Chinese translated texts tend to reduce complexity by lowering the information provided by content words, making the text more acceptable overall.

The specific performance of content words and function words in terms of frequency per million can be observed in Figure 1.

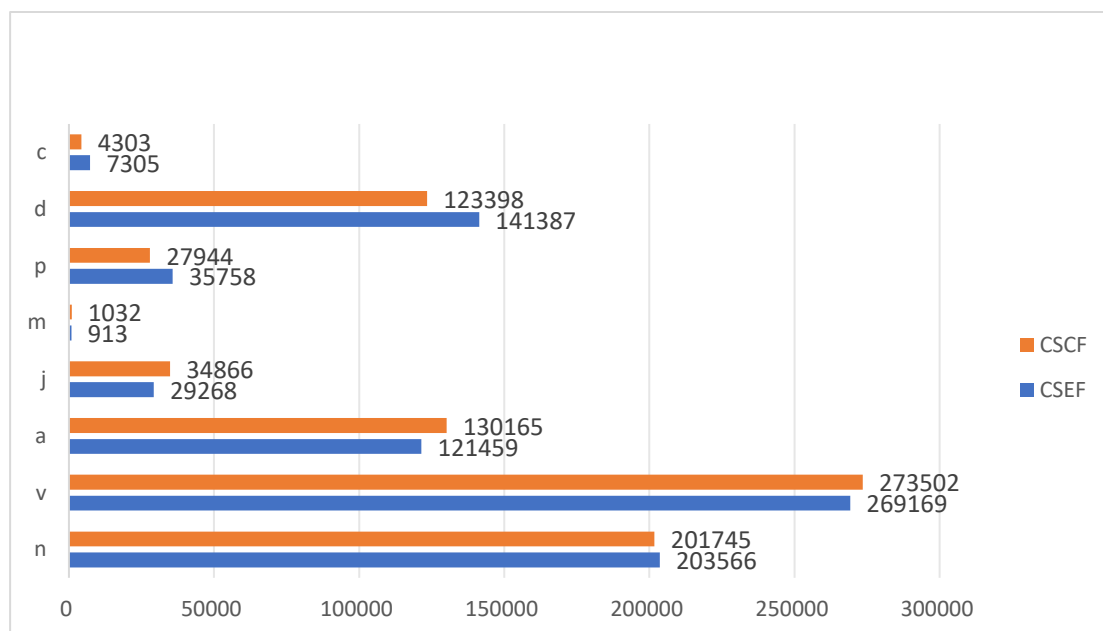


Figure 1: POS Frequency Per Million

Because the two corpora have some variation in the total number of tokens, and because as the size of the corpus increases, the number of tokens also increases while the number of types tends to stabilize, using frequency per million within a relative comparable range is a more informative metric.

According to the data provided by Sketch Engine, in the case of Content words (v, n, a, j, m), except for nouns, CSCF has slightly lower frequency per million values than CSEF. This might be due to the higher number of nouns, potentially stemming from the presence of loanwords, technical terms, creative vocabulary, and culturally loaded words in English-language films. For example, terms like "上帝 (God)," "麦克 (Michael)," "宝贝 (baby/sweetheart)," "人类 (human)," "国王 (king)," "魔戒 (the Ring)," are foreign terms based on English culture and may have minimal presence in Chinese culture. English-language film subtitles often contain many loanwords and technical terms that may require explanation or annotation to help the audience better understand the film's content. Some English-language films may include

creative vocabulary, such as fictional place names and brand names. These terms might require special translation or annotation to convey their meanings to the audience. The goal of Chinese subtitles is to ensure that the audience comprehensively understands the content of the film, which may necessitate providing more vocabulary and information to bridge language and cultural differences.

From figure 1, it is evident that function words (d, p, c), particularly in the case of CSEF, exhibit higher frequency per million values compared to CSCF. In CSEF, pronouns with frequency per million exceeding 1000 include "我 (I), 你 (you), 他 (he), 我们 (we), 他们 (they), 这 (this), 她 (she), 什么 (what), 你们 (you all), 那 (that), 它 (it), 谁 (who), 这里 (here), 自己 (oneself), 您 (you)." In CSCF, pronouns with frequency per million exceeding 1000 include "你 (you), 他 (he), 我们 (we), 她 (she), 你们 (you all), 什么 (what), 这 (this), 谁 (who), 他们 (they), 您 (you), 那 (that), 自己 (oneself), 这里 (here)." When examined individually, the frequency per million of "我 (I)" in CSEF is 45,826, while in CSCF, it is 39,980, indicating a significantly higher usage of pronouns in CSEF.

In CSEF, prepositions with a frequency per million exceeding 1000 include "在 (at/in), 对 (to/for), 跟 (with), 上 (on/above), 给 (to/give), 里 (inside), 从 (from)." In CSCF, the prepositions with a frequency per million exceeding 1000 include "在 (at/in), 跟 (with), 给 (to/give), 对 (to/for), 上 (on/above), 里 (inside)." The trend in prepositions suggests that, for the sake of maintaining sentence structure consistency and fluency, more function words may need to be added in Chinese sentences during translation to ensure that the sentences are coherent and easy to understand.

Conjunctions in CSEF with a frequency per million exceeding 100 include "和 (and), 如果 (if), 只要 (as long as), 要是 (if), 若 (if), 或 (or), 跟 (with), 还是 (or), 与 (and), 还有 (and), 或者 (or), 及 (and), 不管 (no matter), 或是 (or), 除非 (unless), 虽然 (although), 以及 (and)." In CSCF, conjunctions with a frequency per million exceeding 100 include "和 (and), 如果 (if), 要是 (if), 跟 (with), 只要 (as long as), 还是 (or), 既然 (since), 若 (if), 虽然 (although), 与 (and), 还有 (and)." This frequency trend indicates that, to maintain sentence structure consistency and fluency, additional function words may be necessary in Chinese sentences during translation to ensure that the sentences are coherent and easily understood.

High Frequency Words

Sketch Engine has the capability to automatically generate word lists sorted by token frequency. The statistics for the top 10 token frequencies in the two corpora are as showed in table 3.

Table 3: Top 10 Frequent Words in Two Corpora

CSEF					CSCF				
word	tag	pos	Freq. per million	% of concordance	word	tag	pos	Freq. per million	% of concordance
我	PN	d	45826	4.9	我	PN	d	39980	4.3
你	PN	d	37322	4.0	你	PN	d	39819	4.3
是	VC	v	25582	2.8	不	AD	a	25976	2.8
的	DEG	x	23445	2.5	是	VC	v	22928	2.5
不	AD	a	21056	2.3	了	AS	x	19538	2.1
了	AS	x	18466	2.0	的	DEG	x	14419	1.6
的	DEC	x	16404	1.8	的	DEC	x	12558	1.4
他	PN	d	12799	1.4	就	AD	a	10288	1.1
我们	PN	d	9646	1.0	一	CD	j	9153	1.0

These two corpora share a common high-frequency pronoun, "我(I/me)," followed by "你(you)." In CSEF, there are additional pronouns, "他 (he/him)" and "我们 (we/us)," which are not present in CSCF. And "我 (I/me)" in CSEF exhibits higher frequency per million and a higher percentage of concordance compared to CSCF. The highest-frequency verb in both corpora is "是 (to be)," with CSEF showing higher frequency per million and a greater percentage of concordance for this verb compared to CSCF. Regarding the usage of "的," it has two forms in Chinese. One is "的" in a relative clause (DEC), for example: "我认识的人很多 (I know many people)". The other is "的" in an associative sense (DEG), for example: "一瓶水的价格很便宜 (The price of a bottle of water is very cheap)". In both cases, whether DEG or DEC, "的" in CSEF exhibits higher frequency per million and a higher percentage of concordance compared to CSCF.

Surprisingly, "不 (not)" in CSEF has a lower frequency per million and a lower percentage of concordance compared to CSCF. This led to an exploration of the contexts in which "不" is used, revealing instances where "不" is not employed for negation but rather to express questioning or a skeptical tone. For example, phrases like "饿不饿 (Are you hungry?)" and certain dialectal expressions like "中不? (Alright?)" use "不" as an interrogative modal particle. In phrases like "过不过分 (Is it excessive?)," the "不" is used to indicate a questioning or skeptical tone. In these cases, "不" is not used for negation but rather to emphasize the interrogative mood.

However, analyzing only the top 10 high-frequency characters/words is insufficient to fully understand the usage of high-frequency words. Therefore, high-frequency words in the top 10, top 30, top 50, and top 100 were analyzed in stages, measuring their frequency per million. The results are as follows:

Table 4: Frequency Count of High Frequency Words

Ranking	CSEF	CSCF
10	219439	203571
30	343436	324523
50	403717	386977
100	481127	472644

As indicated by the data in the table 4, the statistics at each stage consistently demonstrate that the frequency of high-frequency words in CSEF is higher than in CSCF. Therefore, in summary, the overall trend suggests that the frequency of high-frequency words in the Chinese subtitles of English-language film is higher than in the Chinese subtitles of Chinese-language film. In other words, the usage frequency of high-frequency words in translated Chinese is higher than in original Chinese, supporting the hypothesis that translated texts employ more common words, thus aligning with the simplification hypothesis.

Conclusion

This study has provided evidence for the universals of simplification in Chinese subtitles of English-language film through three main aspects: lexical variety, lexical density, and high-frequency words. The research demonstrates that the translated text in Chinese subtitles of English-language film exhibits lower lexical variety compared to the Chinese subtitles of Chinese-language film. Chinese subtitles of English-language film use more function words and fewer content words, resulting in lower lexical density than Chinese subtitles of Chinese-language film. The statistical analysis of high-frequency words also indicates that the translated text in English-language film employs high-frequency words relatively more frequently than non-translations of Chinese-language film. These research findings align with the hypotheses of simplification as validated by Laviosa (Laviosa, 1998) and Hu (Hu, 2007).

While the field of exploring universals in translation studies has seen a considerable volume of research on simplification, the differences between languages, specialized domains, text types, and more continue to make the exploration of universals a meaningful endeavor. Translation is a complex interplay of language and culture. Studying simplification in translation allows for a deeper understanding of the phenomenon, shedding light on the differences between languages, translation strategies, and the impact of cultural factors on translation processes. Simultaneously, these related studies can enrich translation studies and offer valuable insights into understanding and addressing common features in translation research. Furthermore, in the context of modern technological advancements, machine translation and automated translation tools have become increasingly significant. Investigating simplification as a universal can provide guidance for the enhancement of these tools. Understanding which translation features are universal across different language pairs contributes to improving the accuracy of automated translation.

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A STUDY OF CUSTOMER SATISFACTION AT LOCAL STREET COFFEE SHOPS AMONG STUDENTS IN PENANG

Nurul'Aishah Zakaria¹

Noraini Jaafar²

Nurul Istiqomah Mohamad Fuad³

Syuhirdy Mat Noor⁴

¹Faculty of Hotel & Tourism Management, Universiti Teknologi Mara (UiTM), Malaysia, (nurulnzakaria@gmail.com)

²Faculty of Hotel & Tourism Management, Universiti Teknologi Mara (UiTM), Malaysia, (2021471238@student.uitm.edu.my)

³Faculty of Hotel & Tourism Management, Universiti Teknologi Mara (UiTM), Malaysia, (2021461448@uitm.edu.my)

⁴Faculty of Hotel & Tourism Management, Universiti Teknologi Mara (UiTM), Malaysia, (syuhirdy094@uitm.edu.my)

Abstract: A street coffee shop is a small, often informal establishment located on the street, sidewalk, or in a public area, typically offering a limited menu focused on coffee, tea, and light snacks or pastries. Popular for their convenience, these shops cater to people on the go and are often found in busy urban areas, near public transportation hubs, or in popular pedestrian zones, ranging from simple stands to more elaborate setups with seating. Satisfied customers are more likely to return and spread the word to others about the establishment. Studying customer satisfaction in coffee shops is vital for owners and managers to grasp customer preferences, enhance their services, and build a loyal clientele. This study aims to explore the factors that may influence customers to purchase coffee at local street coffee shops. Simple random sampling was employed, resulting in a total of 390 online questionnaires being collected for data analysis. The study's findings indicate that price, quality, and location are key factors influencing customer satisfaction when purchasing coffee at local street coffee shops. Finally, guidelines are proposed, and directions for future research are explored.

Keywords: Price, Quality, Location, Local Street Coffee, Customer Satisfaction

Introduction

More than 50 countries around the world cultivate coffee as a commodity, with Robusta (*Coffea canephora*) and Arabica (*Coffea arabica*) being the two most prominent varieties. Coffee culture has become deeply embedded in societies worldwide, particularly among the youth, both in developed and developing nations. It has gained popularity as a social tool, often used for gathering with friends and family or as a companion while working on school assignments (Siti Nurhasanah & Chika Dewi, 2019). Coffee is a widely available product, with consumers able to choose from a vast array of brands on the global market. The growing consumption of coffee has led many people to embrace and rediscover coffee culture. Coffee is recognized as a significant household commodity due to its frequent consumption. Economically, coffee ranks as one of the most important crops in international trade (Pendergrass M, 2009).

In Malaysia, coffee shops are commonly known as Kopitiams, as they are among the earliest coffee establishments in the country. A Kopitiam can be best described as a traditional local coffee shop that serves both classic coffee and Malaysian specialties (Omar M. S., et al., 2019).

Typically, Kopitiam offer black coffee or coffee with milk, but sometimes they enhance the creaminess by adding butter and use condensed milk as a sweetener. These coffee shops primarily use Robusta coffee beans, which are traditionally roasted. To enhance the aroma and flavor, some roasters include additives such as butter, ginger, or cinnamon. The rise in coffee consumption in Malaysia is partly due to urbanization and the fast-paced lifestyle. Malaysia's strong coffee culture is evident in the long-standing tradition of Hainanese coffee shops, or Kopitiam, and Malay Indian restaurants, which have been serving coffee to Malaysians for decades. Additionally, the presence of international residents living and working in Malaysia has contributed to the development of foreign coffee culture within the country (Thomas, A. J., et al., 2020).

A local street coffee shop is a small, neighbourhood-based establishment that operates on the streets or in open public areas, often catering to the local community. These coffee shops are usually modest in size and setup, with a focus on providing accessible, affordable coffee to residents and passers-by. Local street coffee shops typically serve traditional or popular coffee drinks that resonate with the local culture. They might also offer a selection of simple snacks or pastries. The atmosphere is generally laid-back and informal, making these spots popular for socializing, quick breaks, or a convenient coffee on the go. These shops are closely tied to the local culture, often showcasing the distinctive flavours, preferences, and traditions of the area. They play an important role in the community's daily life, serving as a gathering spot where people can come together and enjoy a cup of coffee in a familiar, welcoming environment. Some examples include "Kopi and Studio," "Kopi Hainan," "Kopi Gantung Perlis," "The Sum Kopi," "Kopi Tepi Jalan," and many others.

Despite the growing popularity of local street coffee shops, there is limited understanding of the factors that influence customer satisfaction in this specific segment of the coffee industry. Unlike larger coffee chains, street coffee shops face unique challenges in attracting and retaining customers, including competition, pricing, service quality, and product offerings. However, customer expectations and satisfaction levels at these small, often independently owned establishments have not been extensively studied.

This research seeks to bridge the gap by examining key factors such as price, location, and food quality that influence customer satisfaction at a local street coffee shop. Understanding these factors is crucial for improving service delivery, enhancing customer loyalty, and ensuring the long-term sustainability of these small businesses in a competitive market.

Literature Review

Customer Satisfaction Towards Coffee Shop.

According to Kim, Park, and Jeong (2004), customer satisfaction is the customer's response to their level of satisfaction and their assessment of how well their expectations have been met. Customer satisfaction is described as the pleasure or disappointment a person feels after comparing the product's performance to their expectations (Kotler, 2006; 2019). The success of a local coffee business hinges on the satisfaction of its customers. Specialty coffee shops have become increasingly common in Malaysia. While traditional kopitiam have long been a staple, the coffee culture is evolving. The rise of small chains and cafes is transforming how many Malaysians enjoy their coffee in public. These coffee shops, whether nestled in buildings or along local streets, offer a diverse range of coffee options. The growth of coffee shop chains has introduced new competition in the food and beverage industry, reflecting a shift in cultural preferences towards coffee among Malaysians (Hung, 2012).

The study by Yahui et al. (2023) reveals that service quality significantly impacts customer satisfaction, with most customers preferring high-quality service at Starbucks in Malaysia. High-quality service fosters greater customer loyalty. Additionally, high levels of satisfaction enhance customer loyalty, suggesting that satisfied customers are more likely to remain loyal. Another study demonstrated that product quality, service quality, and the restaurant environment contribute to customer satisfaction and the intention to revisit (Fadzli et al., 2023). The study by Hermina & Fauziah (2021) identified four key factors influencing customer satisfaction: the taste of coffee, the freshness of coffee, the appearance of coffee, and the originality of the menu. The study further revealed that the freshness of coffee and the originality of the menu are perceived similarly by customers in terms of satisfaction. However, customers view the taste and appearance of the coffee differently, indicating varied perceptions of what contributes to a satisfying coffee shop experience. The study by Edy Suryawadana & Doni Nudeagraha (2020) found that factors such as price, service quality, product quality, product diversity, promotion, and location all have a positive and significant impact on customer satisfaction. This conclusion was based on the significant probability values of these variables, all of which were less than 0.05, indicating a strong relationship between these factors and customer satisfaction.

Higher levels of customer satisfaction can significantly boost customer loyalty, reduce churn, decrease price sensitivity, and lower costs associated with both marketing failures and expanding the customer base. Additionally, it can enhance advertising effectiveness and improve a company's reputation (Doni et al., 2020). Customers tend to remain loyal to service providers with whom they've had positive experiences, as they prefer to minimize risk. Prior studies, such as those by Ngo Vu Minh (2016), suggest that satisfaction often leads to loyalty in service settings. Riani Yunita et al. (2022) note that a person's satisfaction is shaped by comparing their feelings and expectations with the actual performance or results they receive. Achieving customer satisfaction can be challenging if a service provider doesn't fully understand customer needs, as different individuals may experience varying levels of satisfaction from the same products or services (Luthfy Kasim, 2021).

Price and Customer Satisfaction

Customer satisfaction is closely tied to the perceived value in the customer's mind, rather than being dictated by what a brand considers valuable (Nancholas, 2022). A study by Hendrik Herman (2023) found that price significantly influences consumer satisfaction. Price not only serves as a key indicator of customer satisfaction but also has the power to either attract or deter customers (Fornell, 1966). Price can be defined as the amount of money a buyer pays to a seller for goods or services, encompassing both the profit margin and the cost of the goods or services provided (Surbhi, 2014). Han & Ryu (2009) discovered that in Korea's restaurant industry, customer satisfaction is greatly influenced by perceived pricing; customers are more likely to be satisfied when they believe the product is fairly priced. Kotler and Keller (2012) emphasized that price is a key element of the marketing mix that generates revenue, while the other elements typically incur costs. Pricing plays a crucial role in shaping customer satisfaction.

Coffee drinks are typically sold at set prices, and customer satisfaction can vary depending on the price relative to the quality. Some customers feel satisfied when the price is relatively low or when the taste of the coffee offers good value for the money. This observation aligns with findings from Konuk (2018), who reported that customer satisfaction tends to increase when coffee drinks are reasonably priced and of high quality. On the other hand, if coffee drinks are

overpriced, do not match the expected quality, or cannot compete with similar offerings, customers are likely to be disappointed (Runtunuwu et al., 2014).

Product Quality and Customer Satisfaction

Product quality is a fundamental aspect of any successful business and plays a crucial role in driving customer satisfaction. It refers to the attributes and characteristics of a product that meet or exceed customer expectations, including functionality, durability, reliability, and overall performance. High product quality is often perceived as a key indicator of value, influencing customers' purchasing decisions and their likelihood of becoming repeat buyers. It is intricately linked to a product's ability to perform its intended functions, which encompasses general functionality, accuracy, reliability, ease of use and maintenance, and other valuable attributes (Grace et al., 2021). Consequently, consumer satisfaction with both the purchase and use of a product is directly influenced by its quality (Hidayat, 2009).

For many coffee consumers, product quality is synonymous with the authenticity of the beans and the precision of the brewing process. Specialty coffee shops emphasize the traceability of their beans, ensuring that they are sourced from reputable growers who adhere to sustainable practices. This focus on high-quality, ethically sourced beans appeals to consumers who are not only looking for superior taste but also want to support responsible production practices.

Kannan (2017) found that overall food quality significantly impacts customer satisfaction and behavioral intentions. Regression analysis revealed that taste and presentation were the most influential factors contributing to customer satisfaction and behavioral intentions. Therefore, managers should prioritize key food quality attributes that drive customer satisfaction and encourage repeat visits in the restaurant industry. The study conducted by Jalal Hanaysha (2016) demonstrated that food quality has a significant and positive impact on customer satisfaction. Additionally, the research showed that both price fairness and the physical environment also have significant positive effects on customer satisfaction. A study conducted by Nor, N. M. S. N. M. et al. (2024) at premium coffee shops in Penang found that product quality had a positive impact on customer satisfaction. This indicates that the quality of coffee and related products is essential for achieving high levels of customer satisfaction.

Location and Customer Satisfaction

A location refers to the place where a business operates or conducts its activities. Key elements influencing a company's growth include the location within a metropolitan area, its accessibility, and the travel time required to reach it. When selecting a site for service facilities, two primary factors must be considered: in one case, clients visit the service facility, and in the other, the service provider travels to the customers. Some service providers combine both approaches (Swastha, 2012). For a coffee shop, the location should be accessible and easily reachable by public transportation. A visible site is one that can be easily noticed from a typical viewing distance. Additionally, traffic considerations involve three major factors: ample, comfortable, and secure parking. Moreover, the location should offer sufficient space to accommodate future business expansion.

The study done by Han et. al (2020) reveals that location characteristics, particularly demographics and competition, significantly influence a restaurant's customer satisfaction. Afifudin's (2016) research found that the more appealing a location is to consumers, the higher their satisfaction with it. Similarly, Akpoyomare's (2014) study emphasized the importance of

location selection in the industry, as location is a key factor consumer consider when choosing a store or service provider.

Research Framework

Figure 1 show the framework for this study

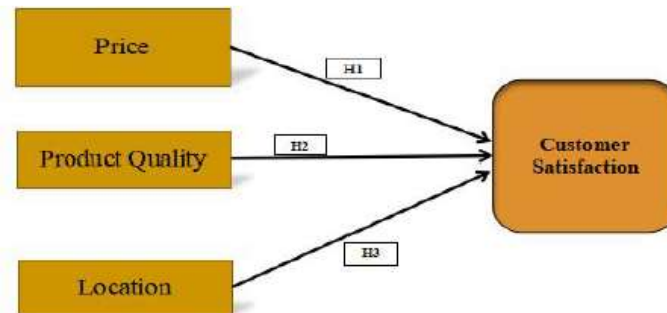


Figure 1: Conceptual Framework of The Study

Problem Statement

Malaysia's coffee market is rapidly growing and becoming increasingly competitive. Both local cafés and international coffee chains are expanding their operations. Coffee consumption is rising, particularly among the younger millennial generation, making it a common daily beverage. Malaysia is now ranked among the top 50 coffee-consuming countries (Nashath Ali, 2021). In Malaysia, "local street coffee" typically refers to coffee that is prepared and sold outdoors or at roadside stalls, rather than in formal coffee shops. This informal style of coffee service is usually offered by local vendors, small stands, or mobile carts operating along streets, sidewalks, or public spaces (Gregar, 2019). This highlights the contrast between local street coffee in Malaysia and abroad, where street coffee is more commonly found in bars or malls, whereas in Malaysia, it is served by roadside vendors, often under tents.

In the context of local street coffee shops, coffee quality plays a pivotal role in shaping consumers' purchasing decisions and overall satisfaction. Kotler and Armstrong (2008) highlight that superior product quality enhances the likelihood of consumer preference and satisfaction. Therefore, it is crucial for local street coffee shops to consistently provide high-quality coffee to foster customer satisfaction and loyalty. Additionally, in the competitive environment of local street coffee shops, pricing strategies are equally important in influencing consumer choices and satisfaction. According to Kotler and Keller (2009), price serves as a key differentiating factor, with consumers evaluating various price points before making a purchasing decision. To remain competitive, local street coffee shops must adopt pricing strategies that align with consumer expectations, thus attracting customers and promoting satisfaction.

Zeithaml et al. (1996) suggest that accessible locations promote positive customer attitudes and boost word-of-mouth recommendations. Consequently, understanding how easily accessible public locations impact customer satisfaction and influence their behavior in local street coffee shops is essential for driving business success. Additionally, Wailmy and Tamam (2020) stated that service quality and location together have a significant impact on customer satisfaction, meaning that as service quality and location improve, customer satisfaction also increases.

This study contributes to the success of local coffee shops in achieving customer satisfaction. Customer satisfaction and happiness are key components of loyalty, as consumers remain loyal to a business only when they are satisfied and pleased. The findings of this study help coffee shop owners expand their customer base and provide a roadmap for future improvements in customer satisfaction. A company's ability to adapt its products or services is essential, as loyal customers believe they cannot achieve the same level of satisfaction elsewhere, prompting them to continue purchasing from the same business. As a result, this research will explore the relationship between price, product quality, and location in relation to customer satisfaction at local street coffee shops.

Research Objective and Questions

The purpose of this study is to examine the relationship between price, product quality, and location in relation to customer satisfaction at local street coffee shops. In line with this objective, the following research questions are posed: How do price, product quality, and location influence customer satisfaction at local street coffee shops?

Research Hypotheses

Based on the framework, three hypotheses of this study are formulated:

H1: The price positively influences the customer satisfaction at the local street coffee shop.

H2: The product quality(coffee) positively influences the customer satisfaction at the local street coffee shop.

H3: The location positively influences the customer satisfaction at the local street coffee shop.

Methodology

Research design

This research uses quantitative methods to examine UiTM Penang students' acceptance of local street coffee. Data will be collected through questionnaires distributed via Google Forms on social media platforms like WhatsApp, Telegram, Instagram, and Facebook. The study focuses on factors such as price, quality, and location of local street coffee shops. Convenience sampling, a non-probability technique, will be used for selecting participants based on ease of access. The researcher selected a descriptive and hypothesis-testing approach because a questionnaire was employed to collect detailed information from respondents and enrich the study.

Unit of analysis

This study focuses on the Permatang Pauh branch of UiTM Penang, targeting students from five faculties: the Faculty of Civil Engineering, Faculty of Electrical Engineering, Faculty of Mechanical Engineering, Faculty of Chemical Engineering, and Faculty of Hotel and Tourism Management. A convenience sampling method was employed to investigate the factors influencing customer satisfaction at the local street coffee shop.

Population and sampling

This study utilizes scientific methods to collect information from participants by distributing questionnaires and gathering the resulting data. The collected data is then analyzed to generate comprehensive statistics and facilitate participant identification. Based on the Roasoft program, a recommended sample size of 384 participants is suggested, providing a reliable and updated estimate. A pilot study was conducted to gather preliminary raw data, aiding in the assessment of data entry and processing procedures. For the pilot study, 30 students from UiTM Penang were selected as participants. The research focuses on a restricted age group of 19 to 30 years,

as individuals within this range are more likely to have experience purchasing from local street coffee vendors. Survey responses from this group will offer valuable insights into the factors influencing customer satisfaction.

Instruments

An online survey questionnaire was created using Google Forms, with questions provided in both English and Malay. The decision to include these languages was made to ensure the questionnaire is user-friendly and easy to understand for customers, enabling participants to respond more effectively according to their language proficiency. The questionnaire will consist of five sections. The first section will gather demographic information from respondents. Part B consists of four questions addressing independent variables such as price, while Part C contains five questions focused on product quality, and Part D includes five questions related to location. Part E comprises five questions targeting the dependent variable, customer satisfaction. A Likert scale will be employed in this study, ranging from 1 (strongly disagree) to 5 (strongly agree).

Data Analysis

Specialized software will be used to analyze the data, ensuring accuracy, and streamlining the process. IBM SPSS Statistics (SPSS) has been selected for this study. The research focuses primarily on descriptive data, examining customer satisfaction with coffee shops in the Klang Valley, Malaysia, based on factors such as price, location, and product quality. IBM SPSS Statistics will be used to conduct descriptive analyses, including calculations of the mean, frequency, and standard deviation, as well as graphical representations like bar charts and statistics. Additionally, Pearson Correlation Coefficient and Regression Analysis will be applied to explore the relationships between the variables in greater depth.

Result and Discussion

Reliability test

A reliability test is a statistical method used to assess the consistency and stability of a measurement tool or its subsets. It aims to determine how reliably the tool or test items measure the same concept over repeated administrations. Cronbach's Alpha is a widely used metric for reliability testing, measuring the internal consistency of a scale or set of items. In this study, Cronbach's Alpha coefficient was applied to evaluate consistency, indicating how well the test items correlate with one another and whether they measure the same underlying construct. Ideally, a Cronbach's Alpha value of 0.6 is recommended (Sekaran, 2003). The number of items in a scale can influence the Cronbach's Alpha values, and shorter scales often exhibit lower values. The reliability test results indicated a Cronbach's Alpha of 0.942 for 19 variables, demonstrating a high level of reliability for this instrument.

Table 1: Reliability Statistic

Cronbach's Alpha	Cronbach's Alpha Based on Standardized items	N of Items
.942	.946	19

Demographic Profile of Respondent

Demographic of respondent is a section that presents the demographic data of respondent in this study. The demographic information on the respondents include gender, age group, education level and how frequently they consume a coffee.

Table 2: Respondents Profile

	n.	%
Respondent	390	
Gender		
Male	209	53.6%
Female	181	46.4%
Age		
19-21 years old	191	49.0%
22-24 years old	181	46.4%
25-27 years old	18	4.6%
Educational Level		
Diploma	118	30.3%
Bachelor Degree	272	69.7%
Frequency of Respondents Consuming coffee		
Once a day	149	38.2%
Twice a day	16	4.1%
Three or more times a day	22	5.6%
Three or more times a week	202	51.8%

Descriptive Statistic on Price

Table 3: Mean Score and Standard Deviation for Price

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
B1	390	1	5	3.85	1.060	-.857	.124
B2	390	1	5	3.83	.969	-.876	.124
B3	390	1	5	3.77	1.140	-.715	.124
B4	390	1	5	3.75	1.075	-.790	.124
Valid N(listwise)	390						

The data presented in Table 3 illustrates the descriptive pricing of local street coffee shops. Most respondents, with an average score of $M = 3.85$, agree that these shops offer consumers great value on drinks compared to other coffee shops. Additionally, respondents perceive the pricing of local street coffee shops as providing good value, with a mean score of $M = 3.83$. The third highest mean score, $M = 3.77$, reflects the belief that the money spent on products at local coffee shops is well worth the value. Finally, a mean score of $M = 3.75$ indicates that respondents agree the prices at local street coffee shops are aligned with the quality of the menu offered.

Descriptive Statistic on Product Quality

Table 4: Mean Score and Standard Deviation for Product Quality

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
C1	390	1	5	3.67	1.109	-.585	.124
C2	390	2	5	3.49	.901	-.022	.124
C3	390	1	5	3.64	1.039	-.235	.124
C4	390	2	5	3.62	.957	-.175	.124
C5	390	1	5	3.55	1.040	-.512	.126
Valid N (listwise)	390						

The data in Table 4 highlights the descriptive statistics regarding the product quality of local street coffee shops. Most respondents, with a mean score of $M = 3.67$, agree that the taste of coffee from these shops is delicious. Following this, respondents expressed satisfaction with the coffee's diversity, reflected by a mean score of $M = 3.64$. The third highest score, $M = 3.62$, indicates agreement that local street coffee shops offer a wide variety of menu options. Additionally, respondents agree that the packaging is appealing, with a mean score of $M = 3.55$. Lastly, the same score of $M = 3.55$ shows agreement that the coffee offers a diverse range of flavors.

Descriptive Statistics on Location

Table 5: Mean Score and Standard Deviation for Location

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
D1	390	1	5	3.56	1.129	-.313	.124
D2	390	1	5	3.62	1.080	-.381	.124
D3	390	1	5	3.67	1.097	-.391	.124
D4	390	1	5	3.60	1.021	-.622	.124
D5	390	2	5	3.40	.961	.058	.126
Valid N (listwise)	390						

The data in Table 5 presents descriptive statistics regarding the location of local street coffee shops. Most respondents, with a mean score of $M = 3.67$, agree that these shops are strategically positioned near community hubs such as schools and offices. Additionally, respondents find it convenient to access local street coffee shops, as they are easily visible, with a mean score of $M = 3.62$. The third highest mean score, $M = 3.60$, indicates agreement that the shops are located along busy roads with a constant flow of people, making them easy to find. A mean score of $M = 3.56$ reflects that respondents generally find it easy to locate local street coffee shops. Lastly, respondents rate the cleanliness and comfort of the shop locations with a mean score of $M = 3.405$.

Descriptive Statistic on Customer Satisfaction

Table 6: Mean Score and Standard Deviation for Customer Satisfaction

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
E1	390	1	5	3.68	1.014	-.778	.124
E2	390	1	5	3.74	.963	-.919	.124
E3	390	1	5	3.65	.960	-.452	.124
E4	390	1	5	3.78	1.014	-.911	.124
E5	390	1	5	3.56	1.034	.453	.126
Valid N (listwise)	390						

The data in Table 6 presents descriptive statistics on customer satisfaction with local street coffee shops. The highest mean score, $M = 3.78$, reflects that most respondents feel happy with

the beverages from these shops. Following this, respondents indicated they would recommend the local street coffee shops to friends, with a mean score of $M = 3.74$. The third highest score, $M = 3.68$, shows that respondents are satisfied with the drinks offered. Additionally, a mean score of $M = 3.65$ suggests that respondents would encourage others to visit the local street coffee shop. Lastly, the lowest mean score of $M = 3.56$ indicates that respondents, though fewer in number, still feel their experience with local street coffee shops is valuable.

Pearson Correlation Coefficient Analysis

Table 7: Pearson Correlation Matrix between Variables

		Price	Product Quality	Location	Customer Satisfaction
Price	Pearson Correlation	1	.725**	.692**	.785**
	Sig. (2-tailed)		.000	.000	.000
	N	390	390	390	390
Product Quality	Pearson Correlation	.725**	1	.644**	.817**
	Sig. (2-tailed)	.000		.000	.000
	N	390	390	390	390
Location	Pearson Correlation	.692**	.644**	1	.740**
	Sig. (2-tailed)	.000	.000		.000
	N	390	390	390	390
Customer Satisfaction	Pearson Correlation	.785**	.817**	.740**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	390	390	390	390

** Correlation is significant at the 0.01 level (2-tailed)

Based on the findings presented in Table 7, it is evident that there is a strong positive linear relationship between price and customer satisfaction, as indicated by a Pearson correlation coefficient (r) of 0.785, with a statistically significant p -value of <0.05 . This underscores the importance of price in influencing customer satisfaction, a point also emphasized by Prasilowati et al. (2020). Furthermore, Albari (2019) also demonstrated that price has a positive and significant impact on customer satisfaction and loyalty. Similarly, there is a robust positive correlation between product quality and customer satisfaction, with a Pearson correlation coefficient (r) of 0.817 and a significance level of $p < 0.05$. This finding aligns with the study conducted by Mahsyar (2020), which posited that product quality positively influences customer satisfaction to revisit a restaurant. Additionally, Sambo (2020) found that product quality plays a key role in customer satisfaction. A decline in customer loyalty may be attributed to fluctuations in the firm's product quality and the level of customer satisfaction related to that quality. Besides, the results show a positive relationship between location and customer satisfaction, with a Pearson correlation coefficient (r) of 0.740 and a significant p -value of less than 0.05. This is supported by the study of Han et al. (2020), which found that location attributes, such as demographics and competition levels, have a significant relationship with customer satisfaction in restaurants. Moreover, the research conducted by Diah Yulisetiari et al. (2022) affirms that price and location has a positive impact on customer satisfaction, adding weight to the argument that this relationship holds true in various context. Restaurant owners should consistently focus on improving their location, as a good location has a significant impact on customer satisfaction, ultimately encouraging consumers to continue visiting the establishment.

Discussions

This research explores the influence of price, product quality, and location on customer satisfaction at local street coffee shops. The study aims to examine the relationships between

these three variables and customer satisfaction. For each variable, price, product quality, and location, three alternative hypotheses have been proposed. The findings demonstrate that each of these factors significantly affects customers' satisfaction, contributing to their continued patronage of their preferred street coffee shops.

The findings from hypothesis 1, which examines the impact of price on customer satisfaction, reveal a positive effect on UiTM Penang students. The hypothesis suggests that customers are satisfied with the prices offered by their preferred street coffee shops, which they frequent regularly. This trust leads to high satisfaction with the amount they spend at these establishments. The outcomes of their purchases consistently meet their expectations, demonstrating that the coffee shops provide good value for money. As a result, customers are likely to return in the future, believing that the prices are affordable and aligned with the quality of the menu. This analysis highlights the crucial role that price plays in enhancing customer satisfaction at street coffee shops.

As for hypothesis 2, many respondents, with a mean score of ($M = 3.67$), agree that the coffee from these shops is delicious. There is a significant relationship between the quality of local street coffee shops and customer satisfaction. High-quality coffee and service have a direct impact on customer satisfaction. When a local coffee shop offers delicious, well-prepared drinks, a diverse menu, and a pleasant atmosphere, students are more likely to have a positive experience. High-quality offerings make customers feel valued, encouraging repeat visits and fostering loyalty and positive word-of-mouth recommendations. Therefore, maintaining high-quality standards is crucial for local street coffee shops to ensure and enhance customer satisfaction. The statistics highlight the strong appreciation consumers have for the taste, variety, and presentation of products from local street coffee shops, indicating that most students are satisfied with the quality provided.

The results from hypothesis 3 provide valuable insights into respondents' perceptions of the location of local street coffee shops, which significantly influences customer satisfaction. The findings indicate that most respondents agree these coffee shops are strategically situated near key community areas such as schools and offices. Specifically, students value the convenience of local street coffee shops located in close proximity to schools, roadsides, and residential areas, as these locations offer easier access to coffee. This convenience is particularly appreciated because it reduces the time spent in long queues, which are common at branded coffee chains like Zus Coffee, Coffee Bean, and Starbucks. Consequently, students are able to manage their time more effectively, as purchasing coffee from a local street shop is both quicker and more efficient.

Conclusions

Studies on local street coffee shops provide valuable insights into customer satisfaction and perceptions of these establishments. By examining key factors such as value for money, taste and variety of products, location, and overall experience, this research helps coffee shop owners identify what customers prioritize. The findings reveal that customers place high importance on the taste and variety of coffee, as well as the strategic location of these shops near community hubs. The study also highlights the significance of cleanliness and appealing packaging. Overall, the research offers actionable insights that can help local street coffee shop owners enhance their services, attract more customers, and boost customer satisfaction.

One limitation of this study on local street coffee shops is that it focuses exclusively on the opinions of students from UiTM Penang. This narrow demographic may not accurately represent the perspectives of other customer groups, such as working professionals or tourists. Additionally, the study relies on self-reported data, which can be subjective and may not always reflect actual experiences. For future research, it is recommended to include a broader range of participants from various age groups, professions, and locations to gain a more comprehensive understanding of customer satisfaction with local street coffee shops. Incorporating observational methods or sales data would also help validate the findings. Additionally, examining factors such as pricing strategies, marketing efforts, and competition with larger coffee chains could offer further insight into the success of local street coffee shops. These local establishments have a unique charm that distinguishes them from their chain counterparts. This study clearly shows that local street coffee shops offer customers a sense of comfort and satisfaction. Therefore, supporting these establishments is important, as they provide students and employees with convenient access to coffee when they need it.

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MALAYSIANS' AWARENESS AND PERSPECTIVES ON THE REFUGEE SITUATION IN THE COUNTRY

Ang Siew Mun¹

Bazlin Darina Ahmad Tajudin²

Eng May Chuen³

Nur Zahrawaani Jasmin⁴

¹Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman (UTAR), Malaysia, (angsm@utar.edu.my)

²Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman (UTAR), Malaysia, (bazlin@utar.edu.my)

³Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman (UTAR), Malaysia, (engmc@utar.edu.my)

⁴Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman (UTAR), Malaysia, (zahrawaani@utar.edu.my)

Abstract: *This preliminary study examined 70 Malaysians' awareness and perspectives on the refugee situation in the country. It was found that despite many news and social media reports highlighting the plight of refugees in Malaysia, there are still 32.9% (N=23) who are not aware that there is a community of foreign nationals who are marginalized and are called 'refugees' in our country. Moreover, 68.6% (N=48) of these respondents have not heard of the UNHCR, the UN Refugee Agency, and its roles. This paper also found that 62.9% (N=44) of the Malaysians surveyed agreed that refugees should be helped, be entitled to equal human rights and should not have to face abuses or exploitation, especially in the hands of unscrupulous local employers. However, they are divided on whether the Malaysian government and its people should prioritize refugees over local needs and issues. Interestingly, 54.3% (N=38) of these respondents also expressed a desire for the refugees to be relocated to a third, and more advanced country. This shows that a majority of them are holding onto an old, but existing narrative in contrast to what local scholars (see Kartini & Nur Atiqah, 2023) are now suggesting – a super-diverse Malaysia in terms of ethnicity and cultural practices – by integrating the refugees into our society. The scholars' position accords with the Acculturation and/or Integration Theory. Nonetheless, three respondents had highlighted that these refugees could possibly bring many positive impacts on our economy if they work here legally while awaiting relocation to a third country. So, only these three respondents' views are in line with the latest narrative on refugees, i.e., seeing them as valuable human capital or resources. Finally, this paper concludes by outlining some current frameworks on how to view refugees since their numbers have swelled in Malaysia and globally.*

Keywords: *Refugees, Human Rights, Exploitation, Super-Diverse Malaysia*

Introduction

The United Nations Commissioner for Refugees (UNHCR), the global UN Refugee Agency, works closely with the Malaysian government to manage refugee protection such as their access to legal work, prevention of arrest and detention as well as the strengthening of self-reliance (UNHCR Global, 2024a). It also engages with civil society, the private sector and refugees themselves to help these refugees access healthcare and education while in Malaysia (UNHCR Global, 2024a).

The word ‘refugee’ can encompass many meanings, but generally it means that a refugee is a person who suffers from persecution and cannot hope to seek protection from the authorities in their own country.

According to the 1951 Convention relating to the status of refugees or also known as the 1951 Refugee Convention, the word ‘refugee’ is defined as:

“[people who] owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it.” (UNHCR, n.d.)

Meanwhile, an ‘asylum-seeker’ is defined as someone whose application for refuge and protection has yet to be processed or approved (UNHCR Malaysia, 2024).

In Malaysia, there are some 181,000 refugees and asylum-seekers and out of these numbers, 85% are from Myanmar, including some 103,000 Rohingyas (UNHCR Global, 2024a). The rest of the refugees are from 50 other countries, including Pakistan, Yemen, Syria, and Somalia (UNHCR Global, 2024a). According to the UNHCR Global (2024a), 67% of these refugees and asylum-seekers are men, while 33% are women. A total of 45,650 are children below the age of 18 (UNHCR Global, 2024a). They all live in cities and towns across Peninsular Malaysia, with a fairly large proportion of inhabitants in the Klang Valley, Johor, and Penang (UNHCR Global, 2024a). Also, Malaysia currently has the biggest number of Rohingya refugees within the Association of Southeast Asian Nations (ASEAN) and the fourth highest number in the world (Sukhani, 2020).

According to UNHCR Malaysia (2024), refugees usually work in the informal sector, where they face exploitation, including receiving immensely low wages and long working hours; sometimes, they don’t get paid at all (Sayed & Choi, 2018). Moreover, it is estimated that only about 30% of the refugee children of schooling age actually attended school in the country (Sayed & Choi, 2018). Nonetheless, volunteers and concerned citizens working with refugee children who are attending school have found these children to be bright or smart, motivated, and hardworking (Sayed & Choi, 2018).

Literature Review

Malaysia is not a signatory to the two important international treaties on refugees, i.e., the 1951 Convention Relating to the Status of Refugees and the 1967 Protocol Relating to the Status of Refugees. Therefore, the Malaysian government does not have formal obligations under international law to protect and aid refugees.

While Malaysia houses refugees, these refugees are classified as illegal or undocumented migrants here even with a UNHCR card. The card doesn’t accord legal status to the holder, just a recognition that these holders enjoy protection from deportation. Moreover, despite the UNHCR card, they still do not have the right to work, and the only option for them is to get employed in the informal sector. Nonetheless, without the UNHCR card, the refugees will be worse off and run the risk of getting arrested and deported.

In this section, we explore some issues regarding refugees and the refugee situation in Malaysia:

Challenges Faced by Refugees

Kartini Aboo Talib @ Khalid and Nur Atiqah Tang Abdullah (2023) cited other scholars who have found recurring themes on refugees such as employment insecurity, well-being, human trafficking, slavery, labour exploitation, oppression, and bribery.

Sayed & Choi (2018) reported that refugees face risks such as arrest, detention and deportation.

Zhooriyati et al. (2021) had also mentioned hardships faced by refugees. For example, health concerns like depression and post-traumatic stress disorder (PTSD); contagious diseases, malnutrition, hypertension and diabetes as well as educational challenges like language barriers, access to learning, and the lack of facilities in the learning centres designed to teach refugee children.

Meanwhile, Fishbein (2020) reported that even though the number of refugees worldwide who have been identified by the UNHCR as needing resettlement has peaked at 1.44 million refugees, the existing opportunities for relocation are nowhere near the demand. Phillips (2013) also reported that merely one percent of asylum seekers, who are acknowledged by the UNHCR as refugees meeting resettlement criteria, actually get resettled in another country.

Difference Between Refugees and Undocumented Migrants

According to UNHCR Malaysia (2024), refugees are people who cannot safely return home while undocumented migrants may have been people who have been trafficked into the country, deceitfully offered employment that don't exist or even a student whose visa has expired. Such undocumented migrants still enjoy protection from their own respective governments and their lives or freedom are not jeopardized when they are deported back to their home country (UNHCR Malaysia, 2024).

Globally and in Malaysia, the UNHCR card confirms the status of refugees and asylum-seekers and protects them from deportation. However, the card “...is not a driving license, a legal document, a travel document, or a residency permit. It [also] does not give the person immunity from the law” (UNHCR Malaysia, 2024). Nonetheless, the UNHCR card enables refugees in Malaysia to get a 50 percent reduction on healthcare fees charged to foreigners. But the cost remains high and exorbitant for many, according to an undocumented migrant awaiting her UNHCR card, who was interviewed by Al-Jazeera (Qarssifi, 2024).

A New Policy Direction

Qarssifi (2024) reported that Malaysia had revised its National Security Directive Number 23 – Procedures for the Management of Illegal Immigrants who hold UNHCR Cards – to provide a policy direction for the administration of refugees and asylum seekers. Apparently, these revisions would grant refugees and asylum seekers access to work, health services and education (Qarssifi, 2024). Despite this, Asylum Access Malaysia, a refugee rights organization, mentioned that in reality, the scenario in the field has not actually improved (Qarssifi, 2024).

Managing Super-Diversity in Malaysia

Kartini and Nur Atiqah (2023) also suggested that Malaysia should have a paradigm shift by accepting refugees and consequently, the country and the government should learn to manage

the enhanced super-diversity nature of our society. They suggested that the Malaysian government should also learn best practices from developed nations, and this can help the country make institutional changes as well as enhancing its human capital growth and development (Kartini & Nur Atiqah, 2023).

Refugees' Human Capital Values in Malaysia

Todd et al. (2019) reported that if refugees were allowed to work in the country, the economic benefits can be huge. For example, among other things, they had summarized some benefits, namely: (1) it is estimated that the refugees' contribution to the nation's Gross Domestic Product (GDP) would rise to above RM3 billion by 2024 through direct and indirect effects such as higher expenditure and lower business costs, (2) refugees possibly generating no less than 4,000 jobs for Malaysians, and (3) refugees' tax contribution would rise to over RM50 million per annum by 2024.

Ghazali et al. (2020) had surveyed 180 Rohingya refugees in the Klang Valley and found that their total expenditure were similar in pattern to the local B40 income group. They also possibly paid sales and services tax (SST). Moreover, in their study, they had calculated the Rohingya respondents' total expenses in Malaysia which included food, transportation, education and utility bills. The conclusion was that in the past 12 months of their study, these 180 refugee respondents had contributed RM1,946,100 to Malaysia's economy (i.e., their host country/economy).

Method

The data used in this preliminary study were collected using a Google form by five students (see acknowledgement) for their class assignment. The assignment was on marginalized groups in Malaysia, and this includes refugees.

This survey, via convenience sampling, had asked the Malaysian respondents 17 questions but, in this preliminary paper/study, only relevant statistics are used. For example, only two themes will be examined here, and they are (1) Malaysians' awareness of refugees in the country and (2) their perspectives on the refugee situation in the country.

Of the 17 questions asked during the data collection, 13 were close-ended questions while another 4 were open-ended questions, and these questions were either in the format of multiple choices, yes-no-maybe choices or the five-point Likert scale. The advantages of close-ended questions include providing good, measurable data while the open-ended questions provided meaningful insights into subjective opinions, meanings and worldview of the 70 Malaysian respondents.

Findings and Discussion

In this section, the young Malaysian respondents' answers and perspectives will be presented to provide a peek into their awareness and worldview.

Respondents' Profile

Of the 70 Malaysian respondents surveyed, 74.3% (N=52) of them were between 19 and 24 years old, 7.1% (N=5) were between 13 and 18 years old, another 7.1% (N=5) were between 25 and 30 years old while another 4.1% (N=3) were between 31 and 36 years old. Finally, the remaining of the 4.3% (N=3) respondents were above 43 years old. Moreover, 71.4% (N=50) of the respondents were female, making them the overall majority. An overwhelming 90%

(N=63) of the respondents were Chinese Malaysians, 4.3% (N=3) were Malay Malaysians, and 2.9% (N=2) each were Indian Malaysians and other ethnicities respectively.

Theme 1: Awareness of Refugees

As mentioned in the abstract, a total of 32.9% (N=23) of the respondents were not aware that there is a community of foreign nationals who are socially excluded or marginalized called 'refugees' in Malaysia while a majority of 65.7% respondents (N=46) were aware. Only one (1) respondent answered 'maybe'. See Figure 1. The respondents are young people and some of them may not have been exposed to such news.

Meanwhile, only 7.1% respondents (N=5) cited 'often' when asked how closely they follow news on refugees in Malaysia while 41.4% (N=29) cited 'occasionally' and 51.5% (N=36) cited 'seldom'.

These findings showed that even though the literacy rate is high and over 94% in the country, Malaysians are generally found to be reluctant to read (Asila, 2017) or maybe have no time to read. According to the interim data collected by the National Library of Malaysia (PNM), as of May 2023, Malaysians read (on average) 20 books annually, up from 15 in 2014, but this is still below the global average of 30 books per annum (Nurul Suhaidi, 2023).

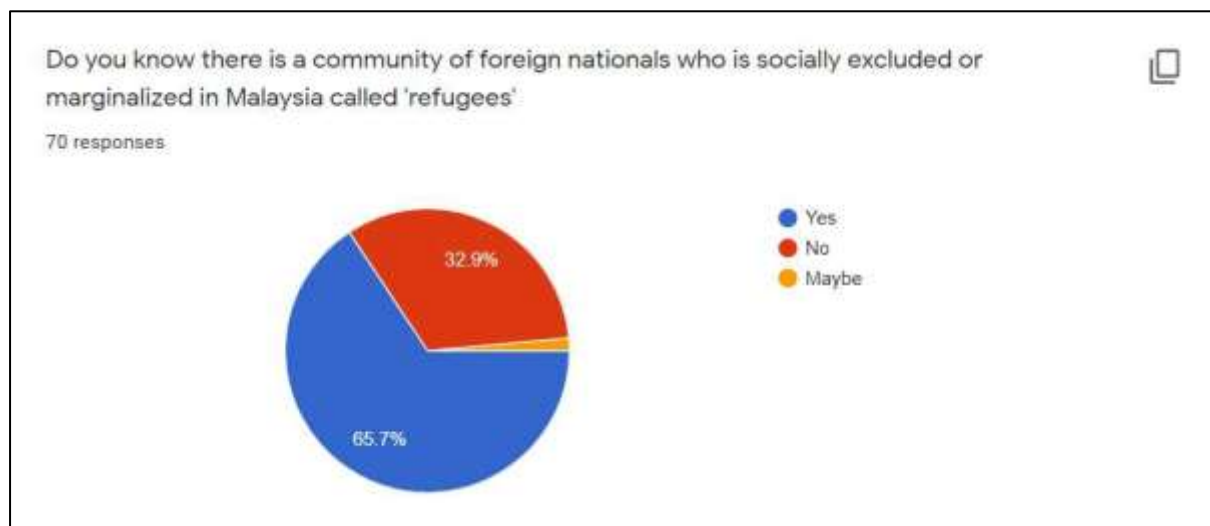


Figure 1: Respondents' Answer To "Do You Know There Is A Community of Foreign Nationals Who Are Socially Excluded or Marginalized Called 'Refugees' in Malaysia?"

In Figure 2, the respondents were asked if they have heard of the United Nations High Commissioner for Refugees (UNHCR), the global UN Refugee Agency, and its roles. As can be seen, 68.6% of the respondents (N=48) have answered 'No' while only 14.3% (N=10) have answered 'Yes' and the remaining 17.1% (N=12) have answered 'Maybe'.

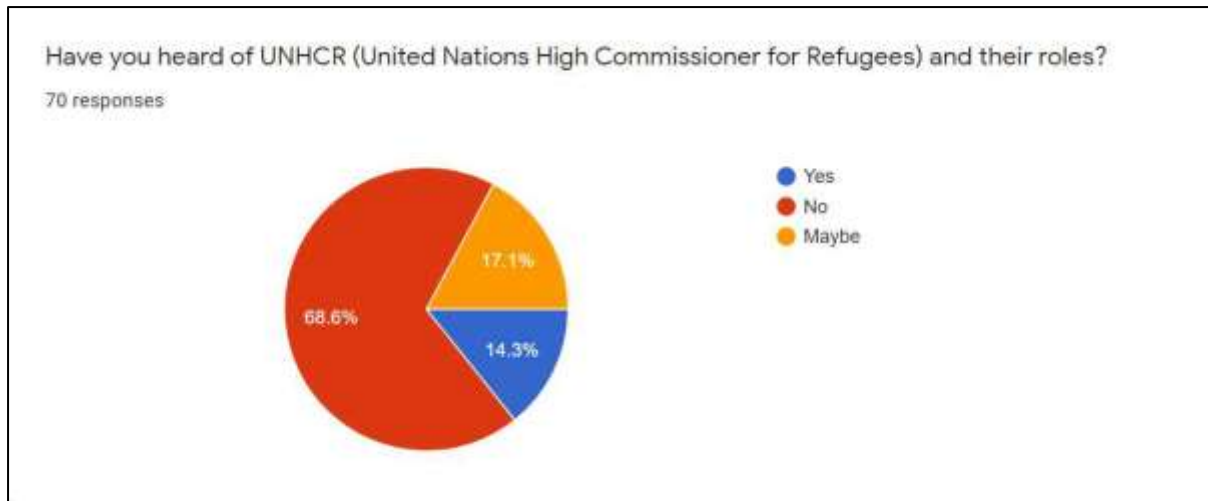


Figure 2: Respondents' Answer To "Have You Heard of The UNHCR and Its Roles?"

Moreover, only 21.4% of the respondents (N=15) surveyed believe that the refugees in Malaysia are legitimate ones who are at risk of persecution in their own respective countries, while 68.6% of the respondents (N=48) believe that the majority of the refugees in the country are economic refugees with the remaining 10% of them (N=7) chose 'Neither'. See Figure 3.

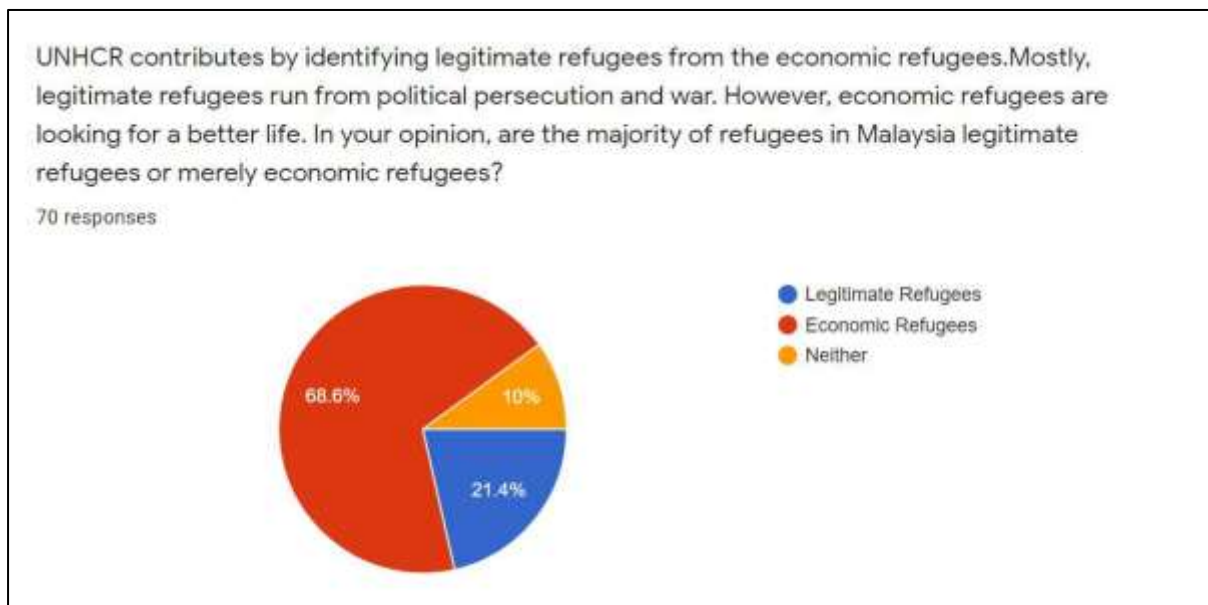


Figure 3: Respondents' Answer To "In Your Opinion, Are the Majority of Refugees in Malaysia Legitimate Refugees or Merely Economic Refugees?"

This finding showed that there is a misconception among these young Malaysian respondents regarding the plight experienced by the refugees in the country. Their perception seems widespread (68.6%, N=48) among this set of respondents. However, while a majority of the refugees in Malaysia are legitimate ones escaping war, conflict, persecution and violence in their home countries, there could also be those who are economic refugees who are yet to be identified and distinguishing them is difficult since they often blend in with other asylum-seekers and refugees in the country. Significantly, there are no less than 500,000 unregistered refugees in Malaysia with little legal protection (Sukhani, 2020) and there is no knowing if these unregistered refugees are legitimate ones or economic refugees until their status were verified.

Theme 2: Respondents' Perspectives on the Refugee Situation in Malaysia

In this section, the respondents' perspectives on the refugee situation is highlighted. Here, it was found that 62.9% of them (N=44), i.e., a majority of them, are in agreement with the statement that 'refugees are entitled to equal human rights. Meanwhile, 22.9% of these respondents (N=16) had chosen 'neutral' to this statement and a minority of 14.2% (N=10) of them had disagreed with the statement that 'refugees are entitled to equal human rights'.

When asked about their perspectives, a total of 14 written responses were collected. Some of these responses were written in the Chinese language and had to be translated. Others were in English or the Malay Language. The following are a sample of the expressed perspectives:

The first respondent (henceforth abbreviated as R1) stated that human rights apply to every human being on earth. R1 also mentioned that regardless of the degree of one's wealth and status, everyone deserves to be treated and protected equally. This is human rights.

R3 also stated that these refugees have human rights, and the government of each country should take responsibility and pay serious attention to this refugee issue.

R10 said that we are all the same living beings with the same structure. It is a mistake to differentiate and treat anyone differently, no matter what status we are in.

R11 mentioned that even though they are refugees, they still own the right to life, liberty and freedom from cruel and inhumane treatment.

At the same time, 54.3% of the respondents (N=38) chose to relocate the refugees to a third country while 24.3% (N=17) chose that Malaysia should absorb these refugees. Another 21.4% of the respondents (N=15) chose neither. It is to be noted that those who had agreed that Malaysia should absorb the existing refugees did not write their comments in the column provided to them. Only those who had wanted to relocate the refugees to a third country had commented in the column provided. The following are some of these respondents' perspectives:

R1 said that the refugees should be relocated to a capable and strong country that does not lack resources to help.

R2 mentioned that the country should pay attention to local citizens first.

R4 also believed that Malaysia has its own issues to resolve so it is far from able to provide free accommodation while we have homeless people among us.

R5 shared similar views with R4 and felt that Malaysia has enough issues on its own and should stop letting illegal immigrants come in. But the refugees must be sent back to their country with proper procedures.

R6 said that Malaysia shouldn't assist the refugees since our country has such high debts.

R7 said that the Malaysian government should have the capability if it wants to take in the refugees.

R8 also mentioned that despite human rights, Malaysia needs to be capable of taking care of its own citizens first.

Finally, the respondents were asked if they would allow refugees temporary work permit until their relocation to a third country as the prime minister of Malaysia. A total of 55.9% (N=38) said “yes” while another 47.1% (N=32) said “no”. See Figure 4 below.

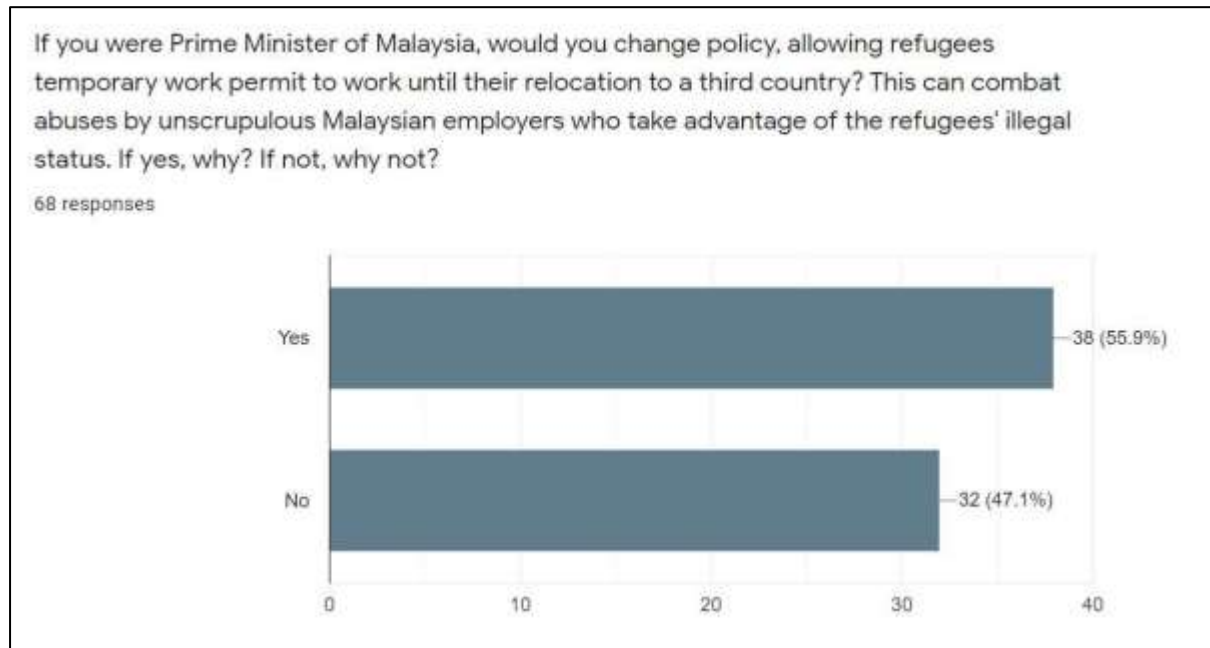


Figure 4: Respondents’ answer to “If you were Prime Minister of Malaysia, would you change policy, allowing refugees temporary work permit until their relocation to a third country? This can combat abuses by unscrupulous Malaysian employers who take advantage of the refugees’ illegal status. If yes, why? If not, why not?”

Only three of the 38 respondents who had answered “yes” had given their viewpoints which are in accord with the current narrative on refugees, i.e., seeing them as valuable human capital or resources. However, many other respondents also wrote that refugees are human beings who need to support themselves too. For example:

R20 said “improve economy.”

R25 said that at least they can contribute to Malaysia.

R29 believed that we can overcome the problem of manpower shortage by allowing refugees to work, thereby improving Malaysia’s economy.

R31 mentioned that temporary work permits can prevent abuses by Malaysian employers.

Current Frameworks on Refugees

There are many current frameworks used to view the refugees and their circumstances. For example, we can use the Acculturation Theory or the Integration Theory to consider absorbing

these refugees into their respective host countries. This idea is compassionate and humane but perhaps politically controversial.

UNHCR USA (2024) has outlined the New York Declaration for Refugees and Migrants which proposes the Comprehensive Refugee Response Framework (CRRF). It emphasizes social inclusion in host countries, access to education and employment as well as minimizing reliance on humanitarian aid. This framework accords refugees with more dignity and rights.

Moreover, UNHCR Global (2024b) reported on the Global Compact on Refugees (GCR) which was launched in 2018 to focus on equitable responsibility-sharing among countries hosting refugees, enhancing refugee self-sufficiency, boosting access to third-country and supporting circumstances for a risk-free and honourable return to their home countries.

These new paradigms or frameworks can change our perspectives on refugees and the refugee situation in Malaysia and the world.

Conclusion

This preliminary study had examined 70 Malaysian respondents' awareness and perspectives on refugees and the refugee situation in the country. It is found that a majority of these young Malaysians are generally sympathetic towards the refugees but would still rather have them relocated to a third country. This is in contrast with a current, new narrative on absorbing the refugees, making Malaysia a super-diverse country in terms of ethnicity and cultural practices.

On a positive note, a majority of the respondents agree that the Malaysian government should provide a temporary work permit for the refugees to work and support themselves while awaiting relocation to a third country. This shows their compassion, humaneness and empathy. In line with the human capital paradigm or framework, it is estimated that the refugees in Malaysia can positively contribute to our economy (see Ghazali et al., 2020; and Todd et al., 2019).

Moreover, it was found that a majority of our youthful respondents have not even heard of the UNHCR, the global UN refugee agency, and its roles. Furthermore, 51.5% (N=36) of them have also mentioned that they seldom follow news regarding refugees in the country. This seems to reflect poorly on the respondents' general knowledge, their reading habits and/or perhaps their interests about social issues.

Finally, while this preliminary study has provided a peek into our young Malaysians' worldview, there is limited generalizability in this study because the sample size was quite small, and an overwhelming number of the respondents were Chinese Malaysians. In other words, the data were not a representative sample of the Malaysian population. Therefore, future research should endeavour to have a representative sample across the entire Malaysian population to investigate their awareness and perspectives on the refugees.

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ENHANCING READING SKILLS USING THINK-ALOUD STRATEGY

Paramjit Kaur¹

Qistina Marzuki²

¹School of Education, Universiti Utara Malaysia (UUM), Malaysia, (paramjit@uum.edu.my)

²School of Business and Communication, Universiti Malaysia Perlis (UNIMAP), Malaysia, (qistina@unimap.edu.my)

Abstract: *The study investigated the impact of think-aloud strategy in enhancing critical reading among a group of students in a public university. The participants were ten Malaysian undergraduate students who were required to read aloud two pre-determined texts and think aloud while they read the texts. The data included semi-structured interviews on their perspectives on the effects of the think-aloud strategy in enhancing critical reading skills as well as the participants' think-aloud protocols that were audio-recorded. The findings showed that the think-aloud strategy was able to encourage participants to engage critically with the texts, which in turn allowed them to understand the underlying messages of the texts. Data from the interviews also suggested that participants found that the think-aloud strategy increased their metacognitive abilities in reading. Participants expressed that the think-aloud strategy in general helped them improve their reading and comprehension skills. The think-aloud strategy can be used in English classes to develop metacognitive abilities as well as critical reading skills*

Keywords: *Think-aloud Strategy, Critical Reading, Metacognitive Ability, Reading Comprehension*

Introduction

Reading is a receptive skill that requires learners to be engaged in the reading activity in order to understand the text, yet it is a complicated skill to acquire. Reading may seem to be an easy skill especially for learners who have the ability to read, however reading also comes with the expectation that learners have read successfully and able to make connections of what they have read. Learners are expected to comprehend and understand various texts as well as construct meaning from texts using their own experiences and perspectives. Thus, reading requires decoding and processing words from texts as well as interpreting meaning of texts. Reading is an essential skill that plays a significant role in a student's life, especially at higher education institutions. These students need to interact with various types and levels of texts in order to become skilled in their respective areas. At a higher level of education, basic reading skills such as decoding and comprehending may not be sufficient. Hence, reading is not merely a process of reading words from texts, but it is a complex cognitive process that requires the interpretation and construction of meaning. It demands an active interaction between the reader and the text, where the reader draws upon their prior knowledge, experiences, and analytical skills to engage with and make sense of the material (MacLellan, 1997). Cultivating and enhancing reading habits, as well as fostering positive attitudes towards reading both academic and non-academic materials, are essential components of any language learning program or course. Developing these reading skills and attitudes can significantly contribute to the overall academic and intellectual growth of students at higher education institutions.

Literature Review

Critical Reading

Reading is a cornerstone of academic success, as it allows students to acquire knowledge, develop critical thinking, and effectively communicate their understanding. However, research suggests that many students struggle to actively and critically engage with academic texts, often attaining only a cursory understanding of the material (Hatteberg & Steffy, 2013; Howard et al., 2018; Maldonado et al., 2023). Proficient critical reading skills are essential for students to make sense of dense literature, build upon existing knowledge, and formulate their own informed perspectives. Critical reading involves more than just understanding the text; it requires readers to engage actively with the material, question the content, evaluate arguments, and form their judgments based on evidence (Ulu & Tuncay, 2019). This process is essential for developing a deeper understanding of the text and fostering critical thinking skills (Zin et al., 2014). Critical reading is not limited to decoding words but also involves making inferences, analyzing text, and questioning the information presented (Wigfield et al., 2016). It is a skill that goes beyond surface-level comprehension and requires readers to assess, interpret, and reflect on what they read (Maltepe, 2016).

Educators emphasize the importance of critical reading in various disciplines, including science, accounting, and literature (Gallo & Rinaldo, 2012; Cornachione et al., 2008). In scientific fields, the ability to critically analyze primary literature is crucial for success (Raimondi et al., 2020). Similarly, in accounting, critical reading and writing skills are essential for developing a strong foundation in the field (Cornachione et al., 2008). Furthermore, critical reading is closely linked to critical literacy, which involves understanding the political dimensions of literacy practices and encourages readers to question and influence the information they encounter (Park, 2011). Through critical literacy, students can respond intelligently to the vast amount of information available to them (Rini, 2018). Additionally, critical reading is associated with the development of critical thinking skills, enabling individuals to critique texts, identify inconsistencies, and evaluate arguments (Mbato, 2019). In summary, critical reading is a multifaceted skill that requires readers to actively engage with texts, question information, and develop their analytical abilities.

Importance of Critical Reading

Critical reading is a fundamental skill that underpins academic success, cognitive development, and lifelong learning. Through critical reading, individuals engage with texts in a way that goes beyond surface-level comprehension, allowing them to question, evaluate, and analyze information (Rayner et al., 2001; Whalley & Hansen, 2006). This process is essential for developing a deeper understanding of the material and fostering critical thinking skills (Huber & Kuncel, 2016). Critical reading is particularly crucial in educational settings, as it enhances students' ability to comprehend complex texts, analyze arguments, and develop their cognitive abilities (Hoskins et al., 2011).

Moreover, critical reading is closely linked to the development of scientific literacy and the ability to critically analyze primary literature in fields such as biology (Wigfield et al., 2016; Sala & Castillo, 2023). Additionally, critical reading is instrumental in promoting reading motivation and comprehension, especially as reading materials become more demanding in later childhood and adolescence (Raimondi et al., 2020). Critical reading is a fundamental skill that underpins academic success, cognitive development, and lifelong learning. By engaging in critical reading practices, individuals can enhance their comprehension, analytical skills, and ability to think critically about the information they encounter.

Think-Aloud Strategy

The think-aloud strategy is a valuable tool for enhancing critical reading skills by allowing readers to verbalize their thoughts while engaging with a text. This strategy enables individuals to share important metacognitive processes, facilitating comprehension and metacognitive development (Coiro, 2011; Zayed, 2021). By articulating their thoughts, readers can better understand their cognitive processes, leading to improved comprehension and analytical skills (Wang, 2015). Moreover, research has shown that the think-aloud strategy benefits students by demonstrating that reading is a meaning-making process that involves the use of strategies and can be developed through reflection and sharing with others (Kymes, 2005). The think-aloud strategy is described as a “stream-of-consciousness disclosure of thought process” (Cohen, 1996, p.7). This strategy facilitates learners to express aloud what they have understood from their reading comprehension process.

Studies have highlighted the effectiveness of the think-aloud strategy in various educational contexts, such as improving reading comprehension skills among EFL learners, enhancing students' reading comprehension ability and increasing metacognitive awareness in the classroom (Thu & Vien, 2022; Tolhah & Sugirin, 2021). Additionally, the think-aloud strategy has been found to help struggling readers improve fluency and comprehension (Migyanka et al., 2005), activate self-regulation strategies when encountering difficulties (Sönmez & Sulak, 2018), and promote social interaction among students (Sönmez & Sulak, 2018). When the think-aloud strategy is employed during reading comprehension activities, it helps students to organize their thoughts while promoting collaborative learning. The think-aloud strategy is different from other reading strategies as it involves overt actions, where students clearly express aloud their mental processes while engaging in reading comprehension activities (Singhal, 2001). Moreover, from an ESL teacher's perspective, the think-aloud strategy can give twofold benefits as it can improve students' reading comprehension skills as well as enhance their speaking skills at the same time.

Methodology

This study employed the think-aloud protocol and semi structured interviews to collect data. For phase one, the think-aloud strategy was used with participants while they were engaged during reading activities. The think-aloud is a method in which the participants speak aloud any words in their mind as they complete the task. During the think-aloud session, the participants were given texts and trained to utter whatever came into their minds, vocalizing and verbalizing their thoughts while reading the text. The selection of the texts was based on the course requirement and the themes stipulated. In the context of this study, the participants read two texts based on ‘stereotyping’ and ‘Korean culture’. They recorded their think-aloud strategy while reading the texts and they were audio recorded.

In phase two, the respondents that participated in the reading and think-aloud phase were interviewed individually after they had completed their reading tasks. The semi structured interviews were conducted after to elicit respondents' perspectives on the effect of the think-aloud strategies in enhancing their critical reading skills. The design and development of the methodology was guided by the ADDIE model and involved four phases that included analysis, design, development and implementation. Ten students were involved in this research, they were selected from a pool of volunteers. These students were given training in using the think-aloud strategies while reading before the actual research was conducted. After three sessions of trainings, the data collection was carried out, followed by the semi structured interviews with the participants. The think-aloud phase and the semi structured interviews were audio recorded. The semi structured interviews were transcribed and analysed for recurring themes.

Findings and Discussion

The purpose of this paper is to report on the participants' perspectives on the use of think-aloud in enhancing their critical reading. The data was gathered from the semi structured interviews with ten participants who first completed reading phase using the think-aloud strategy. The interviews probed participants experiences and feelings using the think-aloud strategy and how it influenced their reading skills. From the interviews, five themes were derived which are improving reading skills, enhancing English competency, developing critical reading skills, improving reading attitude and having a broader perspectives as the outcome of reading. The analysis and examples of each theme is discussed below.

Positive Views Of The Strategy

All the respondents viewed the project positively. P1 stated that this technique introduced him to a new reading process whereby the reader will be encouraged to read and speak out aloud what was read slowly in order to understand the reading materials read. He said, "I gave a positive view to this project because it gave me a new technique in doing the reading process. This is because the techniques used encourage the reader to read and speak out at a moderate rate so that the reader can remember and understand the passage or reading material".

In summary, the participants in this study realized that reading is an active process and that reading aloud strategy helped them to say verbalise what they were thinking about when reading. With this technique, they could read faster and their reading became easier to understand and more interesting to them. They all enjoyed the experience as it seems to help them read and understand faster and better.

Reading Skills and Confidence

The second theme emerged from the interviews is improvement in reading skills. Most participants reported that they learned new words, grammar, and that they felt 'smarter' after participating in the think-aloud activity. P2 for example, mentioned that she came across many new words and discovered their meanings when she analyzed her own reading. And therefore, her reading became better and she felt more efficient and smarter. According to P2 "The most interesting discoveries I have made is by reading it while analyzing. It makes my reading more efficient and fasten my progress. I had grown a lot during past few days reading using this method. Having discover new terms, words and synonyms made me smarter somehow". Another participant P3 stated that "For me this project is really good because it also helps students a lot in their English learning . Last but not least, I think through this project, my English learning is getting better".

The interview data shows that incorporating the think-aloud strategy in the reading activity helped the participants to improve their reading skills as well as improve their confidence in learning English. In a way they seemed to be more confident as they can express themselves during the reading process and interpret the meaning from their own perspectives. And thus they felt more confident to speak in English. In the context of this study, when students are given the opportunity to respond to the text, they are capable of exploring their thoughts, ideas, and feelings about what they have read. Through think-aloud activities, students are guided by their own thoughts, experience and questions independent of their teachers. The focus is on the importance of creating their own meaning in order to see that analysis is an active process (Anzul, 1997).

Positive Reading Attitude

The third theme discovered was that the participants seemed to perceive reading with a positive attitude. The participants seemed to become more interested in their reading and they managed to finish reading the articles patiently. P4 stated that the activity helped the students who do not like reading to develop an interest in reading and encourage them to finish reading the text. P4 said that “This is a project that worth participating in. This project will make students who don’t like reading change their mind and realize the advantage and develop an interest in reading. I also think that this is a positive teaching material that can be used to encourage the students. It may feel a little boring at first, but after that, I can find that this reading strategy allows me to read the entire article patiently”.

Critical reading is an active process of discovery. Students will discover where the author stands on an issue; identify the strengths and weaknesses of the authors’ argument and decide which sides outweighs the other. The end result is that they will have a better understanding of the issue. The students are also involved in active reading which means that reading something with a determination to understand and evaluate it for its relevance to their needs. They learned to finish reading the text and improved their reading attitude.

Critical Reading

The fourth theme derived from the interviews was critical reading. The participants mentioned that they developed critical reading skills from the think-aloud strategy. Critical reading is a more active way of reading. It is a deeper and more complex engagement with a text. Critical reading is a process of analyzing, interpreting and, sometimes, evaluating. When we read critically, we use our critical thinking skills to question both the text and our own reading of it. Ask questions, read actively, respond to your own questions and record key concepts, are some of the elements of critical thinking. P5 explained that when she read, she looked for clues or important points in the text in order to make sense of what she read. She also claimed that she started to think outside of the box by doing some research about the text itself, to connect the sentences and key points. She states, “The important thing that I’ve learnt personally the skills of critical reading skill because it automatically boosts my mind to thinking about the clues or the important points from the text. What I have learnt about a result of using think-aloud protocol to develop critical reading strategy is how I gained the understanding and how to use the smart skills to develop critical reading because I have to think out of the box from the sentences and points from my reading texts”.

The participants in this study engaged in critical reading where they were actively and critically engaging with the content of what they read. They used library search, highlighted key ideas, wrote short comments, underlined and highlighted important points. These are all the elements of critical reading techniques. Critical reading means that a reader applies certain processes, models, questions and theories that result in enhanced clarity and comprehension. They are more involved, both in effort and understanding, in a critical reading rather than a mere ‘skimming’ of the text.

Broaden Perspectives- Apply to other areas

The last theme that emerged in this study is that the think-aloud strategy broadens the participants’ perspectives which then could be applied to other fields. P1 mentioned that the technique helped him read faster and more efficiently. P1 also asserted that he gained more perspectives to the issue as he started to question what he read against what he knew. P1 also explained that he conducted extra research to understand the texts better and claimed that he was involved in deep reading and had a deeper understanding of the topic. P1 stated that “As I

can see by myself, thinking hard helps me a lot like being a fast learner and thinking outside the box. I became more open in all the things I read. I receive every piece of information I get and do my own research to better understand the information. This project helped me see everything in a broader perspective. Every topic or information I read helps me find topics in more depth so that I can apply them in my life and not just take information easily. We can accept that information, but that does not mean we can trust that information easily”.

The participants gained wider perspectives of the issues discussed. They mentioned that the think-aloud strategy that they had learned could be applied in other fields. Some of them also stated that they learned to question what they read and not to simply believe the information presented to them. They had to make judgements as to what is right or wrong. They could make their own argument about the texts they read. In other words, making judgment and interpretations of the ideas, arguments, and claims of others presented in the text, will make them more critical readers.

Conclusion

The think-aloud strategy, combined with metacognitive strategies, has been demonstrated to significantly improve reading comprehension skills, particularly among ESL learners. The findings from this research also show that participants felt that their reading skills and self confidence in English also increased. Participants seemed to enjoy the experience of reading and thinking aloud. Thinking aloud seemed to make participants more aware of what they were reading and helped developed their critical reading skills. Research has emphasized the positive impact of the think-aloud strategy on enhancing reading comprehension in various educational settings (Burhansyah et al., 2022; McKeown & Gentilucci, 2007; Momdjian, 2024; Sari, 2023; Wang, 2015;). By prompting students to articulate their thoughts while reading and cultivating metacognitive awareness, this approach not only supports comprehension but also enhances students' capacity to monitor their understanding of the text. This deliberate reflection on their cognitive processes helps learners cultivate a deeper grasp of the material and enhances their overall reading comprehension. The integration of metacognitive strategies and the think-aloud approach offers students a structured framework to tackle reading tasks, resulting in more effective comprehension and critical reading skills.

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THE EDUCATIONAL CONCEPT OF HAJI AGUS SALIM

Alexander Stark¹
Khairul Hisyam Baharuddin²
Ariezal Afzan Hassan³
Nazatul Syima Mohd Nasir⁴

¹Faculty of Language Studies and Human Development (UMK), Malaysia, (alexander.s@umk.edu.my)

²Faculty of Language Studies and Human Development (UMK), Malaysia, (khairulhisyam@umk.edu.my)

³Faculty of Language Studies and Human Development (UMK), Malaysia, (ariezal@umk.edu.my)

⁴Faculty of Language Studies and Human Development (UMK), Malaysia, (syima.mn@umk.edu.my)

Abstract: *Haji Agus Salim (1884–1954) was one of the most influential figures in the independence struggle of Indonesia. Following the end of colonial rule, he became a well-known diplomat and served as Indonesia's Minister of Foreign Affairs during that time period. Many historians focused on his political career. However, Haji Agus Salim was interested in educational concepts too. Throughout his life, he demonstrated his interest in education in several ways: During the Dutch colonial period, he educated his children at home. He was an important instructor for the Jong Islamieten Bond, and he later became a guest lecturer at Cornell University. In addition to his political brilliance, he recognized the importance of imparting specific educational components. This study applied a structuralist perspective, revealing Haji Agus Salim's focus on language teaching and Islamic knowledge. For him, it was crucial that students become motivated and interested, and the educator must foster this thirst for knowledge.*

Keywords: *Haji Agus Salim, Indonesian independence movement, Jong Islamieten Bond*

Introduction

Haji Agus Salim is renowned as one of Indonesia's most prominent national heroes. He was an exceptional individual. Despite his Western education, he had familial ties to famous Islamic scholars such as Ahmad Khatib al Minangkabawi (1860 - 1916), a prominent scholar in Mecca. Moreover, he rejected the idea that his children are exposed to the Dutch secular school system. Consequently, he taught them at home. Moreover, as a prominent figure in the Islamic movement *Sarekat Islam*, he showed a keen interest in Islam-related issues. For example, there was an intellectual conflict at the beginning of the 20th century between modernists (the so-called young generation, or *kaum muda*) and traditionalists (the old generation, or *kaum tua*). This conflict was widespread in Haji Agus Salim's homeland, the highlands of West Sumatra.

Some of the people who met Haji Agus Salim during his lifetime were impressed by his personality. They gave him their own 'titles'. He was seen as the 'father of Indonesian intellectualism' (Maarif, 1984) due to the fact that he taught many intellectual persons like Mohammad Roem or Kasman. On the other side, he was a brilliant politician, and many saw him as 'the diplomat' (Coast, 1984). One of his significant contributions was the recognition of Indonesia as an independent state by several Arabic nations, which was achieved through his diligent work. In his later years he was also called the 'grand old man' (Suradi, 2014). Haji Agus Salim had a versatile personality, and he had many interests. He rejected a blind following of scholars of the past. Sometimes, this led to conflicts. However, he remained steadfast in his conviction and vision.

This paper aims to elucidate the educational perspective of Haji Agus Salim. Despite his decision not to enroll his children in Dutch government schools, they were nonetheless able to speak Dutch proficiently from an early age. Many contemporaries found this to be pretty impressive. The researchers aimed to conduct an in-depth analysis of the educational concept of Haji Agus Salim. The purpose is to provide an alternative portrayal of the politician Haji Agus Salim and inspire people with his educational ideals.

An Overview of the Life and Times of Haji Agus Salim

On October 8th, 1884, Agus Salim was born in the small town of Koto Gadang, which is near Bukittinggi (West Sumatra). His father was Mohammad Salim, a high-ranking government officer in Riau. His mother was Siti Zaenab. His father named him Mashadul Haq (Mukayat, 1985). However, during the time the people became used to call him Agus.

When he was young, he attended the European school in West Sumatra. After that, he continued his studies in the capital Batavia (Jakarta). He was a brilliant young man and was able to acquire a wide range of linguistic skills during the course of his life. He could speak nine languages: Dutch, English, French, German, Arabic, Turkish, and the local languages Sunda, Javanese and Minangkabau. Following his graduation from high school, he made an effort to secure a scholarship that would allow him to further his education in the Netherlands. The effort that was made was in vain. However, he was brilliant, and therefore the famous orientalist Snouck Hurgronje (1857-1936) offered him a position as a translator in the Dutch consulate in Jeddah (Damanik, 2022).

In the year 1906, he began to work in Jeddah. Due to the city's proximity to Mecca, he had the chance to undertake the pilgrimage. He could perform the rites of *haj* five times (Kahfi, 1997). He was given the title Haji as a result. Haji Agus Salim had the opportunity to meet his cousin Shaikh Ahmad Khatib, the Shafiite Imam of Mecca, while he was in Jeddah. The Shaikh was considered to be anti-colonial (Laffan, 2003). After five years, he returned to Indonesia. He went to his hometown and married Zaitun Nahar (Damanik, 2022).

Haji Agus Salim was concerned about the education of the young generation. He himself experienced that secular education led to an estrangement of religious values. As a consequence, he built a school in West Sumatra. However, he could not teach as he had no teaching diploma. Therefore, he decided to get it. Unfortunately, his efforts were fruitless, and he decided to relocate to Java.

In 1915, he joined the *Sarekat Islam*, which was a huge Islamic organization. The leader was Tjokroaminoto (1882-1934). He was very popular and influential. Another important person was Abdul Muis (1883-1959). Soon, Haji Agus Salim became a leading figure too. One of the major challenges was the leftist movement, which tried to control the decision-making process. Haji Agus Salim acted quite smart by proposing the idea that a member of *Sarekat Islam* cannot be a member of another party at the same time. Haji Agus Salim became also active in teaching members of the 'Young Islamic Association' (*Jong Islamieten Bond*, JIB). He was a member of the *Volksraad* (parliament) in the 1920s, and he became well-known for being the first member to deliver a speech in the national language *Bahasa Indonesia* (during that time called Malay).

The following years in the 1930s remained turbulent. In 1934, Tjokroaminoto passed away. The discussion on whether the party should cooperate or not cooperate with the colonial

government remained an important issue and conflict. The newly founded *Partai Sarekat Islam* decided to exclude Haji Agus Salim. He was still active in the political party *Penyedar*.

During the time of World War II, the Japanese controlled Indonesia. At the end of their reign, they formed a committee that should prepare for the independence of Indonesia. On August 17th, 1945, was the Independence Declaration of Indonesia. Haji Agus Salim became the foreign minister in the cabinet of Amir Sjarifuddin (1907-1948) and Mohammad Hatta (1902-1980). He embarked on diplomatic visits to several Middle Eastern nations. His efforts were fruitful, and Egypt, Syria, and Saudi Arabia recognized the independence of Indonesia.

In 1953, Haji Agus Salim assumed the position of a visiting lecturer at Cornell University. He taught Islamic studies. On November 4th, 1954, he passed away.

Haji Agus Salim and the Field of Education

The young Salim learned during his time at school that language is the key to knowledge (Mukayat, 1985). Reading became his passion, and he specifically enjoyed delving into books centered around historical people like Diponegoro. Following his completion of school, he tried to secure a scholarship to pursue his studies in the Netherlands, but unfortunately, his efforts were unsuccessful. Salim was not demoralized, as he knew that knowledge is connected to books.

After he returned from Mecca, he intended to be an educator. Even though the plans to get a teaching permission were not fruitful, there were nonetheless periods in his life in which his educational concept can be seen:

- 1) The efforts to teach his children at home.
- 2) Haji Agus Salim gave lessons at the *Jong Islamieten Bond*
- 3) In the 1950s, he taught students at Cornell University.

An extraordinary occurrence in the context of Haji Agus Salim and education was his decision to refrain from enrolling his children in public schools. One of the reasons was probably that he himself faced a situation that led to some neglect of religious duties. He was raised in a secular milieu that focused on worldly issues and neglected the concept of the hereafter. Somehow, it can be said that he became alienated from Islamic values. This changed when he studied in Mecca with Shaikh Ahmad Khatib.

The second significant aspect of his life involved imparting knowledge through his teaching lessons at the *Jong Islamieten Bond* during the 1920s and early 1930s. Throughout this period, he mentored several renowned students, including Mohammad Roem (1908-1983). During this period, Haji Agus Salim also imparted important teachings through radio broadcasts. Some of these lessons were also compiled, written down, and published in book form. They served as a medium of education for many people.

Following the Declaration of Independence, he actively engaged in foreign policy. Nevertheless, during his later years, he received an invitation from Cornell University to serve as a visiting lecturer.

Literature Review

In the literature review, it must be differentiated between secondary publications that were written by scientists about Haji Agus Salim and articles that were personally published by him.

Literature about Haji Agus Salim

There is a number of biographical publications available, which is not surprising since Haji Agus Salim was a national hero. Consequently, Mukayat (1985) published a brief biography for the Indonesian Ministry of Education. A more recent version was published by the team of Tempo magazine (Tempo, 2013). This book is very illustrative and easy to read. Kahfi (1997) authored another comprehensive work about his life. This work is captivating because it provides interesting background information. A newer overview of Haji Agus Salim was provided by Fauzi and Hasanah (2019), who looked at the background of Haji Agus Salim. He grew up in a Minangkabau village community that stressed the usage of discussions and proverbs. Such knowledge influenced his role as diplomat, but it can be assumed that this also had an important influence on his educational concept.

Setiono and Kuswandi (2023) wrote a highly important article that centers on Haji Agus Salim's educational concept. The authors focus on primary school education and Haji Agus Salim's impact. It was emphasized that he was a proponent of homeschooling. Certain features were fostered by Haji Agus Salim, like a literary education, the development of a good character, communication, and the possibility of living as an educated person in a globalized world. The article is highly inspiring. However, the authors focused on the primary education, and it would be interesting to see Haji Agus Salim's influence on the higher education as well. This article will attempt to explore this topic.

A totally different perspective was used by Damanik (2022). He emphasized that Haji Agus Salim employed Sufistic values. In reports by his students, these values were stressed by his students. He lived under simple conditions, and such a modest lifestyle is in accordance with Sufi principles (Shamsul Mohd. Nor, 2020).

Haji Agus Salim served as a source of inspiration for numerous young scholars who chose to focus their research on his ideals and life. Azizah (2021) focused on the theological thoughts of Haji Agus Salim. She concluded that basic Islamic principles like Islamic monotheism (*tauhid*), destiny (*takdir*) and trust in Allah (*tawakkal*) served as major principles for activities related to freedom. Other authors, like Hamka (1984), emphasized also that Haji Agus Salim was a significant Islamic scholar, and therefore it is not surprising that many academicians focus on this aspect. The Islamic idea about fate is essential, as a person has no choice in which society he will grow up in (Wardana, 2022). However, the educator can shape the political landscape, thereby influencing the state's progress.

Literature written by Haji Agus Salim

In 1953, Haji Agus Salim received an invitation to deliver lectures on Islamic studies. These lectures were published (Salim, 2009). The talks were designed to be attractive to both Muslim and non-Muslim audiences. Therefore, the content is quite general. The biggest part of the lectures is the biography of Prophet Muhammad (saw.). Here it is necessary to mention that this biography is closely connected to the concepts of *tauhid* and *tawakkal*. Prophet Muhammad (saw.) had complete trust in Allah (swt.). A good example is his emigration with his close companion Abu Bakar (r.a.). Despite encountering numerous obstacles, the Prophet (saw.) maintained a composed demeanor and placed unwavering trust in destiny.

The book *Seratus Tahun Haji Agus Salim* [100 Years Haji Agus Salim] includes many articles that were written by his friends, researchers and other influential Indonesian figures. However, it also contains numerous newspaper articles authored by Haji Agus Salim during the 1920s and 1930s. Some of these essays are significant in terms of education, particularly the article *Hasrat Manusia kepada Agama* [The Human Desire to Religion]. In this article, he describes the necessity of an individual to follow religious values.

Research Methodology

In this research, the researchers use an analytical approach that considers primary and secondary sources. The first category comprises the books that were written by Haji Agus Salim himself. His articles give a good idea about his educational approach.

The following research objectives were formulated:

- 1) To identify the educational subjects that Haji Agus Salim found interesting.
- 2) To use a structural way of reading in order to detect dichotomies.

The researchers also decided to use a structural analysis and refer to the work of Edmund Leach (1976) and Claude Levi-Strauss (1963).

The structuralist method aims to uncover latent patterns or structures that are not readily apparent. If someone reads a text from beginning to end, then he uses the usual way of reading. Alternatively, it is also feasible to concentrate on a particular aspect and examine potential dichotomies and significant factors. This will allow for a more comprehensive understanding of Haji Agus Salim's educational concept.

Findings and Discussion

In this chapter, the researchers want to focus on the educational elements that were of interest to Haji Agus Salim.

Ways to Disseminate Knowledge

Accounts from individuals closely associated with Haji Agus Salim suggest that he held certain ideas that can be considered highly progressive. An essential aspect of his work was his emphasis on the education of women (Mochtar, 1984). His ideas can be considered innovative when he introduced that men and women should not sit separately. Haji Agus Salim used different methods to spread his knowledge:

1) He gave a lecture to people who were present. He employed this approach in instructing the *Jong Islamieten Bond* students. The students came to his house, and he taught them. Sometimes there was a kind of dialogue at the beginning. However, frequently this dialogue transformed into a monologue.

2) Haji Agus Salim utilized his skills in delivering lectures through radio broadcasts. Through the utilization of this approach, he was able to effectively engage a large audience. Frequently, the purpose of the content was to provide Islamic knowledge. An exemplary illustration may be found in his elucidations regarding *tawakkal* (reliance on Allah), *tauhid* (faith in the unity of Allah), and *takdir* (divine decree). Haji Agus Salim was very concerned about the concepts of belief in Islam and whether it was understood in a correct way. A good example is his lessons that were broadcast on *Radio Ketimuran*.

3) Haji Agus Salim actively contributed to many Islamic media, disseminating knowledge through his writings in articles and books.

For Haji Agus Salim, the educational system had to implement specific features. In his article *Hasrat Manusia kepada Agama* (Human Desire for Religion) he mentions that many people became irritated as a result of the prevailing materialistic tendencies. Therefore, he stressed that the educational instructions at the *Jong Islamieten Bond* (JIB) are very important, as this would lead to freedom of mind and spiritual guidance (Salim, 1984). Western education can foster a distorted perception due to its emphasis on Western supremacy.

General Educational Principles

Haji Agus Salim had some general principles that can be considered as basic ‘guidelines.’ These concepts shaped his pedagogical approach.

1) Promotion of freedom of expression: Haji Agus Salim rejected corporal punishment in the field of education. Children and students should pursue their interests and have the freedom to express their own opinions. A good example is his own children, who were allowed to choose and read books that they liked.

2) Courage and Self-Confidence: Haji Agus Salim saw the necessity to be brave. However, in order to be successful, it is essential to be wise. He himself could be a role model for his students. One incident demonstrated this potential and could serve as an inspiration for the younger generation.

- In the 1920s, Haji Agus Salim was a member of the *Volksraad* (a kind of parliament). Haji Agus Salim was the first person who delivered his speech in Malay (Indonesian). The consequence was that the Dutch representatives became upset and disrupted him. They asked him about the Indonesian term for ‘economy’. He answered in a brave way by asking about the Dutch term for ‘economy.’ (Mukayat, 1985)

This case illustrates the courage of Haji Agus Salim. Even though others wanted to intimidate him, it was not possible. The young generation was so motivated to pursue his ideals.

3) Anti-authoritarian style: The children of Haji Agus Salim had the freedom to pursue their interests. They were granted the freedom to play at their own discretion. Haji Agus Salim advocated for an anti-authoritarian education that allowed children to explore their own interests. Salim was significantly ahead of his time, rejecting a teaching approach that upheld the primacy of a single viewpoint. One possible reason could be that the Minangkabau society supports discussions in order to reach a consensus (Stark & Hassan, 2023).

Methodology for Acquiring Language Skills

Haji Agus Salim could speak nine different languages. When he decided that his children should not attend the Dutch schools, this did not mean that he neglected the language education. He employed a pragmatic strategy by speaking Dutch inside the confines of his home. The visitors were amazed to find that his children were able to speak Dutch fluently.

Mohammad Roem provided some plausible explanations (Roem, 1984). He observed that Syauket, the son of Haji Agus Salim, was already able to communicate in Dutch at the age of four. This means that he learned the language when he was quite young. One reason might be that imitation is a major point at that early age (O’Grady, 2005). Mohammad Roem illustrates Haji Agus Salim’s educational ‘methodology’:

The author, who has known Haji A. Salim's family, although not since he had his first child, but since his first child was 12 years old, has never seen him give lessons according to certain rules. There is study time, (and) there is playtime. There is no limit between studying hours and playing hours. This means that every time he is with his children, he teaches them, and that starts when the child is born. I think that's Haji A. Salim's attitude towards his children. Therefore, everyone who first gets to know Haji A. Salim wonders why his children, who are not in school, speak Dutch well, fluently and eloquently. (Roem, 1984, p. 181) [Translation by the researchers]

Mohammad Roem illustrated Haji Agus Salim and his teaching method with astonishment. It was ahead of his time. He promoted an 'early childhood education' in which his children should develop a thirst for knowledge. Interestingly, he did not follow an authoritarian teaching method, but he promoted an intellectual milieu aimed at stimulating the children's curiosity and desire for knowledge.

Haji Agus Salim possessed the ability to fluently communicate in nine different languages. In the beginning, he often had a basic foundation of one of these languages, and then he was exposed to native speakers. A good example was the time when he worked in the Dutch consulate in Jeddah. During this time, he had some basic knowledge of Arabic. However, in Jeddah he had no other choice than to practice the language. He used a similar approach when he taught his children Dutch. They were also encouraged to use Dutch, as Haji Agus Salim often used it in his household. The children had the freedom to choose a book that interests them.

The teaching pedagogy consisted of some points:

- 1) He enhanced an atmosphere in which the students (his children) had to speak either Dutch or, in rare cases, English.
- 2) The children should develop their own interests. They were encouraged to read the books that they liked in order to acquire the skill of reading.
- 3) There was no fixed schedule. The children could interrupt their studies and play. After that, they should continue with their studies.

By looking at the three points, it is evident that Haji Agus Salim employed a modern pedagogical concept that did not just teach grammar rules followed by exercises. He put communication in the foreground because he saw the necessity to communicate as a major factor in mastering a language.

Islamic Education

Haji Agus Salim was very concerned about Islamic values. For him, these values serve as the foundation for the community. At the beginning of the 20th century, there was a dispute between traditional and modern values. Haji Agus Salim studied, during his time in Jeddah, with Shaikh Ahmad Khatib al Minangkabawi, who can be considered an orthodox scholar with modern influences (Ulm, 2021).

When discussing Islamic education, it is important to distinguish between education that is intended for Muslims and education that aims to teach Islam to non-Muslims. During his lifetime, Haji Agus Salim focused on the first type when he educated his children, gave lessons to the students of the *Jong Islamieten Bond*, and when his lessons with Islamic content were

broadcast. The second category comprised his lectures as a visiting professor at Cornell University.

1) Education to Muslims: Haji Agus Salim emphasized the importance of *tauhid*, the belief in the oneness of Allah. A correct belief will lead to an accurate understanding of *tawakkal* and *takdir* (Salim, 1954). Before a person begins to act, he or she should recite the *basmala* (*Bismillahirrahmanirrahim* - In the Name of Allah, the Most Gracious, the Most Merciful). Haji Agus Salim emphasizes that only Allah has power. Even individuals in positions of authority or leadership do not possess such authority or control (Salim, 1954, p.32). When these sentences were published, Indonesia was in a precarious position as the foreign rulers had the power. The people were reminded that it might seem so, but actually, this is not the case. Haji Agus Salim gives even more detailed examples. He writes that there are many things that are beyond human control:

- They cannot control in which country they will be born.
- Humans have no power in relation to their soul.
- A child cannot choose what kind of education it will get.

Haji Agus Salim focuses in his radio lessons (which became a book) on topics that are of importance to every individual. People should refrain from feeling dissatisfied in the event that not all of their endeavors yield success. A person should exert maximum effort and subsequently place their trust in Allah. On the other hand, people who have influential positions only got them because of Allah.

Haji Agus Salim published some of his Islamic books during a precarious period in Indonesia's independence struggle. The radio lectures about *tawakkal*, *takdir* and *tauhid* were aired in the year 1938. The lessons could motivate the listeners to believe that the real power is with Allah, not with any human being. If someone internalizes this knowledge, then he or she will not get a disease of the heart like wrong pride (*takbur*). Even during the independence struggle, the help of Allah is needed. In a structuralist sense, Haji Agus Salim himself juxtaposes elements that are good and those that are detrimental. The following example should illustrate that: Every person has a target that he or she wants to achieve. However, sometimes we succeed or fail. If we succeed, then we should be grateful. On the other side, if we fail, we should ask Allah for guidance. In this example, we can see that Salim emphasizes knowledge that leads to an inner change. With the inner development of the belief, people can develop and correct their behavior.

2) Teaching Islam to non-Muslims: When discussing Islamic education for non-Muslims, it is important to highlight that Haji Agus Salim concentrated on key aspects. It is indeed remarkable that he managed to be exceptionally concise. His first lecture at Cornell University serves as an illustrative example. The topics were the five pillars of Islam and the six pillars of Islamic belief. He describes them in a very short way without going into detail. For instance, he acknowledges that Muslims are required to engage in five daily prayer sessions, yet he fails to provide a visual depiction of the practice. His main objective was to demonstrate the paramount significance of Islamic monotheism. This belief is interconnected with all the other pillars. It is Allah Who sent the prophets to this world, Allah created the angels, determined the destiny, etc. Therefore, the believers must confirm this. Haji Agus Salim recognized that providing an exhaustive account of every aspect of the pillars would overwhelm the audience. For instance, the predominantly non-Muslim audience may not be interested in the factors that could invalidate the prayer. Hence, Haji Agus Salim provided an overview to ensure that the

students have a fundamental understanding that would facilitate comprehension of subsequent analyses.

When he was in Mecca, Haji Agus Salim received education from Shaikh Ahmad Khatib al Minangkabawi. During this time, Haji Agus Salim met some of his students. Some of them followed an orthodox understanding while rejecting practices that had no basis in the Qur'an and Sunnah. Shaikh Ahmad himself criticized some elements of Sufi orders that were widespread. Therefore, it is not surprising that Haji Agus Salim also had modern ideas. One important feature was that he did not want to exclude women from lessons, and he also criticized their way of sitting in a remote place. By doing this, he was challenging a widely held traditional concept. His intention was to inspire and encourage women to acquire knowledge and enhance their learning abilities.

Analytical Remarks

In this chapter, it will be tried to carve out the content of Haji Agus Salim's major points of education (see Figure 1).

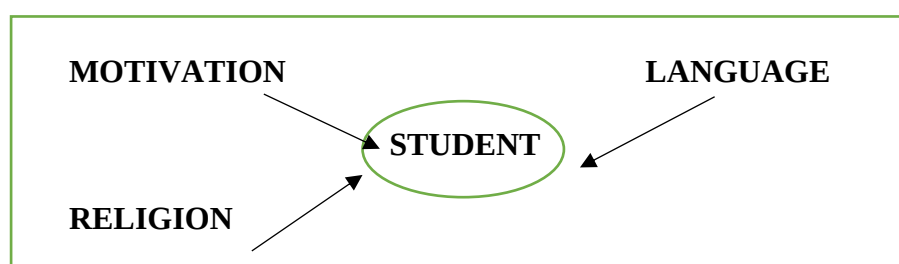


Figure 1. The Educational Concept of Haji Agus Salim

In the aforementioned chapters, it became evident that the most crucial aspect of his pedagogical concept was motivation.

He encouraged his children to learn a language whenever they felt the urge to use it, and he even bought books and novels that were popular during that time, like *Lord Lister*. Mohammad Roem stated that these works bore resemblance to the 'James Bond' series (Roem, 1984). *Lord Lister* had the aim to eradicate bandits. Interestingly, at times, *Lord Lister* himself operated as a bandit, distributing money to those in need (Roem, 1984). By using such types of books, the children of Haji Agus Salim become fluent in the language. Mohammad Roem also met the second child of Haji Agus Salim, and he saw that he read the Indian Epos *Mahabaratha* in Dutch. In Table 1, Haji Agus Salim's educational ideals are highlighted.

Table 1: Haji Agus Salim's Educational Concept Compared to the Dutch Concept

No.	Dutch Educational Concept	Haji Agus Salim's Ideals
1	Secular Education	Religious (Islamic) ideas should be part of the school education.
2	Given syllabus	Students can choose the literature that they would like to read. It is encouraged to follow the own interest.
3	Teaching of a Western centered attitude	Teaching of the values of local history

Table 1 makes it clear that for Haji Agus Salim, religious values were important. In his own process of socialization, he could experience the negative effects of a secular education.

Moreover, the local students experienced discrimination and were unable to pursue their desired paths. Haji Agus Salim asserts that the Dutch colonial authority had the intention of imposing a Eurocentric viewpoint, which would result in a sense of inferiority. This was the primary reason why he prohibited his children from attending school during the colonial era.

A Structural Reading of ‘Hasrat Manusia Kepada Agama’

A structural reading of Haji Agus Salim’s article *Hasrat Manusia Kepada Agama* can help to understand his thinking. Haji Agus Salim published the article in 1925. He recounted his educational experiences.

According to Haji Agus Salim, the Western education system is teaching a kind of ‘fantasy product,’ namely that a human being is in control of every situation. However, if someone gets older, he will see that this is not the case. There are even things that cannot be answered by school teachers. This will be a problem as people who are older have the responsibility of teaching their own children. Haji Agus Salim is quite critical and states that the Dutch school system leads to a kind of inferior complex (see Figure 2).

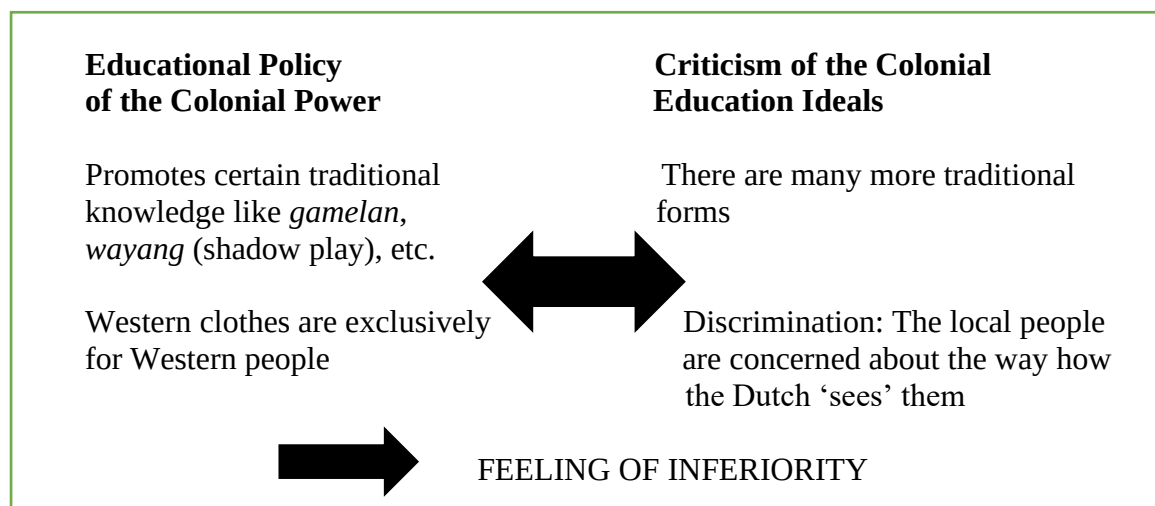


Figure 2. The Consequences of the Dutch Education System (A Structural Perspective)

Figure 2 shows the consequences of the Dutch education system. In the end, there is a feeling of inferiority. However, the most important dichotomy in the concept of Haji Agus Salim is the opposition to a materialistic way of life versus a non-materialistic way of life. Materialism is taught in schools and people follow this concept. As a consequence, people who cannot follow such a lifestyle are unhappy. Haji Agus Salim mentions the situation of the workers. On the other hand, successful businessmen decide how to treat their workers. They are ‘God-like’ and assume that they have unlimited power.

In the final part of *Hasrat Manusia Kepada Agama*, Haji Agus Salim focuses on Prophet Musa. Haji Agus Salim likely intended to draw parallels between the followers of Musa (known as the *Bani Israil*) and the Indonesian population. Both groups experienced landlessness and faced oppression. He also shows that intellect (*akal*) alone is not sufficient if there are no religious values. Only after the people followed Musa, there was a way to freedom. Musa could serve as a role model for the people who are oppressed. They should emigrate (perform *hijrah*) from a way of life with little or no religious values to a religious lifestyle.

Haji Agus Salim is quite concerned regarding the exclusive impact of Western scholars specifically within the realm of education. However, their thinking seems to be occasionally incorrect. He explains that in another book (Salim, 1962) in which he analyzes the viewpoint of orientalist who assume that Islam came to Indonesia via India around 700 years ago. However, he finds this stance unconvincing, as it appears that the orientalist have disregarded Asian scholars, including those from China. This example illustrates that Haji Agus Salim wanted to change the Eurocentric perspective that was prevalent during colonial time.

Conclusion

In this article, the researchers looked at the educational concept of Haji Agus Salim. His lifelong interest in educational matters was evident. Despite his failure to become a school teacher, he maintained a keen interest in educational concepts. Nevertheless, he saw that the public education system would indoctrinate youngsters with misguided values, fostering materialism and a sense of cultural inferiority towards Dutch and Western culture. Consequently, he recognized the need to incorporate religious knowledge into the educational system.

Haji Agus Salim stressed the importance of raising the *semangat* (spirit) in his thinking. This includes the struggle for independence as well as an interest in education and critical thinking. Therefore, he tried to motivate the young generation. He believed that it was crucial for the younger generation to pursue their own interests. For such a development of knowledge, it was essential to live in an atmosphere that respects knowledge.

It is possible to incorporate some of Haji Agus' educational concepts in the school system. Specifically, the drive to express oneself freely and learn to enhance oneself by identifying errors stands out. For example, a school might implement the freedom for pupils to read books in a foreign language that they are interested in. Nevertheless, the implementation of such an idea necessitates a versatile system with a curriculum that is not rigidly set. Furthermore, it's important to keep in mind that there are young, playful children in primary schools. A school could implement a long break for such children in which they can play and refresh their minds. Haji Agus Salim's view on education is inspiring and could motivate educators.

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FOOD SERVICES EVALUATION: A BASIS FOR IMPROVEMENT PLAN

Roselle Samonte Sirue¹

¹Faculty Sacred Heart Academy, Inc., Zarraga, Iloilo, Philippines, (roselle.sirue@wvsu.edu.ph)

Abstract: *School Student Services reflect how an educational institution operates and considering its important roles in the development of learners, there is a need to evaluate, analyze, and improve if it adequately responded to the needs of the learner-clientele. This study focused specifically on the evaluation of food services as part of student services of Sacred Heart Academy, Inc, member of OP Molo Schools, Iloilo, Philippines. Using a 5-point hedonic scale in a school made evaluation sheet, learners were asked to rate the food services via Google form. The results of Junior High School and Senior High School learners' evaluation were utilized including their comments and suggestions based on their observations and experiences. Results revealed that learners rated food services "Good", commended the good quality of food and nice personnel but suggested to lessen the price, add more counter and lessen the use of non-biodegradable utensils. An improvement plan for food services was crafted based on the results. An evaluation of the different school services and programs was important as it served as basis for improvement in order to provide better services to learners and other stakeholders.*

Keywords: *Food Services, Canteen, Improvement Plan*

Introduction

As a Catholic institution, the mission of Sacred Heart Academy Inc., Zarraga, Iloilo is to promote value-laden and quality education by providing varied opportunities and experiences for the development of an individual who personifies a Filipino identity and responsive to the church and societal needs (School Manual). To be true to this mission, the school must see to it that no aspect of learner's life be overlooked. The learners must be guided properly, admitted, classified, advised, and perhaps financed. The school must also be concerned with learner's health, manners, leisure time, emotions, and social life and even his/her final destiny.

The school's role to the wholistic growth of learners can be best shown through the different school programs and activities that have been planned, organized and implemented. Moreover, vision, mission, and objectives as Catholic institution should be cascaded to the kind of services it renders to the learners. Teachers are considered second parent of the learners, thus, a school should be like a home for them where their needs should be provided.

The basic need or physiological need is the need of food in order to survive. The school constructed a wide canteen to cater the physiological needs of the learners or to render Food Services. Its role is not only to provide a venue for learners' meal but also to see to it that all meals served are well-balanced, palatable, and satisfying. Food service is a part of Student Services Area of the school including Health Services, Student Activity Program, Formation Office and Guidance Services.

Mentioned by Duazo and Habla (2022), Salik (2013) stated that food service operation should not only be focused on the food served to the learners but also it concerned with the

management. In his study, results showed that efficient canteen management was necessary in order to provide food of the lowest cost and higher in nutritional value. Moreover, common problems identified were the lack of space to accommodate the learners, time allotted for cooking is very limited, the food prepared and displayed are not enough for the number of learners and limited choices of food.

Considering the important roles of food services as part of student services program of the school has in the development of learners, there is a need to evaluate, analyze, and improve if it adequately responded to the needs of the learner-clientele. This study focused on the evaluation of food services. Learners' evaluation was utilized including their comments and suggestions based on their observations and experiences. Furthermore, based on the results, an improvement plan for food services was crafted.

Literature Review

Canteen

Canteen is a store in a camp or school in which foods, drinks, and small supplies are sold. It is a small cafeteria or snack bar (Merriam-Webster Inc., 2014).

School Canteen refers to one of the ancillary services in the school system that sells food items to the learners and serves as a support mechanism in the effort to eliminate malnutrition concerns of the school. It can be used as a laboratory canteen on food planning, preparation, serving, storage and selling. The school canteen shall help eliminate malnutrition among learners. It shall serve as a venue for the development of desirable eating habits of learners. The school canteen shall serve as a laboratory for Home Economics, retail trade and in the incidental teaching of health and nutrition. Service should be the main consideration for operating a school canteen. Profit shall only be secondary since the clientele are learners who are dependent only on their allowance from their parents (DepEd Order No. 8 s.2007).

Department of Education Order No. 13, series of 2017 issued policy and guidelines of healthy food and beverage choices in schools and in DepEd offices which promote healthy diets and positive eating behaviors and healthy environment to learners, teaching, and non-teaching personnel. This DepEd order further intends to make healthier food and beverage choices among learners, personnel and other stakeholders, introduce a system of categorizing locally available foods and drinks in accordance with geographical, cultural, and religious orientations, provide guidance in evaluating and categorizing foods and drinks, and provide guidance in the selling and marketing of foods and beverages in schools and DepEd offices, including the purchasing foods for school feeding.

Canteen services are important educational resources that provide the students food choices and other small supplies. It is necessary for a canteen to provide services and merchandise at high quality and reasonable prices to costumer in an efficient and profitable manner (Duazo and Habla, 2022).

Food Services Quality

Learners, as the main stakeholders of school, expect to be able to enjoy the available school facilities that support the enhancement of the learning process. Learners who are dissatisfied with their learning experiences are the result of inadequate facilities and services. Schools must comprehend and understand each dimension of indicators deemed necessary by students as

consumers. Schools must also improve services because satisfaction is always associated with the level of school services (Tupari, 2023).

Service quality is generally referred to the output of the service provider which is linked to consumer satisfaction, perception, expectations or opinions (Vu, 2021). Zeithaml, Bitner, and Gremler cited in Subandi and Hamid (2021) further agree that service quality is the focus of evaluation and reflects customer perceptions of certain aspects of the services provided to meet consumer expectations. As a provider of educational services, schools should meet the needs, desires, and expectations of parents, guardians, and learners because the quality of service is one of the success factors of a school especially in a private school.

Chang and Suki (2018) cited the studies of Kwun and Choi (2013) which revealed that service and food quality were perceived as essential in understanding customer satisfaction and behavioural intentions. The same idea with Kim and Kim (2004) which suggested that food quality is a significant variable in the student satisfaction level and plan to repurchase among the students. More so, the findings of Raman and Chinniah (2011) revealed that it would be more cost- productive if the cafeteria or food operator were to introduce healthier and more interesting food choices, variety, diversity, and fresh food into the cafeteria menu monthly

Method

The main goal of this study is to evaluate and formulate an improvement plan of the food services. This study used the descriptive method of research. Best and Khan (2006) defined descriptive research as describing, recording, analyzing, and interpreting of conditions that exist. The appropriateness of this design in this study used to assess the exiting food services by the high school learners of Sacred Heart Academy, Inc.

The respondents of the study were the officially enrolled Junior and Senior High School learners of Sacred Heart Academy, Inc., member of OP Molo Schools, Iloilo, Philippines, for school year 2023-2024 taken as a whole population. The data gathering instrument used was the evaluation sheet for food services; an eight-item school made and PAASCU-based which was validated and tested for its reliability. Learners were asked to rate the food services in a 5-point hedonic scale via Google form. Comments and suggestions section were also included in the said evaluation sheet and responses were grouped through simple descriptive analysis. The average rating of the food services was computed with the use of weighted mean.

Results

The weighted mean rating result of learners' evaluation of school food services was 3.393 with the description of Good. Comments and suggestions of the learners were also grouped and summarized. The five top commendations were: 1) The foods have good taste, 2) School supplies and other personal needs are available, 3) Personnel are nice and willing to serve, 4) They sell healthy products, and 5) Food served is in quality. The top five suggestions were: 1) Lessen the price at the canteen, 2) Canteen should be open at all times, 3) Add more lines to lessen the waiting time, 4) Add more foods or lunch meals, and 5) Lessen the use of non-biodegradable utensils.

Table 1 showed the results of learners' evaluation on food services.

Table 1: Evaluation Results on Food Services

Items	x	Description
1. The canteen is large enough to accommodate the learners and personnel.	3.69	Very Good
2. Hot lunch is available in the school canteen.	3.51	Very Good
3. Lunch and snacks are nutritious, adequate, well-balanced, and palatable.	3.44	Very Good
4. There is a variety of food served in the canteen.	3.69	Very Good
5. Cost is reasonable.	2.89	Good
6. The canteen is equipped with sufficient chairs and tables.	3.55	Very Good
7. The canteen is sanitary, properly ventilated, and pleasant.	3.60	Very Good
8. The canteen is manned by the services of a nutritionist.	2.77	Good
Overall Rating:	3.393	Good

Interval: 1.00-1.80-Poor; 1.81-2.60-Fair; 2.61-3.40-Good; 3.41-4.20-Very Good; 4.21-5.00-Excellent

Discussions

The items on the evaluation sheet that acquire the highest weighted mean were; “The canteen is large enough to accommodate the learners and personnel” and “There is a variety of food served in the canteen” and learners described as Very Good. Duazo, and Habla (2022) in their study revealed also that the level of satisfaction of the costumers on the services of school along canteen facilities has an overall weighted mean of 3.70 and 3.69 both the teachers and students described as Satisfied and in terms of food choices 3.77 and 3.69 both described as Satisfied. Learners perceived that canteen has a wide space to accommodate those who want to dine and variety of snacks, drinks, and meals were available.

The items that acquire the lowest weighted mean were “The canteen is manned by the services of a nutritionist” and “Cost is reasonable” and learners described as Good. Adunna (2013) mentioned that when providing nutritious food and affordable, the canteen should focus on good management practices and be financially self-sustaining. Effective canteen management requires that everyone involved must know it goals and objectives and be familiar with its policies to achieve its operational goals. Result may imply that learners were not sure if the canteen employed the services of a nutritionist but certain of the prices of the products sold.

Overall, the weighted mean of the learners’ evaluation on food services was 3.393 described as Good. Results were aligned with the study of Garcia, Litang, Obena, Villa, Gutierrez, and Tamon (2019) which revealed that canteen has a satisfactory rate in terms of its Food Services. This may entail that canteen in-charge and school administrators must maintain or improve the good standing of the food services and may implement more effective policies and guideline to level up the ratings of the learners.

The commendations of learners on canteen services were foods have good taste and in quality, products sold were healthy, school supplies and other personal needs were available, and personnel are nice and willing to serve. Pajantoy and Ubane (2022) in their study revealed also that the performance of the canteen service in terms of food standard was found as high quality. The same findings was revealed in the study of Galabo (2019) the overall mean rating was (3.22) which mean that the level of canteen service quality in terms of responsiveness is moderately satisfactory. This implied that learners believed that school canteen offered foods that promote healthy eating habits. Learners perceived also that canteen personnel promote an

atmosphere of accommodating that made learners patronize the products and services. Moreover, Galabo (2019) mentioned also the importance of responsiveness in canteen services as revealed by research in different sectors of the food service industry and cited the study of Gramling, Byrd, Epps, Keith, Lick, and Tian (2005) which revealed that students expected a better attitude from staff serving them. This was supported by another study of Zopiatis and Pribic (2007) where university students highlighted employee's attitude as one of the three most influential factors of students' food choices. On the other hand, result of the study of Binge, Xufen, Guoying, Chunyue, and Tingting (2012) showed that students were most dissatisfied with the staff being impatient in serving them of all service aspects. This implies that the attitude of service staff can make students feel welcome when using the food services provided by the school canteen.

Furthermore, learners suggested to lessen the price at the canteen, should be open at all times, to add more lines to lessen the waiting time, to add more foods or lunch meals, and to lessen the use of non-biodegradable utensils. Manaig (2022) in her study mentioned that according to Bartlby Research (2014), the prices are not enough or adequate to sell the products. Price or cost is one of the biggest problems among learners. Canteen must ensure that they sell affordable items that can fill the hunger of the learners and it should have nutritional content. Learners also perceived the need to add more counter to lessen the waiting time and must support the program of the school and government to lessen non-biodegradable waste.

Conclusions

To determine if programs and services have been implemented and goals are in placed or achieve evaluation is needed. Learners' evaluations were valuable since they were the one who benefited first the services of the school. Studies have supported the ideas that the satisfaction of learners was affected by the school services. The need to evaluate the different school services and programs is important as it serves as basis for improvement in order to provide better services to learners and other stakeholders.

Food services provided by school canteen must be maintained as it provides healthy eating habits for learners and has accommodating personnel. Other areas need some improvements like ensuring that food served were monitored by nutritionist to equate with its cost in order to provide better services and satisfaction to learners.

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Appendices

Appendix A. Proposed Improvement Plan for Food Services

Objectives	Programs/ Activities	Expected Outcome	Person In-charge	Time Frame	Resources
To check the nutritional value of food served	Hiring of Part-time Nutritionist	Healthy food and drinks were served	School Principal, Canteen In-charge, Student Services Coordinator	July 2024-April 2025	PhP 50,000.00/ Income from Canteen
	Making of Weekly/Monthly Meal Plan	Healthy and variety of meals were prepared and served	Canteen In-charge, Canteen personnel, Hired Part-time Nutritionist	July 2024-April 2025	PhP 10,000.00/ Income from Canteen
To lessen the costing of meal production	Enhancing the Program Gulayan sa Paaralan (School garden)	Organic ingredients were availed	School Principal, Canteen In-charge, Student Services Coordinator, Student activity Coordinator, Club Moderators, Club Officers, Learners	July 2024-April 2025 (whole school year)	PhP 2,000.00/ Student Development Plan
To lessen / eliminate non-biodegradable food utensils	Provision of Personal Utensils and Tumblers	Plastics used were lessen/ eliminated	School Principal, Canteen In-charge, Student Services Coordinator, Teachers, Staff, Learners	July 2024-April 2025 (whole school year)	(Personal expense)
To lessen waiting time for buying	Closer Learner Supervision	Discipline and good behavior were promoted/	Canteen In-charge, Student Services Coordinator,	July 2024-April 2025 (whole	

		developed, waiting time were lessen	Teachers, Club officers	school year)	
To check the implementation of programs	Monitoring of Improvement Plan	Food services were improved	School Principal, Canteen In-charge, Student Services Coordinator, Teachers, Staff, Learners	August, December 2024, January-April 2025 (monthly)	Office Supplies

VISITOR TRENDS INSIGHTS: A DASHBOARD FOR ECOTOURISM CENTRE AT KELANTAN NATIONAL PARK, KUALA KOH

Nurul Su'aidah Ahmad Radzali¹

Amri Izaffi Zamahsasri²

Nur Hazimah Khalid³

¹Department of Information and Communication Technology, Polytechnic Sultan Idris Shah (PSIS), Malaysia, (nurulsuaidah@psis.edu.my)

²Kelantan National Park, Kuala Koh, Department of Wildlife and National Parks (DWNP), Peninsular Malaysia, (amriizaffi@gmail.com)

³Department of Information and Communication Technology, Polytechnic Sultan Idris Shah (PSIS), Malaysia, (nhazimah@psis.edu.my)

Abstract: *In this study entitled Visitor Trends Insights: A Dashboard for Ecotourism Centre at Kelantan National Park, Kuala Koh (TNKK), historical visitor admission data from 2010 to 2023 is visualized and contrasted with data from 2024. An interactive dashboard was created to show trends in the number of visitors and visitors' origins. By comparing historical and current data and getting additional information from the officer through personal interviews, the dashboard offers real-time information to improve strategic decision-making, tourist experiences, and sustainable ecotourism practices. The research provides workable ideas to improve park management by emphasizing significant trends and changes throughout time.*

Keywords: *Data Mining, Data Visualization, Ecotourism Dashboard, Visitor Pattern*

Introduction

From 2010 to 2024, Kelantan National Park, Kuala Koh (TNKK), experienced fluctuating tourist numbers, indicating both the growing popularity of its natural and cultural attractions and the inevitable situations that brought it down. To effectively manage this circumstance, historical visitor admission data from 2010 to 2023, along with 2024, must be thoroughly examined to identify changing trends and patterns. This study, Visitor Trends Insights: A Dashboard for Ecotourism Centre at Kelantan National Park, Kuala Koh, aims to create an interactive dashboard that will provide insightful information visualizations on the number of visitors and visitors' origin, associating them with external factors that impact traveler behavior. With the use of these insights, stakeholders and park management will be better equipped to make early decisions, improve visitor experiences, and advance environmentally friendly travel methods. The dashboard's goal is to turn raw data into solutions that can be put into practice using thorough data analysis and real-time monitoring, ensuring the park's long-term success and sustainability.

Literature Review

Ecotourism and It's Importance

Ecotourism has emerged as a new, more sustainable type of tourism in recent years. It incorporates aspects of leisure, enjoying, and protecting nature, as well as cultural knowledge, to create new sustainable models of local development. This draws visitors who are concerned with protecting the environment and showing respect for the locals, which in turn improves the local population's quality of life and lowers its poverty rates (Ashok et al., 2017). According to Duffy (2006), ecotourism is frequently marketed as the best way to balance environmental sustainability with economic growth in the developing world, supported by findings from Darda & Bhuiyan (2022) indicate that the growth of ecotourism has several beneficial

socioeconomic effects, including job opportunities, homestay accommodations, and community involvement likewise, reinforced by the results demonstrated by Abdullah et al. (2020) the substantial economic advantages and the role that revenue from ecotourism and forestry-related activities plays in lowering local households' poverty rates. Additionally, Samal & Dash (2023) emphasize that ecotourism effectively supports environmental conservation and livelihood restoration by reducing carbon footprints and providing income opportunities for indigenous communities. A study focusing on Kelantan National Park, Kuala Koh (TNKK) by Hassin et al. (2020) depicted that the local people's perception and attitude favors by the growth of ecotourism in TNKK varies by gender, age, and length of residency so it is critical to preserve it through environmental education and all-encompassing regulations supported by solid data.

National Park as Ecotourism Centre in Peninsular Malaysia

There are several ecotourism spots in Peninsular Malaysia. Some of the places are called national parks. Every national park in Peninsular Malaysia is popular for ecotourism, each with its own distinct ecosystems and topography. Several national parks are managed by private companies, while the government manages the others under the Ministry of Natural Resources and Environmental Sustainability in the Department of Wildlife and National Parks (DWNP) Peninsular Malaysia. The government manages Kelantan National Park, Kuala Koh (TNKK), along with Penang National Park, Pahang National Park Sungai Relau Merapoh, Terengganu National Park Tanjung Mentong, and Pahang National Park Kuala Tahan (Abu Hashim et al., 2023). The DWNP is responsible for planning and monitoring national parks to maintain the standard of the national park as an ecotourism destination that can be enjoyed by all nature lovers. Through a variety of ecotourism activities, TNKK offers significant experiences enhanced by its verdant forest, a wide variety of flora and animals, and its historically and culturally vibrant neighboring communities (Junus et al., 2020). The wonders of national park nature must be supported by its good facilities and cleanliness to retain tourist visits (Lee et al., 2022), as well as the natural attractions, recreation activities, accommodation, food, cost, transportation, and hospitality to improve tourist satisfaction (Chew et al., 2024), reinforced by research from Fallah and Ocampo (2021) that develop criteria and indicators (C&I) in Penang National Park (PNP), Malaysia, to assess the sustainability of tourist operations because of the national park's importance as an ecotourism destination.

Visitor Trend Dashboard at Ecotourism Destination

Every ecotourism destination has a variety of data sources that can be used and analyzed for future reference. However, the process of data collection, data cleaning, and transformation must be done before the data can be visualized. Data visualization is very important for park management to identify factors that influence visitor trends, and one of the ways is to build an interactive dashboard. Recently, Antolini et al. (2024) constructed an integrated information dashboard to improve data visualization and enable a quick, accurate, and comparative evaluation of performance across several regions in their research by considering dashboard design and visualization concept for choosing the best visual representation proposed by Sedrakyan et al. (2019). On the other hand, Balletto et al. (2020) developed a framework of circular dashboards to consolidate Santa Barbara Walk, Italy, as a tourism attraction area. Additionally, Ordóñez-Martínez et al. (2024) highlighted the development of geo-dashboards that combine geographic and business intelligence data to provide real-time insights into tourism patterns, visitor demographics, and infrastructure needs. In this research, a visitor trend dashboard from Kelantan National Park, Kuala Koh (TNKK) visitor entry data from 2010 until June 2024 will be visualized and discussed to identify what caused the pattern to increase and

decrease based on the previous outsourcing data and personal interview with the park superintendent.

Materials and Methods

The research adopted quantitative and qualitative methods to get data and information from Kelantan National Park, Kuala Koh (TNKK), covering 2010 until June 2024. Park entry records, weather data, and newspaper article data were used, along with personal interviews with the TNKK Superintendent, to guarantee a complete dataset to build a useful dashboard and find out the causes of the trends. The interviews were held to gain a greater understanding of the data and additional information about tourists, climate change, natural disasters, facilities, maintenance budget and schedule, and activities offered by TNKK.

To ensure uniformity, the gathered data were cleansed and organized using Microsoft Excel and Google Spreadsheets. Google Looker Studio was used to create an interactive dashboard that displayed the data on the number of visitors, visitors' origin, and payment collections by activities provided, which were then further discussed with other supporting data.

Result and Discussion

Visualization of historical and current visitor entrance data can help to study the visitor pattern. It can help in better understanding and meaningful insight about national park visitors. These insights are very important, especially for the park management to make better decisions and early preparation. From that, a dashboard for Kelantan National Park, Kuala Koh (TNKK) was built. The pattern was studied, and further related research about weather data, interview data, and other variables such as the pandemic outbreak was linked to the situation.

Data Visualization from The Year 2010 until 2020

Figure 1 shows the dashboard for the visitors' trends from the year 2010 until 2020. The total number of visitors is 42,491 in these 10 years. 95.44% which are 40,554, are from domestic visitors, while the other 4.56% which are 1,937, are foreign visitors. The huge gap between domestic and foreign visitors was because domestic visitors come from local and nearby locations. However, both visitors showed most likely a declining trend throughout the years, especially after 2014.

According to the personal interview conducted with the TNKK Superintendent, the Kelantan severe flood in 2014 affected TNKK badly as an ecotourism destination because most of the buildings and facilities were submerged during the flood. It devastated a large portion of the infrastructure, including roads, chalets, hostels, and the hanging bridge that connects to the area of TNKK forest. Due to the damages, some of the activities at the park need to be stopped, such as camping, canopy walkways, fishing, jungle trekking, and crossing the hanging bridge during the reopening after the flood incident. The effects of this are primarily related to the materials that are physically deteriorating because of the harm that floodwaters physically cause to such things (Muhamad Zamri, 2016). This incident causes huge losses and takes a lot of time to repair because of the high cost and the need to focus on more important facilities such as offices, employee quarters, and hanging bridges.

At the end of 2019, TNKK faced another big blow during the COVID-19 pandemic because of the movement control order and park operations needed to be closed. The shutdown for a few months not only brought down the number of visitors but also affected TNKK's income, supported by Afifah et al. (2021), stating that the state of Kelantan's tourism sector has suffered greatly as a result of COVID-19, resulting in significant income losses.

In 2013, foreign visitors showed an incredibly significant increase, with 779 visitors compared to other years. This surge can be attributed to the Visit Malaysia 2013-2014 campaign. From the data, we can confirm that the Visit Malaysia campaign was successful and played a particularly good role in promoting Malaysia's tourism, especially at ecotourism destinations. As Jasni et al. (2014) mentioned, the effectiveness of new communication technology engaged by the Tourism Malaysia in attracting people to come to Malaysia during Visit Malaysia campaign.



Figure 1: Visitors Trends from the Year 2010 until 2020

From the dashboard, we can see that some of the activities can generate higher income for TNKK, such as fishing and photography, exceeding ten thousand Malaysian ringgits annually compared with the collection of entry fees and tent site rental. This data shows that the management should focus on maintaining and upgrading the facilities and areas for fishing and photographing to retain, and more importantly, attract more visitors. TNKK can also provide infographics on social media to promote the list of activities that can be done so that visitors are encouraged to do more activities, such as overnight camping, fishing and boating, and jungle trekking, rather than paying entry fees only for sightseeing.

Data Visualization for Domestic Visitors from the Year 2021 to 2023

Figure 2 shows the dashboard for the number of domestic visitors in Kelantan National Park, Kuala Koh (TNKK), from the year 2021 until 2023. The visitor distributions are from eight states and two federal territories in Malaysia which is the highest number of visitors from Kelantan, totaling 2,395 visitors, and the lowest from Putrajaya, with just 3 visitors. More

visitors come from nearby and central states due to the shorter distance to reach TNKK compared to the other states, especially the southern region.



Figure 2: Domestic Visitors Dashboard from the Years 2021 to 2023

From the graph, the visitor trend shows an increasing pattern due to the lifting of the COVID-19 movement control order, and many of the damaged facilities from the severe flood have been repaired and upgraded, especially the trekking path, hanging bridge, boats, cafeteria, prayer hall, and chalet. TNKK management also conducted various promotional activities to attract more visitors on many platforms, especially on social media and online platforms. According to Junus et al. (2020) guests' opinions and attitudes toward the ecotourism resources offered by TNKK are favorable, indicating that most guests agreed TNKK offered an abundance of alluring ecological amenities, which they found enjoyable at the location for nature-based travel. In addition, TNKK must consistently maintain and take care of the facilities because it always has its own charm to attract many tourists and for future generations.

The most preferred activities by the tourists are fishing and photography, which generate over four thousands TNKK payment collections yearly compared to tent site rental and entry fees. TNKK should proactively promote other activities because maybe some of the communities choose not to go there as they thought only fishing and photographing activities were fun. Meanwhile, there are many exciting activities, such as jungle trekking that provides many different routes based on the visitor's level of fitness or a boat ride along the Koh River. Visitors can also camp overnight in the middle of the jungle to experience jungle nightlife with companions from established nature guide.

Data Visualization for Foreign Visitors from the Year 2021 to 2023

Figure 3 shows the dashboard for the number of foreign visitors in Kelantan National Park, Kuala Koh (TNKK) from the year 2021 until 2023. Foreign visitors came from only three countries in 2023, which are France with 7 visitors, Pakistan with 5 visitors, and Germany with 4 visitors. These three countries are from Asia and European countries. There were no foreign visitors during 2021 and 2022 because of the COVID-19 movement control order.



Figure 3: Foreign Visitors Dashboard from the Years 2021 to 2023

From here, we can suggest that TNKK should promote its services worldwide because there are many foreign tourists who enjoy outdoor and extreme activities but may not aware of TNKK. According to the TNKK Superintendent, foreign visitors love jungle trekking and photography activities because of the mesmerizing nature offered by the TNKK environment, and the rangers who are appointed among the native people of the Batek tribe are very experienced in the flora and fauna found in TNKK.

Data Visualization for Visitors Trends Year 2024 (Jan – June)

Figure 4 shows the dashboard for the visitor's trends in the year 2024, from January until June in Kelantan National Park, Kuala Koh (TNKK). The total number of visitors in this past six months is 952 visitors. Of these, 99.16% (944) are domestic visitors, while the remaining 0.84% (8) are foreign visitors. The trend of domestic visitors is very low in January because of the rainy season and decreases further in March and April because of the fasting month and Eid celebration. More rainy days in June, compared to the other months, also contributed to a decrease in visitors from the previous month, May (AccuWeather, n.d.).



Figure 4: Visitors Trends Year 2024 (Jan – June)

Most of the domestic visitors come from nearby states, namely Kelantan and Terengganu, and some of them are from the central states, which are Selangor, Perak, Kuala Lumpur, and Negeri Sembilan. Foreign visitors were from Germany with 5 visitors, Holand with 2 visitors, and Japan with only 1 visitor.

Fishing and photography activities as usual generated the highest payment collections each month compared to entry fees and tent site rental, especially in February. In the year 2024, the TNKK Superintendent positively highlighted that this year's achievements would at least double those from last year, as many facilities were upgraded and more experienced tourist guides and rangers were recruited to accommodate more visitors to perform activities. This statement is also supported by the record data that based on the first half of the year, 99.54% of payment collection and 72.17% of the total number of visitors compared to 2023 were already achieved.

Conclusion

In summary, Kelantan National Park, Kuala Koh (TNKK), has significant potential as one of the eco-tourism centers. As mentioned, there are many exciting and extreme outdoor activities such as camping, jungle trekking, boating, fishing, educational tours, river bathing, and also sightseeing. Visitors can also discover rare insect species and new wildlife footprints during the jungle trekking activity. They can also hear the sounds of wildlife, such as primates and bird species, during the day while in TNKK. Many rare and unique plant species can also be found in TNKK, and the experienced tourist guide will share information about the plants, such as functions, age, and unique features. TNKK should proactively maintain and upgrade its

facilities and also the quality of their services so that visitors will have a pleasant experience during their visit and they will willingly promote TNKK and come again later.

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THE INFLUENCE OF SOCIAL MEDIA INFLUENCER AND PRODUCT PACKAGING ON PURCHASE INTENTIONS FOR ORGANIC PERSONAL CARE PRODUCTS

Suhaini Mat Daud¹

Norazlizah Saad²

Hayazi Hanafi³

¹Commerce Department, Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS), Malaysia,
(suhaini@polimas.edu.my)

²Commerce Department, Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS), Malaysia,
(norazlizah@polimas.edu.my)

³Civil Engineering Department, Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS), Malaysia,
(hayazi@polimas.edu.my)

Abstract: *This study investigates the impact of product packaging and social media influencers on consumers' purchase intentions for organic personal care products. A quantitative methodology was employed, with data collected from 382 respondents in Malaysia's northern regions through an online survey, using a purposive non-probability sampling method. The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 26. The findings indicate that both social media influencers and product packaging significantly influence consumers' intentions to purchase organic personal care products. Specifically, the study highlights how engaging social media influencers can create a strong emotional connection with consumers, enhancing their interest in organic products. Additionally, effective product packaging was found to play a vital role in capturing consumer attention and reinforcing brand values. These insights are invaluable for personal care and marketing companies, as they emphasize the need for strategic investments in social media influencer collaborations and thoughtful product design. By understanding these key factors, companies can develop targeted marketing strategies that not only boost purchase intentions but also foster long-term brand loyalty and competitiveness in the market. Furthermore, the study suggests the exploration of other factors that may influence purchase intentions, laying the groundwork for future research in this area.*

Keywords: *Purchase Intention, Social Media Influencer, Product Packaging, Organic.*

Introduction

The consumption of organic products, including the food, fashion, and cosmetics sectors, has grown significantly due to increased consumer awareness of environmentally friendly practices and the harmful effects of synthetic chemicals (Noorita, 2019; Camelleri et al., 2023). This shift towards organic products is part of a broader trend towards a healthier lifestyle, driving demand and supply in the organic market (Ghazali, Soon, Mutum & Nguyen, 2017). As the demand for organic products continues to rise, the supply for these products naturally increases to meet consumer needs.

Specifically, consumers perceive organic personal care products, such as skin care, hair care, oral care, cosmetics, feminine hygiene products, deodorants, and toiletries, as having a lower environmental impact (Ghazali et al., 2017). These products, made from natural agricultural ingredients and free from chemical additives or synthetic fertilizers, contribute to environmental protection and promote a healthier lifestyle (Schifferstein & Ophuis, 1998). According to Noorita (2019), organic personal care products are defined as high-quality

products with minimal chemical usage, and features such as eco-friendliness, biodegradability, and ethical considerations like being free from animal testing and animal by-products (Noorita, 2019). Increased consumer awareness of health care has led to a rise in demand for organic personal care products (Aste, 2017).

In Malaysia, a considerable number of researches have been undertaken regarding the organic food sector as a whole. However, studies on organic personal care products are still relatively limited and scarce (Noorita, 2019; Kian & Chia, 2021; Batra et al., 2022). This is supported by Ghazali et al., (2017) who also stated that research on the market for organic personal care products in Malaysia is still limited primarily because this market is in early stages of development (Fauzi & Hashim, 2017; Kian & Chia, 2021). Additionally, consumer awareness of the benefits of organic products is also insufficient, which may affect their willingness to pay premium prices for these items due to their comparatively high prices (Taib, N. M. et.al., 2022).

Given the emerging trends and market potential in organic personal care markets, it is crucial to understand the factors driving Malaysian consumers' purchase decisions on related to organic personal care products. This information is worthwhile to marketers as well. Therefore, this study aims to investigate factors such as product packaging which consists of colour, font style, material used, design and printed information and the influence of social media influencers towards purchasing intentions regarding organic personal care products.

Literature Review

Purchase Intentions for Organic Personal Care Products

The personal care product industry encompasses a wide range of products focused on health and beauty, such as perfumes, sunscreen, hair and skincare products, cosmetics, and toothpaste. Organic personal care products are made with a high percentage of organic ingredients, including organic herbal and plant extracts, and are free from sulphates, parabens, phthalates, artificial colors, and artificial fragrances (Kim, Hee, & Chung, 2011). Purchase intention refers to the decision-making process of buying a specific product or brand (Shah et al., 2012). Understanding and meeting the needs and desires of target consumers is crucial for marketing professionals and personal care manufacturers. Evaluating consumers' purchase intention for personal care products helps identify their expectations. Consumers with a strong desire to purchase a product are more likely to have a higher purchase intention (Dodds, Monroe, & Grewal, 1991). Purchase intention plays a significant role in the consumer's decision-making process. People who desire a product or have a specific motivation are more likely to choose and purchase it. When selecting a cosmetic product, consumers consider factors such as brand, price, and quality based on their preferences. These factors influence their perception of the product and ultimately their decision to purchase. The consumer's overall perception of a product is known as perceived value, which greatly impacts purchase intention. Manufacturers can use perceived value to adjust their products and increase consumer's purchase intention.

Purchase intention is a concept derived from the study of intention in social science (Tan et. al., 2017). In marketing, purchase intention is a recognized variable that explains consumer behavior in decision making (Khalid et. al., 2018). Factors like culture and sub-cultures influence purchase intention and consumer behavior. It's important to differentiate between intention and attitude (Eagly & Chaiken, 1993). Intention guides a person to act in specific ways and implies phrases like "I should do," "I will do," and "I am going to do" (Triandis, 1977). Purchase intentions refers to the intention to purchase specific products in the future (Yeo, Sook Fern & Tan, Cheng Ling & Lim, Kah Boon & Khoo, Yong-Hwi., 2020). In other

words, purchase intention refers to the likelihood of a consumer purchasing a particular item or service. It represents a desire to take a specific action and is commonly referred to as buyer purchase intention in consumer behavior and marketing research (Khalid et. al., 2018). Additionally, purchase intention is an essential element in consumer behavior for predicting future purchases, including specific products or brands (Su & Huang, 2010). It is important to note that the intention to buy does not necessarily translate into an actual purchase, as it depends on an individual's ability to follow through with their intention (Yeo et al., 2018). Thus, Liat and Wuan (2014) emphasize that when an individual plan to make a purchase over time, their purchase intention is formed. This intention is influenced by their behavior, perception of the product, and attitude (Keller, 2009).

Social Media Influencer and purchase Intentions

Social media influencers represent a new type of independent third-party endorsers who shape audience attitudes through platforms such as blogs, tweets and the use of other social media (Batra et al., (2022). The term "influencer" originates from marketing, describing individuals hired by brands to connect with target consumers, communicate brand messages, and achieve marketing objectives. According Rosara, Luthfia and Amia. (2020), influencers have the capacity to influence others' opinions due to their position, authority, knowledge and perceived relationships. They utilize social networks to cultivate authentic personal brands and expand their influence, generating "celebrity capital" that businesses can leverage to engage consumers (Gretzel & Sigala, 2018).

Essentially, an influencer is someone who can significantly affect the purchasing decisions of others, typically, through their substantial social media followings. Research indicates that Irish millennial males are less familiar with traditional advertising methods, as they navigate a landscape where the internet and social media play a crucial role in daily activities. These millennial consumers express a wide opinions, ideas, and interests when interacting with social media influencers. This dynamic engagement fosters a deeper relationship between millennials and social media influencers, highlighting the profound interrelationship that exists in the digital age (Rosara, & Luthfia, Amia, (2020).

Product Packaging and purchase Intentions

The competitiveness of business environments has increased the importance of product marketability in meeting customer needs. Packaging has become crucial for sales promotion, as businesses aim to capture and maintain customer interest. Strategic packaging can boost sales and market share while also reducing promotional costs as more customers are drawn to the products. According to Raheem, Ahmad, Visnu & Imamuddin, (2014); Khan, Marium & Waheed, Sidra & Ahmad, Nawaz, (2018), product packaging plays a dual role in promoting a product and protecting it from environmental factors. Consumers often rely on packaging to assess the quality of a product, making product packaging, especially at the point of sale, significantly influence consumers' purchase intentions (Khan, Marium & Waheed, Sidra & Ahmad, Nawaz, 2018). Previous research has highlighted that packaging is crucial in product promotion and in encouraging purchase intentions (Rundh, 2007). The design, content, and color of packaging also play a vital role in shaping consumer purchasing decisions (Raheem, Ahmad, Visnu & Imamuddin, 2014). Overall, packaging is considered a key feature of a product, aiding in its differentiation in the marketplace.

Methodology

This quantitative method and non-probability purposive are employed in the present study. Purposive sampling, also known as judgmental or expert sampling, is a type of nonprobability

sampling. The main objective of purposive sampling is to generate a sample that can reasonably be considered representative of the population (Lavrakas, 2008; Shafira, A., & Mayangsari, L., 2020). The population for this study is from Kubang Pasu, Kedah. Data were collected through an online questionnaire survey to assess purchase intentions for organic personal care products. The measures used to operationalize the constructs included in the investigated models and the questionnaires were mainly adapted from previous studies.

In this study, the dependent variable is purchase intentions, while the independent variables are social media influencers and product packaging (refer to figure 1). The data collection utilized a questionnaire measured on a Likert Scale consisting of 33 items rated on a 5-point scale (1= strongly disagree, 2= disagree, 3= neutral, 4= agree, and 5= strongly agree). Out of the 400 distributed questionnaires, 382 responses were received, resulting in a total of 382 valid responses. The data analyzed using SPSS version 26.

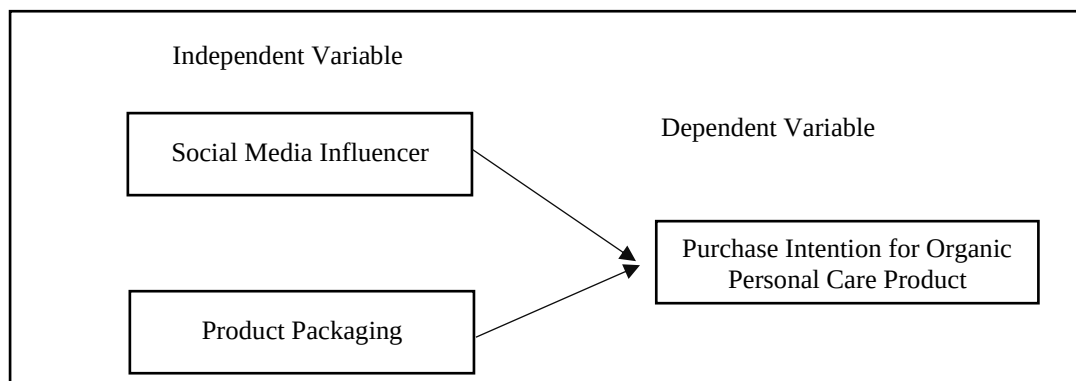


Figure 1: Research Framework

Results and Discussion

Data are analysed using SPSS version 26. For section A, demographic profile, frequency and percentage were used. For descriptive analysis, mean score interpretation was used.

Table 1: Respondent's Profile

Characteristics		Number of Respondent (n=382)	Percentage
Gender	Male	150	39.3
	Female	232	60.7
Race	Malay	226	59.2
	Chinese	94	24.6
	Indian	43	11.3
	Others	11	2.9
Age	18 – 22 years old	226	59.2
	23-27 years old	94	24.6
	28-32 years old	43	11.3
	33-37 years old	11	2.9
	38 – 42 years old	8	2.1
Occupation	Government	140	36.6
	Private	176	46.1
	Others	66	17.3
Income	RM 2,500 and below	180	47.1
	RM2501 – RM3500	95	24.9
	RM3501 – RM 4500	49	12.8
	RM4501 – RM5,500	20	5.2
	RM 5501 and above	38	9.9

A total of 382 respondents were involved in this study, with the majority being female (60.7%) and 39.3% being male. 59.2% of the respondents were aged 18-22 years old. Most of the respondents identified as Malay (59.2%) and worked in the private sector (46.1%). The majority of the respondents had a monthly income of RM 2500 or below.

Reliability Analysis

The reliability coefficients for each item in the questionnaire are presented in Table 2.

Table 2: Reliability Coefficient for Each Section of The Questionnaire

Questionnaire	No of Items	Cronbach's Alpha
Section B:		
Social Media Influencer	11	0.774
Packaging	24	0.721
Section C:		
Purchase Intention	6	0.812

In Table 2, the purchase intention variable exhibits the highest coefficient alpha value of 0.812, reflecting strong internal consistency. The social media influencer variable follows with a coefficient alpha value of 0.774. Although the packaging variable's coefficient alpha value is slightly lower at 0.721, it still indicates an acceptable level of reliability, albeit not as high as the other two variables.

Descriptive Analysis

The descriptive statistics of the variables are presented in Table below. Means interpretation score for this study interpreted based on Moidunny (2009).

Table 3: Interpretation of Mean Score

Mean Score	Interpretation
1.00 -1.80	Very Low
1.81-2.60	Low
2.61 – 3.20	Medium
3.21 – 4.20	High
4.21 – 5.00	Very High

Source: Moidunny (2009)

Based on Table 3, the mean scores are categorized into five criteria. A score of 1.00 to 1.80 indicates a very low level. Scores from 1.81 to 2.60 fall into the low category. Scores between 2.61 and 3.20 are considered medium. Scores from 3.21 to 4.20 are classified as high, and scores from 4.21 to 5.00 are classified as very high.

Table 4: Mean Score Interpretation Table

Variable	Mean	Interpretation of Mean Score
Social Media Influencer	3.82	High
Product Packaging:		
Colour	4.26	
Font style	4.33	
Material	4.23	High
Design	4.31	
Printed information	4.30	
Purchase Intention	4.33	High

The table 4 shows that social media influencers have a significant impact on consumer purchase intentions for personal care products, with an average influence score of 3.82. This finding is in line with earlier studies conducted by Batra, Lipi & Garg, Nandini & Mittal, Ruhee (2022). People tend to follow influencers who share the same interests as them and whom they can relate to. This means that the use of social media influencers is able to change the lines of communication between consumers and companies (Nurhandayani, A., Syarief, R., & Najib, M. (2019). Glucksman (2017) mentioned in their study that marketing communication through social media influencers has proven to significantly change the way a product interacts with customers in a positive manner. Previously, communication was established with only one direction where consumers only received information about the product or services through advertisements displayed on television, magazines, or company websites. Now, consumers can obtain information from both company advertisements and social media influencers.

In terms of product packaging, several elements are crucial for attracting and influencing consumers. The mean scores for packaging components are as follows: color (4.26), font style (4.33), material used (4.23), design (4.31), and printed information (4.30). These findings emphasize the crucial role that packaging plays in shaping consumer appeal and purchase decisions and they clearly show how important it has become for many businesses to use packaging as a vital tool for sales promotion. The findings of this study are consistent with research by Yeo, Sook Fern, Tan, Cheng Ling, Lim, Kah Boon, and Khoo (2020), which also discovered that packaging colour, material, and graphics substantially influence purchase intentions.

Discussion and Conclusions

In this study, the influence of social media influencers and product packaging on consumer purchase intentions for organic personal care products were examined. The findings revealed that both factors have a positive effect on purchase intentions. Social media and the influencer of social media are able to influence consumer behaviour and lifestyle. Thus, in order to increase the demand for organic personal care product, the marketers need to plan the strategy, target audiences and work in collaboration with influencers to create worthy marketing campaign.

Besides, product packaging which the elements such as packaging color and font style plays critical roles in shaping consumer decisions. Therefore, the packaging industry should determine the factors of packaging that can enhance to customers' purchase intention. There are certain limitations for this study. Firstly, the respondents were exclusively from Kubang Pasu, which may limit the generalizability of the findings. Secondly, the study focused solely on organic products. Thus, for future research, this study may explore cross-cultural differences, considering how various cultures impact consumer preferences and purchase intentions. Researchers might also delve into innovating packaging designs, authenticity of social media influencers, emotional appeals and many more. These avenues offer exciting opportunities to advance the understanding of consumer behaviour and decision making in the context of organic personal care products.

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CONSTRUCT VALIDITY OF COMPETENCY DEVELOPMENT AND SPECIFIC NEEDS OF CONTINUOUS PROFESSIONAL DEVELOPMENT INSTRUMENT OF ISLAMIC EDUCATION TEACHER

Azwani Masuwai¹
Hafizhah Zulkifli²
Mohd Isa Hamzah³

¹Faculty of Education, Universiti Kebangsaan Malaysia Malaysia (UKM), Malaysia,
(azwanimasuwai@yahoo.com)

²Faculty of Education, Universiti Kebangsaan Malaysia Malaysia (UKM), Malaysia,
(hafizhah_zulkifli@ukm.edu.my)

³Faculty of Education, Universiti Kebangsaan Malaysia Malaysia (UKM), Malaysia,
(isa_hamzah@ukm.edu.my)

Abstract: *This study aimed to test the construct validity of Continuous Professional Development Instrument – Islamic Education Teacher (CPD-IET) on two category which are Competency Development and Specific Needs. Data collection was carried out on 420 Islamic Education Teacher (IET) from 63 secondary schools in Malaysia. Analysis was carried out by confirmatory factor analysis (CFA) to assess the convergent validity of the constructs. The results proved that all two categories were important for CPD and also proved that CPD-IET is a measuring instrument that tends to be multidimensional and reliable to be used. All model fit indices met the parameters based on the values recommended and all factor loadings of each item of the constructs were above 0.5.*

Keywords: *Construct Validity, Confirmatory Factor Analysis, Continuous Professional Development, Islamic Education Teacher*

Introduction

Professional Development

In an ideal world, the professional development of the teacher is the quality practices and effective characteristics that acts on his own towards achieving excellence. However, teacher professional development activities that emphasize on the development of teachers' competency are still resulted to be at a less than satisfactory level. Teachers were found to still fail to deliver their teaching and learning (TNL) effectively especially involving Higher Order Thinking Skills (HOTS) (Ministry of Education - MoE, 2012). The aim of educators to cultivate students' proficiency in reasoning may encounter challenges in achieving optimal results (Rashed et al., 2017). Teachers' acceptance of the learning characteristics of the 21st century remained at moderate level (Ismail & Ismail, 2018) and Some teachers may lack proficiency in technology and communication, which can make it challenging for them to embrace and adapt to the latest advancements and changes (Ramli & Nor, 2018).

A study by Zabidi et al. (2008), Hassan et al. (2009) and Idris & Hamzah (2013) show that the level of teacher professionalism is still at low and moderate level. Some outstanding teachers may not excel in public speaking but demonstrate exceptional skills in fostering positive relationships and possess strengths in other areas, such as managing classroom dynamics or facilitating discussions (Jasmi & Tamuri, 2015). There occurs an innovation gap among teachers who possess valuable ideas and talents but lack the necessary knowledge or skills to

fully implement them (Muhammad, 2015). Therefore, implementing additional training programs is essential as an alternative to improve teachers' competency and address the various issues that arise within the educational landscape.

The concept of worship in the teaching profession is gradually disappearing. Numerous teachers are undergoing confusion and oversight regarding the fact that the act of educating is fundamentally an expression of reverence, untainted by the pursuit of material wealth, recognition, or status (Noordin & Dan, 2002). In addition, issues related to the low professionalism of religious teachers were also identified. Khareng et al. (2020) found that the quality of AIAS-PNU alumni religious teachers is at a very worrying level. The highest rating for teacher quality items reached a relatively low percentage of good ratings. For example, the highest rating (good) for the moral practice item is 40%, the intellectual skills item (26%), the social and communication item (60%), the knowledge item (55%) and the trust and responsibility item (43%).

Consequently, a decline in faith and respect for teachers' authority within society may emerge (Idris & Hamzah, 2013). Teachers need to be sincere, honest and conscientious in carrying out their duties. Guidance and supervision as well as appreciation of the duties and responsibilities of teachers are required for example the need to attend seminars and workshops, coaching and mentoring, professional learning community (PLC) between colleagues and various other activities to facilitate teacher's goals and focus. As stated by Hussin (2004) that professional development programs will help teachers to think about the moral impact of their actions.

Continuous Professional Development

The implementation of Continuous Professional Development (CPD) under Ministry of Education of Malaysia (MoE) was divided into several stages, namely planning, implementation, recording and awarding of the CPD credit point system. At the planning stage, the teacher Training Operation Plan is an effort by MoE to create a success systematic action of the Public Sector Human Resource Training Policy to ensure that teachers at all levels follow courses based on training needs analysis (Training Needs Analysis - TNA) (MoE, 2016).

TNA is an action that needs to be carried out before teacher plans any CPD activities. This analysis is used as a basis to determine the competencies that need to be developed. Needs analysis can be carried out through self-reflection, competency analysis, feedback from department heads, colleagues and the local community as well as training needs analysis instruments developed. Through self-reflection, teacher re-evaluates taking into account the needs of the service, self and organization in determining the form of training required.

In CPD activities, its implementation has been grouped into three initiatives, namely the Ministry, the organization and the individual. Through the individual CPD initiative, practices to cultivate self-directed learning and provide autonomy for the development of professionalism are driven through self-planning, self-regulating, self-assessment and self-improvement. Ahead of Wave 3 of the implementation of Malaysia Education Blueprint 2013-2025, the CPD activity approach gives priority to independent initiatives compared to organization-based CPD initiatives or ministry. The transformation of CPD practice requires teacher to plan and develop their own capabilities to be in line with Competency Standards and Performance Standards. The teacher professional development strategy has been used as a basis in the construction of the Training Road Map. On each career path, teacher will follow CPD categories which are basic, competency development, specific needs, electives and complements as shown in Table 1.

Table 1: Continuous Professional Development Category

CPD Category	Definition
Basic	Initial activities before or at the start of the teacher career path to master basic competencies and work orientation.
Competency Development	CPD activities to improve generic and functional competencies based on fields and job descriptions, career paths and grades.
Specific Needs	Program to improve teachers' competence in understanding, appreciating and implementing programs that support the implementation of the latest ministry policies or specific requirements
Electives	Programs of one's own choice or according to the needs of the organization related to the field of work for the enrichment and strengthening of competencies to improve the delivery quality of service.
Complements	An exclusive program offered to top leadership and teachers and high-performing school leaders selected for the enrichment and strengthening of expertise and the development of towering personalities.

For this study, the CPD category involved are only for the “Competency Development Category” and “Specific Needs Category”. This category is applicable to all teachers at all levels. While the rest of the next categories are subject to personal choice or according to the needs of the organization. Likewise with the complementary category which is an exclusive program for the highest leadership of teachers only. Competency are Specific Needs category are mandatory for newly appointed teacher with grade DG41. Initial activities at the start of the teacher career path are to master basic competencies and work orientation.

Competency Development is CPD activities to improve generic and functional competencies based on fields and job descriptions, career paths and grades. For this study, CPD activities are more focused on improving generic competence related to communication skills, professional ethics and morals and continuous learning. Whilst, Specific Needs is a program to improve teachers' competence in understanding, appreciating and implementing programs that support the implementation of the latest MoE policy or specific requirements. For this study, CPD activities are more focused on IET's attitude and efforts in participating and implementing specific programs organized by MoE for teachers in schools.

Construct Validity

Most of the variables in psychological research are something we can barely see for real. Variables are latent constructs that are developed to be more operational in an instrument. Measurement of the extent to which operational measures can describe latent constructs is called construct validity (Netemeyer et al., 2003). Construct validity testing is not measured directly but based on evidence in the form of interpreted numbers. Furr and Bacharach (2013) stated that construct validity is influenced by other validity evidence such as content validity which looks at the extent to which the test content is in accordance with the construct to be measured. Content validity is important for ambiguous or complex constructs. The relationship between the construct and the content is known as construct-irrelevant content (Furr & Bacharach, 2013).

The construct validity of a measuring instrument can be tested through factor analysis which is through confirmatory factor analysis (CFA). The researchers already have an overview of the model in terms of the number of factors, factor structure, and the relationship between factors in a psychological instrument. The loading factor is a parameter of item accuracy in measuring the latent construct, while the overall model accuracy (i.e. model fit) is determined

by several model fit indices. Brown (2015) recommends the model fit parameter or goodness of fit (see Table 2).

Table 2: Model Fit Parameter (Goodness of Fit)

Name of Category	Name of Index	Level of Accuracy
Absolute Fit	Root Mean Square Error of Approximation (RMSEA)	<0.08
	Chi Square (Chisq)	P > 0.05
Incremental Fit	Goodness of Fit Index (GFI)	>0.90
	Adjusted Goodness of Fit (AGFI)	>0.90
	Comparative Fit Index (CFI)	>0.90
	Tucker-Lewis Index (TLI)	>0.90
	Normed Fit Index (NFI)	>0.90
Parsimonious Fit	Chi Square/Degree of Freedom (Chisq/df)	<5.0

Objectives of the Study

Due to the importance of CPD for teachers, this study attempts to assess the CPD constructs in CPDI-IET and the items that are included in the construct are based on IET's practices. Specifically, the research objectives of this study are as follows:

- To assess for model fit and reliability of Competency Development and Specific Needs Constructs in CPDI-IET.
- To assess the convergent validity of Competency Development and Specific Needs Constructs in CPDI-IET.
- To finalise the items obtained in Competency Development and Specific Needs Constructs in CPDI-IET.

Methodology

Research Design

This study employed a descriptive research design using the survey method as our interest to obtain the CPD elements. IET responded to the survey to gather information about IET's practice in CPD. In addition, the confirmatory factor analysis (CFA) was used to examine the underlying factor structure of the data. According to Schumacker and Lomax (1996); Wang and Ahmed (2004); and Byrne (2013), CFA is reckoned as a best-known statistical procedure for testing a hypothesized factor structure.

Sample

A total of 420 of IET from 63 secondary schools in Malaysia were selected to be involved in this study. They were selected based on a multistage sampling. Malaysia was divided into five zones which are Northern, Southern, Western, Central/Eastern, Southern and Sabah/Sarawak zones. Only three zones (Northern, Southern & Central/Eastern) selected for the first stage. For the second stage, two states were selected for each zone and for the third stage, two district of each state were selected as shown in Table 3. The instrument was administered to the samples in 63 secondary schools in Malaysia.

Table 3: Multistage Sampling Technique

Sampling (No)	First Stage (Zone)	Second Stage (State)	Third Stage (District)
1	Northern	Perak	Bagan Datuk Manjung
		Pulau Pinang	Seberang Prai Selatan Seberang Prai Tengah
2	Central/Eastern	Selangor	Klang
		Wilayah Persekutuan	Petaling Perdana
		Kuala Lumpur	Bangsar/Pudu
3	Southern	Johor	Sentul
		Negeri Sembilan	Muar
			Segamat
			Seremban
			Port Dickson
Total	3	6	12

Instrumentation

The instrument named Continuous Professionalism Development Instrument – Islamic Education Teacher (CPDI-IET). A set of 5-point Likert scale (ranging from 1 = “Never” and “5 – “Always”) was administered to the samples. The samples were required to response to the 16 items of Competency Development and Specific Needs Construct which may identify the CPD elements that are included based on IET’s practice. Competency Development construct (8 items) with Mean = 4.46 and Standard Deviation = 0.55 and Specific Needs (8 items) with Mean = 4.64 and Standard Deviation = 0.76 that all included in CPDI-IET. Table 4 shows the instrument description.

Table 4: Instrument Description of Basic Construct

Name of Construct	Total of Item	Number of Items	Mean	Standard Deviation
Competency Development	8	162, 163, 164, 165, 166, 167, 168 and 169	4.46	0.55
Specific Needs	8	170, 171, 172, 173, 174, 175, 176 and 177	4.64	0.76

Data Analysis

The measurement model will assess the degree and numbers of indicators representing a measured construct through CFA using Analysis of Moment Structures (AMOS) software. The CFA was tested for model fit, reliability and construct validity of the construct measured. To examine the model fit of this study, the CFA encompassed four indices namely TLI > 0.90, CFI > 0.90, RMSEA < 0.08 and Chisq/df < 5.0 and the factor loading should be above 0.5.

Result and Discussion

Figure 1 shows the measurement model for Continuous Professional Development with three constructs. Basic Construct as a latent variable with twenty observed variables were measured on the instrument with two subconstructs, Setting Goals and Prioritizing Self-Confidence.

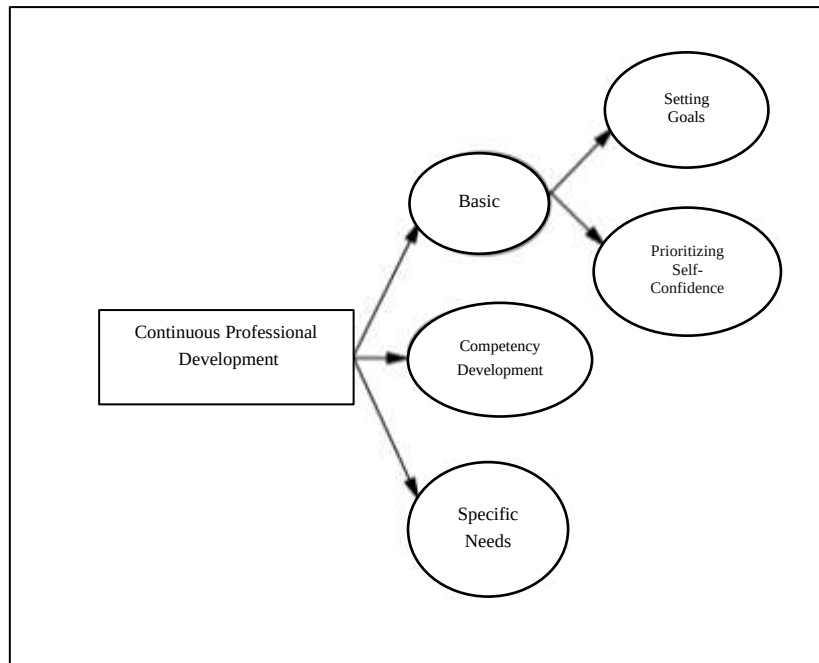


Figure 1: Measurement Model for Continuous Professional Development in CPDI-IET

3.1 Objective 1: To assess for model fit and reliability of Competency Development and Specific Needs Construct in CPDI-IET using CFA

a. Competency Development

Figure 2 presents the initial CFA for Setting Goals Construct which consisted of eight items. The analysis showed poor fit (TLI = 0.93, CFI = 0.95, RMSEA = 0.12 and Chisq/df = 7.90) even though all factor loadings are more than 0.5.

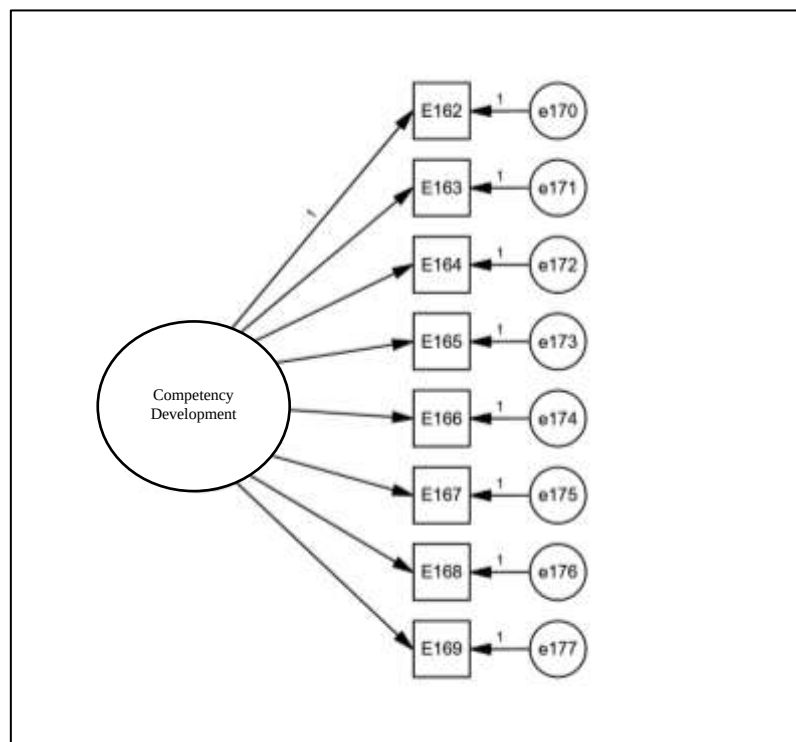


Figure 2: Measurement Model of Competency Development

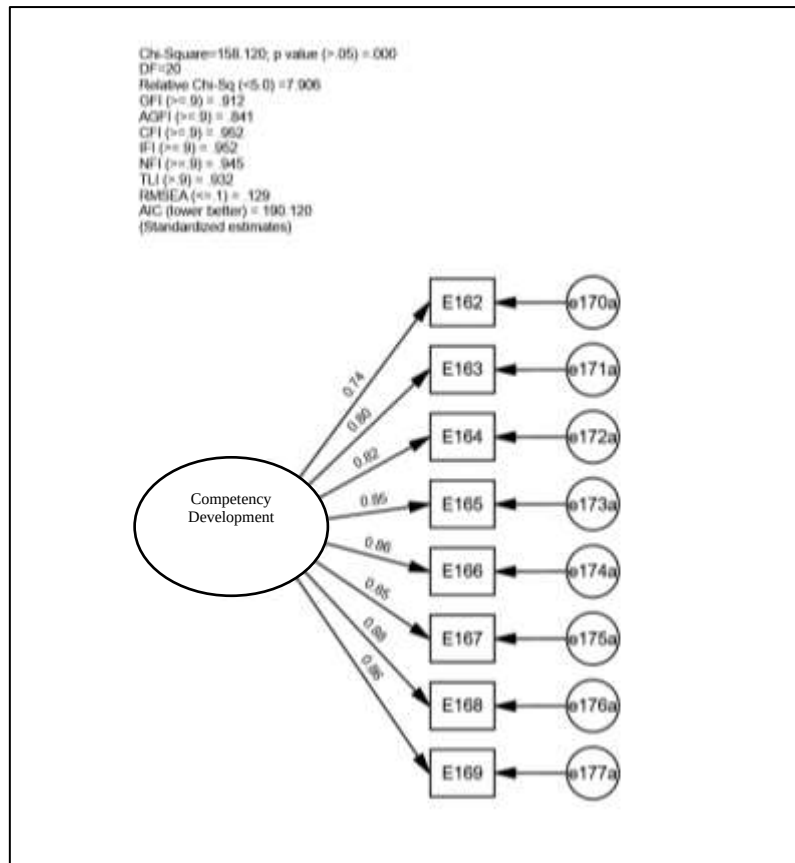


Figure 3: Initial Model of Competency Development

Therefore, the researcher removed items E162 and covariances made between e172a with e173a in order to improve the model fit according to the modification indices (Figure 3). The revised model (Figure 4) with 10 items surpassed all the criterion values (TLI = 0.96, CFI = 0.98, RMSEA = 0.09 and Chisq/df = 4.89) and showed better fit with the data as shown in Table 5.

Table 5. Revised CFA Model Index Values for Competency Development

Indicator	Index Value	Value Suggested	Result
RMSEA	0.097	<0.10	Good
GFI	0.958	>0.90	Good
CFI	0.980	>0.90	Good
TLI	0.967	>0.90	Good
Chisq/df	4.89	<5.00	Good

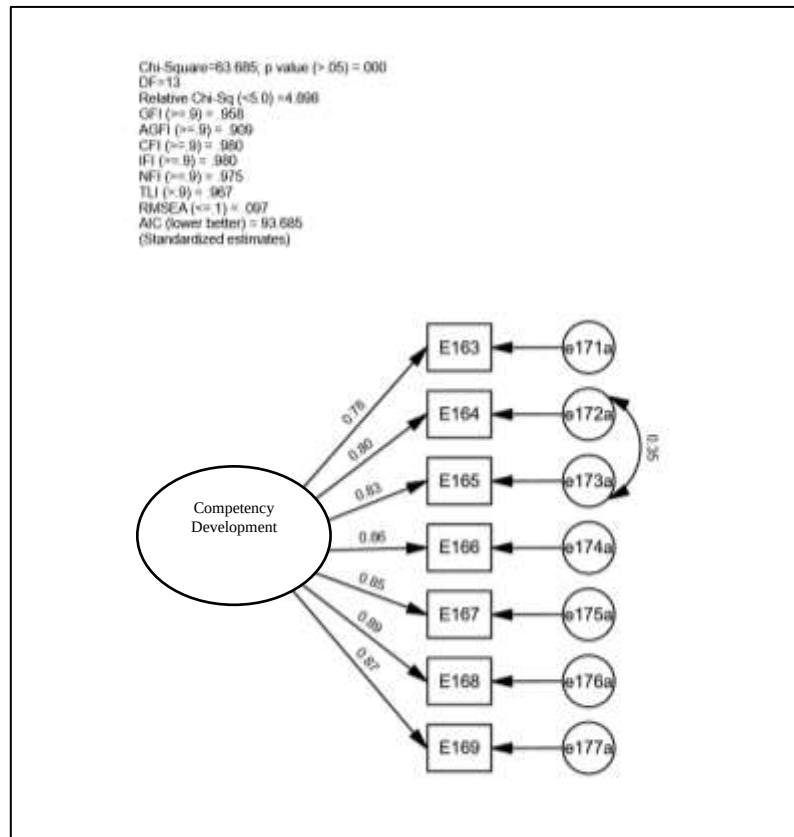


Figure 4: Revised Model of Competency Development

b. Specific Needs

Figure 5 presents the initial CFA for Specific Needs Construct which consisted of eight items. The analysis showed poor fit (TLI = 0.81, CFI = 0.96, RMSEA = 0.18 and Chisq/df = 15.56) even though all factor loadings are more than 0.5.

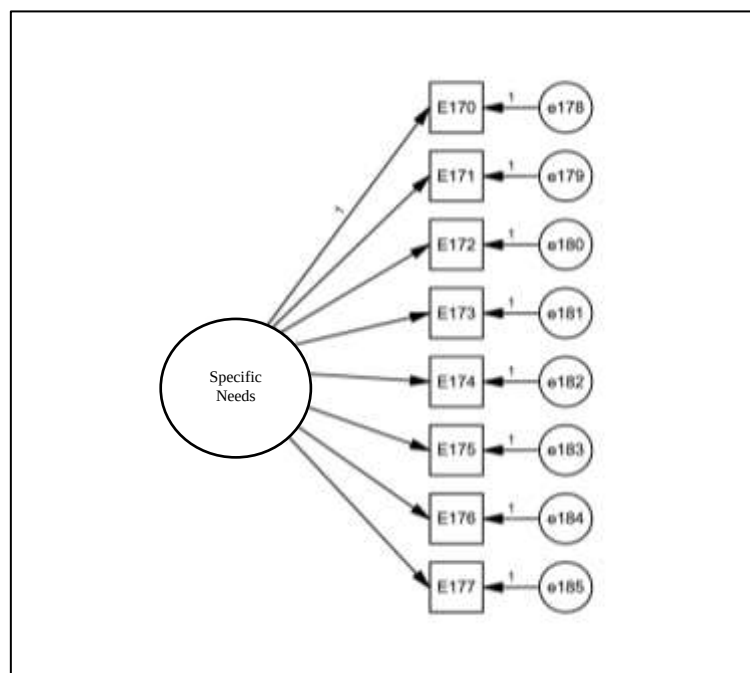


Figure 5: Measurement Model of Specific Needs

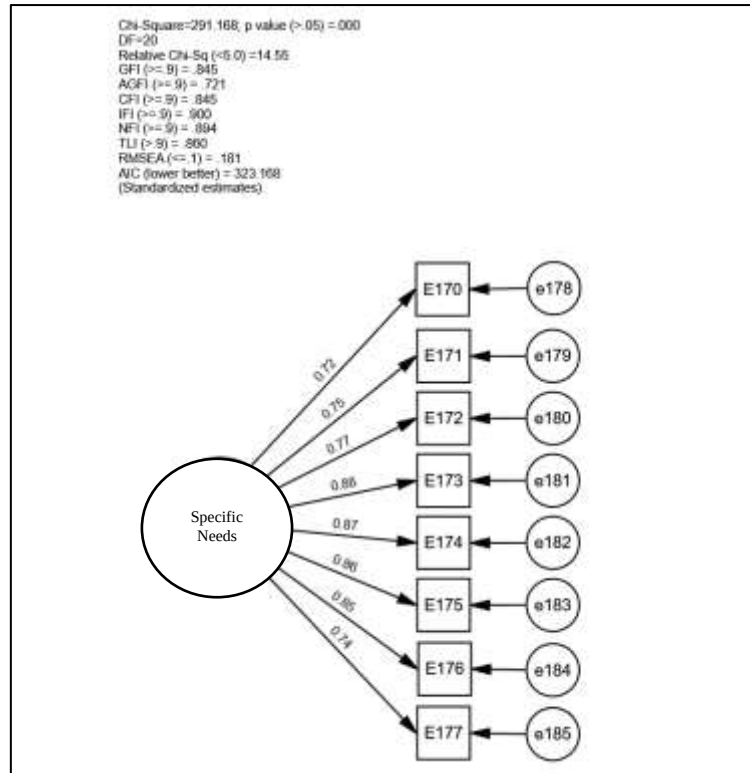


Figure 6: Initial Model of Specific Needs

Therefore, the researcher removed items E170 and E172 one by one and covariances made between e181 with e182 in order to improve the model fit according to the modification indices (Figure 6). The revised model (Figure 7) with six items surpassed all the criterion values (TLI = 0.98, CFI = 0.99, RMSEA = 0.07 and Chisq/df = 3.17) and showed better fit with the data as shown in Table 6.

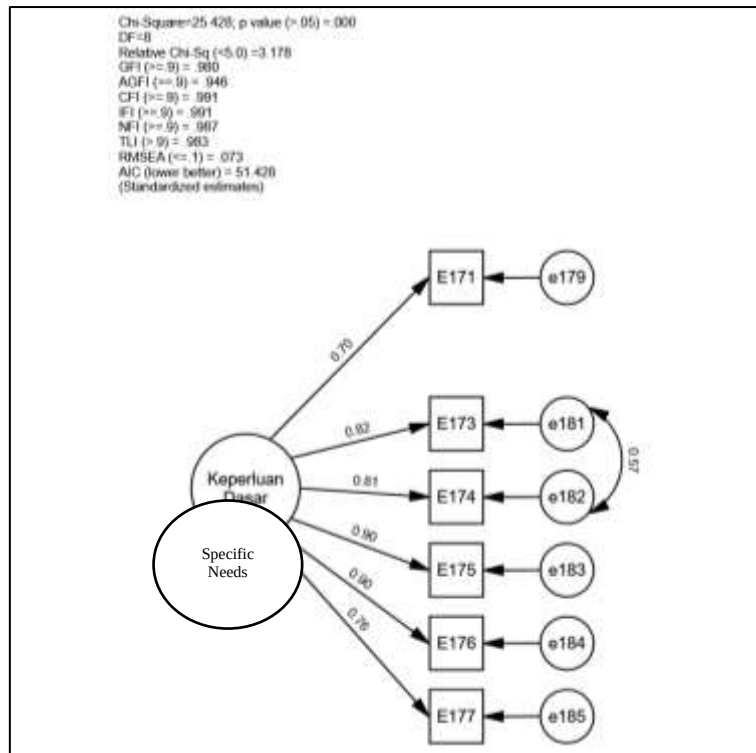


Figure 7: Revised Model of Specific Needs

Table 6: Revised CFA Model Index Values for Specific Needs

Indicator	Index Value	Value Suggested	Result
RMSEA	0.073	<0.10	Good
GFI	0.980	>0.90	Good
CFI	0.991	>0.90	Good
TLI	0.983	>0.90	Good
Chisq/df	3.17	<5.00	Good

3.3 Objective 2: To assess the convergent validity of the construct using CFA

Convergent validity was achieved when all items in a measurement model are statistically significant. The convergent validity could be verified by computing the Average Variance Extracted (AVE) for every construct (Awang, 2014). The AVE measured exceeded 0.5 (0.77 & 0.82) and CR larger than 0.6 (0.94 & 0.92) indicating satisfactory validity and reliability (Fornell & Larcker, 1981; Bryne, 2010).

Furthermore, all items for Competency Development and Specific Needs were achieved high factor loadings which above ≥ 0.5 (Hair et al., 2010) as shown in Table 7 and Table 8. This is the evidence of convergent validity of the construct indicated that the items could measure the same traits.

Table 7: Loading Value, Average Value and Construct Reliability for Competency Development

Item	Factor Loading	Average Value (AVE = > 0.50)	Construct Reliability (CR = > 0.60)
E163	0.781	0.839	0.94
E164	0.798		
E165	0.828		
E166	0.860		
E167	0.853		
E168	0.893		
E169	0.865		

Table 8: Loading Value, Average Value and Construct Reliability for Specific Needs

Item	Factor Loading	Average Value (AVE = > 0.50)	Construct Reliability (CR = > 0.60)
E171	0.697	0.814	0.92
E173	0.816		
E174	0.813		
E175	0.895		
E176	0.901		
E177	0.762		

3.4 Objective 3: To finalise the items obtained in Basic Constructs in CPDI-IET

The analysis has yielded seven items of Competency Development Construct which item E162 was deleted to improve the model fit as shown in Table 9. This items later retained in Basic Constructs for the final instrument of CPDI-IET. Meanwhile, the analysis has yielded six items of Specific Needs Construct which item E170 and E172 were deleted to improve the model fit as shown in Table 10.

Table 9: Final Items for Competency Development Construct

Item	Description
E163	Provide guidance, support and opportunities to colleagues.
E164	Refers to those who are more experienced or more authoritative.
E165	Make discussions among colleagues in making plans and decisions.
E166	Selfless.
E167	Positive thinking.
E168	Be a facilitator for colleagues.
E169	Good at communicating with others.

Table 10: Final Items for Specific Needs Construct

Item	Description
E171	Involvement in the ICT skills improvement program.
E173	Optimize the use of various sources of information to improve my knowledge.
E174	Optimize the use of various sources of information to improve my skills.
E175	Actively engage in scientific activities.
E176	Looking for opportunities to improve self-efficacy by attending related courses.
E177	Learn and increase knowledge independently.

Discussion

The item E162 [*Accept assignments with a positive attitude (wanting to try)*] of Competency Development Construct which was deleted because some assignment may not relate with the teaching purposes and the task given more on specific program. Therefore, the item needs to be dropped in accordance with the proposed given. Likewise with items E170 [*Participate in programs that involve educational policies*] and E172 [*Follow in-service support training (Example: Etiquette and Protocol, Camping Course, Supervisor Leadership Course)*] of Specific Needs Construct which were also dropped because these two items are more focused on the teacher's specific position in school that not included all teachers. As an example, the Camping Course is specific for uniform body teacher to take part as an adviser of the unit.

Goodness of fit indices of CFA indicated a good fit of the collected data and the model. This indicated that the Competency Development and Specific Needs Constructs was acceptable as the substantial element in CPD which is based on the requirement (Hair, 2010). Significantly, Competency Development and Specific Needs Constructs as part of CPD that cannot be neglected. Nevertheless, the results also shown the empirical evidence of the reliability and validity of CPDI-IET.

Conclusion

This study provides an indication for the evidence of the important of Competency Development and Specific Needs as the elements in CPD that based on educational improvement on grounded empirical evidence in the context of actual practice. Based on the findings, teachers might be able to embed Competency Development and Specific Needs items in daily practice and also assist educational authorities to plan CPD program for teachers, particularly by taking into consideration. The present study can be extended to different settings and sample in order to achieve a better measurement model. The validation of the CDPI-IET is anticipated more upcoming related issues will be conducted in the future in order to facilitate professional development practices. However, by considering triangulation in the current methodology, it gives more support in terms of measurement and evaluation of the instrument. This study is vital in Malaysian education since the scope of the teaching practices has changed which align with the technology development and the new educational trend.

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EVALUATING EFFECTIVENESS OF MARITAL COUNSELLING IN RESOLVING MARITAL DISCORDS

Hoi Nga Ng^{1*}0000-0003-0899-8744
Kam Weng Boey^{1,2}0000-0002-9127-6318

^{1*}School of Humanities and Languages, Saint Francis University (SFU), Hong Kong
(hnnng@sfu.edu.hk)

²Department of Social Work & Social Administration, The University of Hong Kong (HKU)
Hong Kong (kwboey@hku.hk)

Abstract: In Hong Kong, the number of divorce decrees granted increased substantially from 6,295 in 1991 to 21,157 in 2019. the crude divorce rate was 2.82 per 1,000 population in 2019, which is far higher than the 1.11 per 1,000 in 1991. In view of this undesirable trend, A social service agency providing marital counselling in Hong Kong has fortified its aims to rebuild family relationships and enhance family members' resilience to face the life turmoil with strength and dignity. **Objectives:** This study evaluate the effectiveness of marital counselling of the social service agency and to develop a brief set of measures for monitoring and evaluating the efficacy of marital counselling. **Methods:** A total of 162 clients of nine counselling centres of the social agency participated in this study. Participation was voluntary and anonymous. A questionnaire with items of sociodemographic characteristics, referral information, and outcome measures was designed for data collection. It was administered after informed consent was solicited from the clients. **Results:** Data gathered at pre- and post-counselling showed that clients made significant progress in dyadic adjustment, marital satisfaction, and emotional intimacy. Depression and marital distress were significantly reduced. A follow-up assessment confirmed that clients were able to maintain their positive change three months after post-counselling evaluation. A set of four brief scales with good psychometric properties and efficiency was selected for monitoring and evaluating of counselling efficacy. **Conclusions:** The marital counselling provided by the social service agency was effective in resolving couples' conflicts and promoting marital satisfaction. A set of brief outcome measures was developed for the monitory and evaluation of marital counselling.

Keywords: Evaluation Research, Marital Counselling, Marital Discords, Marital Satisfaction

Introduction

A harmonious marriage with close family is like a safe harbour where individuals find shelter in times of turmoil. Family bonds not only cultivate trust and hope in the world, but also foster confidence in the individuals. Nonetheless, families in Hong Kong are under great stress nowadays.

Domestic violence increased drastically over recent years. In the year of 2020 there were 3,541 cases of violence against children and spouses (940 cases of violence against children, 2601 cases against spouses and couples). In 2021 the number increases to 4,082 cases of violence against children and spouse (1367 cases against children and 2715 against spouses and couples) (Federation of Women Centre, 2023). According to the Census and Statistics Department (2022) of Hong Kong, the number of divorce decrees granted increased substantially from 6,295 in 1991 to 21,157 in 2019; the crude divorce rate was 2.82 per 1,000 population in 2019, which is far higher than the 1.11 per 1,000 in 1991.

In the United States, 40%-50% of first marriages end in divorce (Kreider & Ellis, [2011](#)). In recent years, there is an increasing divorce rate of more than 50% in most developed countries (Schofield, 2012). Across countries for which data are available, divorce rates increased from the 1970s to the beginning of this century and divorce has become commonplace even in countries where it once was rarely encountered (Doherty et al., [2021](#)).

Impacts of Marital Discords

The adverse impacts of relationship distress on emotional and physical well-being of adult partners and their children have been reported. In a survey in the United States, the most frequently cited causes of acute emotional distress were couple relationship problems (Swindle et al., [2000](#)). Partners in distressed relationships are significantly more likely to have a mood disorder, anxiety disorder, substance use disorder, or poor physical health (McShall & Johnson, [2015](#)). Moreover, couple distress has been related to a wide range of deleterious effects on children, including mental and physical health problems, poor academic performance, and a variety of other concerns (Bernet et al., [2016](#)).

In a meta-analysis of 70 studies (Amato, 2001), it was reported that children of divorce were significantly lower in academic performance, more conduct problems, greater psychological maladjustment, and more problems in social development. They have a higher incidence of mental disorders, risky sexual behaviour, and problems in drug and alcohol. The negative impacts of relationship discords include isolation from supportive social networks, reduced income, and poor quality of life for both adults and children.

Despite legal protection and acceptance of divorce from the society, longitudinal studies reported that adverse impacts on children's psychological health have not been improved (Gähler et al., 2013). The adverse outcomes were mainly due to parental conflicts in parenting after the discord.

In couples staying together, relationship discords are also likely to cause negative outcomes (Whisman & Uebelacker, 2006). There is a need to evaluate to what extent relationship discords can be resolved and marital satisfaction can be promoted by marital counselling. A social service agency providing marital counselling in Hong Kong has reinforced its aims to rebuild family relationships and to enhance resilience to cope with life stresses.

The Nature of Marital Counselling

There are several therapeutic modalities in marital counselling, including cognitive-behavioural couple therapy, integrative behavioral couple therapy, and emotionally focused couple therapy, etc. Although each modality has its own perspective and emphases, most modalities acknowledge a biopsychosocial foundation of relationships problems, including diverse aspects of family history, with cognitive, affective, and behavioural components of inner psychological processes.

Each of the intervention modalities has sufficient evidence to support its efficacy in the treatment of marital discords (Lebow & Snyder, 2023). Previous studies have found significant improvements in marital satisfaction by comparing pre- and post-treatment and by assessing long term outcomes following counselling (Cloutier et al., 2002).

Counsellors of the social service agency where this study was conducted have their preferred approach to marital counselling. However, they did not always restrict themselves to a single type of approach. The approach that counsellors applied is to a large extent depends on clients'

presenting problems, though emotion-focused therapy was the most common modality adopted. Other common approaches include integrative systemic modality, cognitive-behavioural therapy, and systemic family therapy. Post hoc analysis of data gathered from this study revealed no significant differences in outcome effect size among different counselling modalities. This finding was consistent with a meta-analysis review of Shadish and Baldwin (2005) who pointed out that behavioral and nonbehavioral marital counselling have similar rates of improvements.

Studies of meta-analysis reported that 70% to 80% of clients receiving marital therapy showed better relationship satisfaction than those who did not attended marital therapy. Improvement rate was higher than other psychosocial and pharmacological interventions for individual with mental health disorders (Lebow & Snyder, 2023). Nonetheless, effectiveness of interventions not closely monitored were somewhat lower than those with well-control trials (Bradbury & Bodenmann, 2020).

Marital satisfaction has been the most common outcome variable in the evaluations of marital counselling. The Dyadic Adjustment Scale (DAS) developed by Spainer (1976) was frequently used to assess outcomes of marital counselling (Wright et al., 2007). Other aspects of relationship discords, e.g., marital distress or depressive tendency has not been comprehensively investigated.

Objective of the Study

This study evaluated the effectiveness of the counselling services provided by the agency in resolving marital discords and promoting marital satisfaction. It also aimed to develop a brief set of measures to monitor and evaluate outcomes of marital counselling.

Materials and Methods

Design of the Study

A repeated measures design with a follow-up assessment after post-counselling evaluation was adopted in this study (Figure 1). The design consisted of four phases.

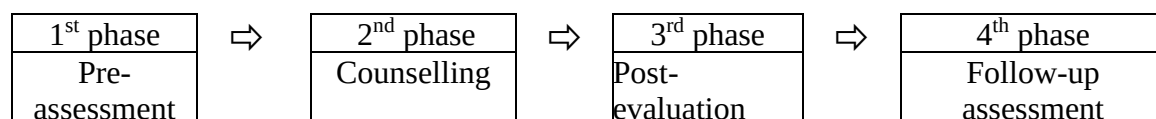


Figure 1. The Four Phases of Repeated Measures Design

Data collection were conducted at the 1st phase (pre-counselling assessment), 3rd phase (post-counselling evaluation), and 4th phase (follow-up assessment) of the counselling. It was envisaged that significant progress would occur at 4th to 6th session of the counselling. Hence, post-counselling evaluation was arranged at 4th to 6th session. Follow-up assessment was originally scheduled two months after post-counselling evaluation. For various practical constrains, follow-up was conducted on an average of three months after post-counselling evaluation.

Issues on Control Group

Literature reviews show repeatedly that waiting list control group couples do not show any remission of marital discords. Couple relationships either remain unchanged or deteriorated further without intervention. Therefore, the continued use of control groups in evaluation research of marital counselling is considered unethical and inhumane (Baucom et al., 2003; Roddy et al., 2020).

In this study, a method of normative comparison was adopted instead of a waiting list control group. That is, outcomes of the marital counselling were compared with normative data of outcome measures (Kendall & Sheldrick, 2000) and by applying Jacobson's Reliable Change Index (Jacobson et al., 1991), meaningful clinical changes would be estimated and evidently demonstrated.

Questionnaire Design

A questionnaire comprising three sections was designed for data collection. Section I included items on sociodemographic characteristics (i.e., age, gender, education, religious affiliation, employment status, etc.). Section II gathered data on referral information (sources of referral, nature of problems, duration of problem, etc.). Section III contained outcome measures which are described in the following.

Measuring Instruments

Previous research indicated that clients who seek help from family service agency primarily to resolve their marital conflicts and to reduce their marital distress. The *Dyadic Adjustment Scale* was a main outcome measure of marital counselling. However, many clients also have issues on emotional and sexual intimacy and they show symptoms of depression (Whisman & Beach, 2009). Therefore, besides Dyadic Adjustment Scale or marital satisfaction, this study also included measure of emotional and sexual intimacy, marital distress, and depression to evaluate the effectiveness of marital counselling.

(1) Dyadic Adjustment Scale (DAS)

The DAS comprising 32 items was developed by Spanier (1976). It consists of the following four subscales.

- Dyadic Cohesion (5 items, e.g., "Engage in outside interests together?")
- Dyadic Consensus (13 items, e.g., "Ways of dealing with parents or in-laws")
- Dyadic Satisfaction (10 items, e.g., "Do you ever regret that you married?")
- Dyadic Affectional Expression (4 items, e.g., "Calmly discuss something?").

Respondents are asked to answer the items on a 2-point scale (1 = No, 2 = Yes), 5-point scale (1 = never, 5 = everyday), or 6-point scale (1 = always disagree, 6 = always agree). High scores represent satisfaction of marital relationship. The cutoff score varies from 92 to 107 or from 95 to 105 (Graham et al., 2006). Carey et al. (1993) found that Cronbach's α of the total scale was .95, subscale Cronbach's α ranged from .70 to .91. DAS has been validated in Hong Kong and normative data on its four subscales are available for comparative analysis (Shek, 1994).

(2) Kansas Marital Satisfaction Scale (KMS)

KMS is a 3-item scale of marital satisfaction (Schumm et al., 1986). Respondents are asked to answer the items (e.g., "How satisfied are you with your marriage") on a 7-point scale (1=extremely dissatisfied, 7=extremely satisfied). KMS was cross-validated in Hong Kong and Beijing (Li & Chen, 2002), with Cronbach's α = .96 and .95 respectively.

(3) Emotional and Sexual Intimacy Scale (EIS and SIS)

The EIS and SIS were adapted from the intimacy inventory of Schaefer and Olson (1981). EIS measures mutual self-disclosure and sharing of each other's feelings (e.g., my partner can readily understand my hurts and joys), whereas items of the SIS assess intimacy in sexual relationships (e.g., "I am able to tell my partner when I want sexual intercourse"). Both EIS

and *SIS* consists of 6 items which are answered on a 4-point scale (1=strongly disagree, 4=strongly agree). Higher scores on *EIS* and *SIS* indicate greater intimacy

Schaefer and Olson (1981) reported satisfactory reliability of *EIS* and *SIS* (Cronbach's $\alpha = .76$ and $.77$ respectively). Relationship of *EIS* and *SIS* with marital satisfaction were $.47$ and $.34$ respectively ($p < .01$) and with marital distress, $-.35$ and $-.15$, respectively ($p < .01$); demonstrating construct validity of the two scales.

EIS and *SIS* are newly adapted for this study and their reliability and validity would be empirically examined in a community sample ($N = 120$) as presented in a later section.

(4) Marital Distress Scale (MDS)

The *MDS* which consists of five items is a measure of marital distress (Whisman & Beach, 2009). Respondents are asked to answer the items (e.g., "There are some serious difficulties in our relationship") on a 4-point scale (1=strongly disagree, 4=strongly agree). Higher scores indicate greater marital distress. Psychometric properties of the scale remain to be confirmed.

(5) 10-item Center for epidemiologic Studies Depression Scale (CESD-10)

CESD-10 is a measure of depressive tendency (Radloff, 1977). Respondents are asked to indicate the frequency of occurrence of each item (e.g., I felt that everything I did was an effort) for the past weeks on a 4-point scale: rarely (less than 1 day), sometimes (1-2 days), occasionally (3-4 days), and most of the time (5-7 days). Higher scores indicate greater depressive tendency.

CESD-10 has been cross-validated in Hong Kong (Boey, 1999). It attained satisfactory reliability (Cronbach's $\alpha = .79$) and its construct validity was demonstrated by its negative relationship with life satisfaction ($-.52$, $p < .001$) and self-rated health ($-.39$, $p < .001$).

Reliability and Validity of Outcome Measures

A preliminary cross-validation study on a community sample ($N = 120$) showed that all the outcome measures were of good psychometric properties. The outcome measures were re-evaluated in this study using data gathered at baseline. Re-evaluation of reliability was conducted as reliability may vary among sample with different characteristics. Data gathered as post counselling evaluation were not used for the re-evaluation to avoid possible effects of marital counselling on reliability. It may be noted that Cronbach's α of the Dyadic Affectional Expression Subscale was merely acceptable (see Table 1).

As *EIS*, *SIS*, and *MDS* have not been validated in the local setting, construct validity of these measures was examined via their correlations with *CESD-10*, Dyadic Satisfaction Scale, and Kansas Marital Satisfaction Scale (*KMS*). It was expected that both *EIS* and *SIS* would correlate positively with dyadic satisfaction Scale and *KMS* but negatively with *CESD-10*. Relationships of *MDS* with criterion measures were expected to be reversed of those shown by *EIS* and *SIS*. As Table 2 shown, *EIS*, *SIS*, and *MDS* were significantly related to the criterion measures in the expected direction, which provided evidence for construct validity of the three measures.

Table 1. Reliability of Internal Consistency and Test-retest

	No. of item	Cronbach's α		Test-retest
		$N = 120^a$	$N = 162^b$	$N = 46^a$
Dyadic Adjustment Scale	32	.96	.94	.82
Cohesion	5	.89	.89	.79
Consensus	13	.89	.83	.79
Satisfaction	10	.90	.86	.93
Affectional expression	4	.69	.63	.72
Kansas Marital Satisfaction Scale	3	.96	.95	.67
Emotional Intimacy Scale	6	.88	.92	.88
Sexual Intimacy Scale	6	.81	.73	.90
Marital Distress Scale	5	.83	.81	.88
CESD-10	10	.89	.75	.89

Note. ^aCommunity sample, ^bClinical sample

Table 2. Relationship of EIS, SIS, and MDS with Criterion Measures

	CESD-10	Dyadic Satisfaction Scale	KMS
Community sample			
Emotional Intimacy Scale	-.46**	.31**	.77**
Sexual Intimacy Scale	-.53**	.39**	.63**
Marital Distress Scale	.50**	-.20*	-.74**
Clinical sample			
Emotional Intimacy Scale	-.46**	.73**	.21*
Sexual Intimacy Scale	-.27**	.46**	.47**
Marital Distress Scale	.42**	-.75**	-.25*

* $p < .05$, ** $p < .01$

Data Collection Procedure

Nine counselling centres of a social agency in different districts of Hong Kong participated in this study. A total of 69 social workers well-trained in marital counselling were assigned to conduct the counselling sessions and collect data from the clients.

Clients who attended marital counselling of the agency were invited to complete the questionnaire at baseline measurement. They were explained of the purpose and significance of the study. Participation is voluntary and anonymous. Clients were assured that the data are kept strictly confidential. Upon their acceptance of the invitation, a consent form is signed before the commencement of data collection.

Data on post-counselling evaluation were gathered at the 4th to 6th session of the counselling. Follow-up assessment was conducted on an average of three months after the post-counselling evaluation. Data were carefully checked before statistically analysis. This study was approved by the Research and Ethics Committee of the university to which the authors are affiliated.

Results and Discussions

Sociodemographic Characteristics of Clients

A total of 162 clients completed questionnaires at baseline assessment and post-counselling evaluation. Table 3 shows the sociodemographic characteristics of these clients.

Table 3. Sociodemographic Characteristics of Clients (N = 162)

		Frequency	%
Gender:	Male	75	46.5
	Female	86	53.4
Education:	Primary	11	6.9
	Secondary	74	46.3
	Post-secondary or college	20	12.5
	University or above	55	34.3
Age:	20-29	14	8.8
	30-39	74	46.5
	40-49	38	23.9
	50-59	27	17.0
	≥ 60	6	3.8
Religious affiliation:	None	96	61.5
	Catholics	11	7.1
	Christians	35	22.4
	Buddhism/Taoism	14	8.9
Employment status:	employed	8	6.0
	employed	83	62.4
	Full-time family career	37	27.8
	Retired	5	3.8
Monthly income:	< 30,000	77	49.0
	30,000 – 60,000	52	33.1
	> 60,000	28	17.8

Note. Sample size of each category of characteristics varies because of missing data

Most of the clients (70.4%) attending the marital counselling were adults aged 30 years to 49 years, with around one-fifth of them aged 50 or over. A great majority of them were employed and most of them reported no religious affiliation. About half of them belonged to the lower income group.

Referral Information

Most of the clients (77.6%) were self-referral. A small proportion (4.5%) were referred by the Social Welfare Department of Hong Kong, 3.2% were referred by centres of family services. Other sources of referral include relatives, social workers, polices, physician, maternal health clinics, etc.

The main problems (67.4%) were relationship discords or conflicts between spouses, followed by emotional problems (7.8%), 6.4% of the clients had personal emotional problems on top of marital discords. Other presenting problems included sexual dysfunction (4.3%), financial difficulty (4.3%), parenting problems (2.8%), or a combination of the above problems.

Duration of problems varied from four weeks to 12 years, with a median duration of one year. Less than half (46.9%) of the clients with problems of less than a year took six to twelve sessions to overcome their difficulties. Those with longer duration (e.g., more than one year) took more sessions to resolve their problems.

Effectiveness of Marital Counselling

Except for sexual intimacy, all outcome measures demonstrated that the marital counselling was effective in promoting marital well-being, with effective size (Cohen's *d*) varied from small to near medium. Marital counselling not only promoted marital satisfaction, but also significantly reduced marital distress and depression (see Table 4).

Table 4. Positive Changes of Marital Well-being after Counselling

	Pre- counselling	Post- counselling	t-values	Cohen's <i>d</i>	Relative efficiency ^a
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)			
Dyadic Adjustment Scale	88.3 (21.4)	96.3 (22.0)	5.77***	0.37	0.81
Cohesion	11.2 (4.5)	12.5 (4.5)	4.24***	0.29	0.60
Consensus	39.0 (10.3)	42.1 (10.0)	5.07***	0.30	0.72
Satisfaction	30.4 (8.1)	33.3 (7.9)	6.66***	0.37	0.94
Affectional expression	6.2 (2.4)	7.0 (2.4)	3.80**	0.26	0.54
Kansas Marital Satisfaction	12.0 (4.3)	13.6 (4.1)	5.44***	0.38	0.77
Emotional intimacy	14.2 (3.4)	15.6 (3.4)	7.08***	0.41	1.00
Sexual intimacy	16.3 (2.8)	16.7 (3.0)	1.80	0.12	0.25
Marital distress	13.9 (2.9)	12.5 (2.9)	6.91***	0.47	0.98
CESD-10	12.4 (7.0)	9.5 (6.1)	5.84***	0.44	0.82

****p* < .001, ^asee Vickery et al. (1997).

As previously mentioned, post-counselling data were gathered at the 4th to 6th session. It was believed that greater effect size is likely if post-counselling evaluation was conducted towards the end of the counselling. Hence the significant effects observed in post-counselling evaluation were considered leaning towards a conservative estimate.

A separate analysis of the demographic data revealed that clients with lower education, married once, and with children tended to attain better counselling outcomes. The data revealed that these clients tended to show more serious problems at baseline measurement. In order to control for the differences shown at baseline measurement, ANCOVA was performed. The effects remained significant even after differences at baselines measurements were statistically controlled for. Future studies may need to examine systematically the relationships of demographic characteristics with intervention outcome, results of which should help increase the efficacy of counselling process.

Change of Individual Clients

Table 4 in previous section indicates the changes of well-being of the whole group of clients after receiving counselling services. It does not show statistics on changes in individual clients. To reflect these changes, Reliable Change Index (RCI) was applied. The calculation of RCI takes into consideration of standard error of measurement (see Jacobson et al., 1991 for details

of calculation). RCI indicates the significant level of changes of individual clients. Change scores that achieve an RCI greater than 1.96 are considered reliable.

RCI indicates the significant level of the change scores. We still need to determine how meaningful the significant change scores are. If the change scores are within the normal range of the outcome measure, they would be considered meaningful. This method is termed normative comparison (Kendall & Sheldrick, 2000). With a significant RCI and a change score within normal range, the change is classified as “recovery”; with a significant RCI, but a change score failed to reach the normal range of well-being, the client’s status is considered “improved” but not recovered. A client with a change score that achieves a positive value of RCI but smaller than 1.96 (e.g., 1.78 or 0.45) is making progress. A negative RCI not exceeding -1.96 (e.g., -1.45 or -0.56) is classified as regressed. A negative RCI over -1.96 (e.g., -1.98 or -2.12) would be categorized as deterioration. Table 5 presents the results of integrating RCI and normative comparison.

Table 5. Results of RCI and Normative Comparison

	Rcv	Iprv	Prgrs	Rgrs	NC	Detr
	%	%	%	%	%	%
DAS-28	17.3	8.3	42.9	25.6	2.3	3.8
Cohesion	8.2	6.9	44.0	26.4	11.3	3.1
Consensus	12.3	4.8	45.9	24.7	8.9	3.4
Satisfaction	11.7	0.7	55.9	23.4	7.6	0.7
Kansas Marital Satisfaction	25.3	8.2	26.6	14.6	14.6	10.8
Emotional intimacy	14.2	3.9	46.5	18.1	15.5	1.9
Sexual intimacy	3.2	0.6	45.2	29.3	17.8	3.8
Marital distress	15.6	5.2	37.7	18.8	20.8	1.9
CESD-10	7.4	2.0	58.4	26.8	4.7	0.7

Note. Rcv = Recovered, Iprv = Improved, Prgrs = Progressed, Rgrs = Regressed, NC = No change
Detr = Deteriorated

Follow-up Assessment

For various practical reasons (e.g., clients requested a change of time originally arranged, clients travelling overseas, hospitalization, etc.) interval of follow-up assessment varied slightly, with an average of three months after post-counselling evaluation. Follow-up data were not available from 30% of the clients because of unforeseen circumstances, e.g., change of address without notification, hospitalization, family moved to other districts, etc. Only 113 clients completed the follow-up assessments.

No significant difference in outcome measures between post-counselling evaluation and follow-up assessment was found, indicating that clients were able to maintain their positive change over an average period of three months. Though the differences between post-counselling and follow-up did not reach the level of statistical significance, there is a consistent tendency for clients to report better well-being at follow-up assessment.

Table 6. Comparison of Post-counselling and Follow-up Assessment

	Cut-off	Post-counselling (N = 162)		Follow-up (N = 113)	
		M	SD	M	SD
DAS -28	84/85	88.6	20.6	90.7	20.3
Cohesion	15/16	12.5	4.5	12.7	4.6
Consensus	39/40	42.1	10.0	44.2	10.0
Satisfaction	30/31	33.3	7.9	33.5	8.4
Kansas Marital Satisfaction	12/13	13.6	4.1	13.9	4.1
Emotional intimacy	14/15	15.6	3.4	15.8	3.5
Sexual intimacy	14/15	16.7	3.0	16.9	3.0
Marital distress	13/12	12.5	2.9	12.3	3.1
CESD-10	10/ 9	9.5	6.1	9.0	5.5

Note. DAS-28 = four items of Dyadic affective expression were excluded

It is likely that the problem-solving skills and effective coping strategies clients learned in the marital counselling may have rendered them resilience to cope with life stresses. It would be interesting to know if clients would be able to maintain their positive change at a second follow-up assessment scheduled at a year later even though many extraneous variable would be at play.

A Brief Set of Outcome Measure

Comparing the paired t-values of Table 4 that shows the changes brought about by marital counselling, relative efficiency of outcome measures was estimated (see Vickery et al., 1997). The following are four outcome measures with high levels of efficiency.

- (a) Emotional Intimacy Scale (6 items)
- (b) Dyadic Satisfaction Scale (10 items)
- (c) Marital Distress Scale (5 items)
- (d) CESD-10 (10 items)

These four measures constitute the most efficient tools in this study, which can be used for future evaluation of effectiveness of marital counselling. The four measures (with good psychometric properties) take only 5-6 minutes to completed. It consists of 31 items, half of which measure positive well-being (emotional intimacy and dyadic satisfaction), and the other half assess negative well-being (marital distress and depression). In other words, this brief set of measures corresponds with the distinctive features of positive affect and negative affect (Larsen, 2009) and also captures the essence of the dual-factor model of mental health (Antaramian et al., 2010; Magalhães, 2024).

Conclusions

Data on 162 clients demonstrated the effectiveness of marital counselling provided by a social agency in Hong Kong. A follow-up assessment conducted on average three months after post-counselling confirmed that the clients were able to maintain their positive change brought about by marital counselling. Cross-validated outcome measures, including positive well-being and negative well-being were used to evaluate the effectiveness of marital counselling. Based on relative efficiency, a brief set of measuring tools was selected for the monitory and evaluation of marital counselling.

Limitations

This study was conducted in the normal operation of the nine counselling centres, which was expected to enhance generalizability of findings. Hence, it did not exert strict experimental control over the variables or the allocation of clients in the present study. Working experience of counsellors varied. Data on post-counselling were gathered at the 4th to 6th session of the counselling depending on clients' progress. Interval between follow-up and post-counselling evaluation varied slightly because of practical constraints. Not all clients who completed post-counselling evaluation attended the follow-up assessment.

Outcome data were gathered through self-report inventory. Though client completed the questionnaire voluntarily and anonymously, the effects of social desirability and self-presentation concern on respondents' answers to the outcome measures cannot be totally circumscribed.

While the issues of limitation may need to be addressed in future studies, cautions should be exercised when interpreting the results of this study.

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FROM VISITOR REVIEWS TO DIGITAL SOLUTIONS: ENHANCING ENGAGEMENT AT JUGRA HERITAGE SITES

Mazarina Md Zain¹
Nurhaya Baniyamin²
Illyani Ibrahim³
Khalilah Zakaria⁴

^{1,2,3,4} Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia (IIUM), Malaysia,

¹mazarinamdzain@gmail.com

²nurhaya@iium.edu.my

³illyani_i@iium.edu.my

⁴khalilah@iium.edu.my

Abstract: *Enhancing visitor engagement at Jugra Heritage Sites through Extended Reality (XR) technologies enriches experiences, fosters connections with Malaysia's heritage, and meets contemporary tourism trends, boosting satisfaction and encouraging repeat visits. This study explores how digital innovations can improve visitor engagement at Jugra heritage sites based on visitor reviews. The research addresses three main problems: inadequate exhibit information, lack of interactive and engaging content, and the negative impact on visitors' sense of place to analyse visitor reviews and discover the themes and patterns of engagement and information accessibility. This study used Google Reviews for Bandar Palace in Jugra, Selangor, Malaysia, as data through web scraping tools from 2019 to 2024. Researchers chose these guests' reviews using relevant keywords such as review text, posting year, and star rating. Atlas.ti software was employed to analyse the data and identify the main themes observed in Bandar Palace, which are about the sense of place. This analysis identified five major themes: historical significance, architectural aesthetics, visitor experience, maintenance and preservation practices, and cultural and educational value. Therefore, digital innovations can be applied in Istana Bandar exhibitions for it to become a cultural and educational heritage site. The innovation will involve introducing interactive digital guides, virtual tours with more enriched educational content, enhanced feedback systems, and improved facilities management monitoring systems, which would help address visitors' concerns and enhance their engagement and satisfaction levels to attract even more visitors to the facility. While keeping its historical-cultural values alive, these solutions will provide a better participatory experience without compromising its architectural uniqueness.*

Keywords: *Digital; Engagement; Extended Reality; Heritage; Visitor Reviews*

Introduction

Jugra Heritage Sites are significant historical and cultural sites in Selangor, Malaysia. The most prominent heritage element is Bandar Palace, which perfectly portrays the rich architectural and cultural heritage of the town (Aidatul Fadzlin Bakri, Nooridayu Ahmad Yusuf, and Norajlin Jaini 2012; Mumad Chelaeh et al. 2017; Zainab Roslan et al. 2017). Bandar Palace, built in the early 1900s, served as the Sultan of Selangor's royal dwelling (Aidatul Fadzlin Bakri et al. 2012). This historical landmark captures the cultural and historical tales of the Selangor Sultanate and showcases its era's magnificent architecture (Puteri Shireen Jahn Kassim et al., 2020). As a prominent destination for both domestic and foreign tourists, Bandar Palace provides insights into Malaysia's royal and cultural heritage.

Even with its historical significance, Bandar Palace and other Jugra Heritage Sites struggle to keep tourists engaged. The lack of comprehensive, readily available information on the exhibitions and the venue itself has been highlighted as a significant issue. Finding thorough and fascinating content that enhances their awareness and enjoyment of the heritage on display is challenging for many visitors. A limited visitor interaction might result in less engagement and pleasure due to the absence of engaging and valuable information. By studying visitor evaluations of Jugra Heritage Sites, this study seeks to solve these challenges by identifying common problems with enhancing tourist engagement at Jugra Heritage Sites and providing digital solutions based on visitor feedback. The study aims to identify specific areas where informational material is inadequate or lacking by careful examination through visitor feedback. The study will suggest digital solutions based on these results to improve overall visitor engagement and information accessibility.

Heritage Sites. First, it ensures visitors have a meaningful and enjoyable experience, encouraging an increased connection with Malaysia's historical and cultural heritage. Increasing engagement can result in pleased visitors, encouraging return trips and positive recommendations from others, all of which support the site's sustainability and profitability. Finally, Jugra Heritage Sites can fulfil the expectations of a digitally apprised audience and keep up with modern heritage tourism trends by utilising digital technology to improve informational content. For several reasons, it is essential to enhance visitor engagement at Jugra. The primary objective of this research is to examine visitor reviews to determine the degree of challenges associated with information accessibility and tourist engagement at Jugra Heritage Sites. The study will provide digital solutions, such as augmented reality (AR), virtual reality (VR), and mixed reality (MR), to solve these issues under this analysis. These digital interventions aim to improve the tourist experience by offering more interactive, informative, and exciting material. They also aim to strengthen visitors' sense of identity, place, and connection to the heritage site. In conclusion, this study aims to close the gap between visitor expectations and the present offers at Jugra Heritage Sites by using digital technologies to improve informational content and interaction.

Literature Review

Reviving the Historical Legacy of Jugra

Due to its naturally high terrain in the Bukit Jugra region, Jugra was recognised historically for its strategic importance as a transit city (Mazarina, Nurhaya, Mansor, et al. 2021). According to Zainab Roslan et al. (2017) and A.Samad (2018), As stated in the Malay historical literature "Sulalatus Salatin" by Tun Sri Lanang, Jugra was a significant transit city under Sultan Mansur Shah, the sixth Sultan of Malacca (1456–1477). Jugra is located in the Kuala Langat district of Selangor State, Malaysia. It is often called the Royal City of Selangor or Bandar Temasya. (Aidatul Fadzlin Bakri et al. 2012; Mumad Chelaeh et al. 2017; Zainab Roslan et al. 2017). Evidence discovered in 1964 during the excavations in Kampung Sungai Lang Tengah suggests that Kuala Langat existed between 2000 and 2500 years (Aidatul Fadzlin Bakri et al. 2012; Mumad Chelaeh et al. 2017; Zainab Roslan et al. 2017).

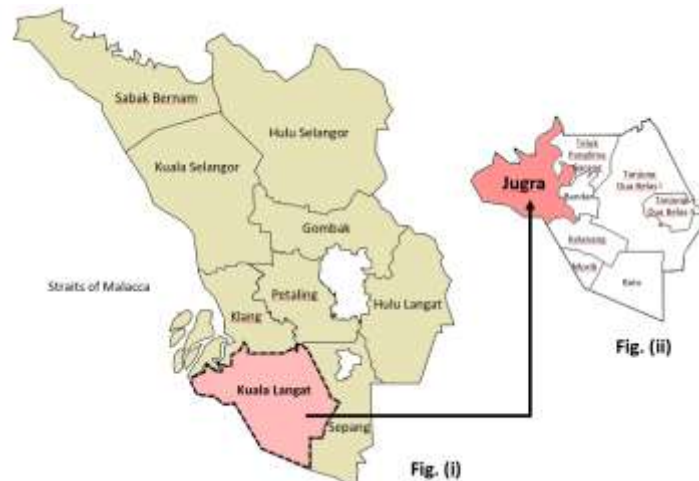


Figure 1: Location of (i) Kuala Langat District and (iii) Mukim of Jugra

Source: (Mazarina, Nurhaya, Mansor, et al. 2021)

Jugra, a historic royal town, is famous for its significance during the fourth Sultan of Selangor's reign, Sultan Abdul Samad ibni Almarhum Raja Abdullah. As Figure 2 illustrates, Jugra was given the title Royal Town after the royal seat was transferred there from Bukit Melawati in Kuala Selangor during the 18th century. Between 1857 and 1903, Jugra functioned as the central hub for Selangor's politics, society, and development, with Istana Bandar representing its royal status both physically and symbolically (Aidatul Fadzlin Bakri et al. 2012; Mumad Chelaeh et al. 2017; Noorjannah Adam and Adnan Jusoh 2018; Zainab Roslan et al. 2017). Istana Bandar, situated on a 12-acre land in Kampung Bandar, gained prominence during the British colonial period in Jugra, particularly under Sir Frank Swettenham, the British resident chief. J.G. Davidson, the first British resident in Selangor, was based in Klang. The strategic location of Istana Bandar in Royal Town, close to the Sungai Langat waterway and connected by road to Jugra and Klang, made it an ideal administrative hub.

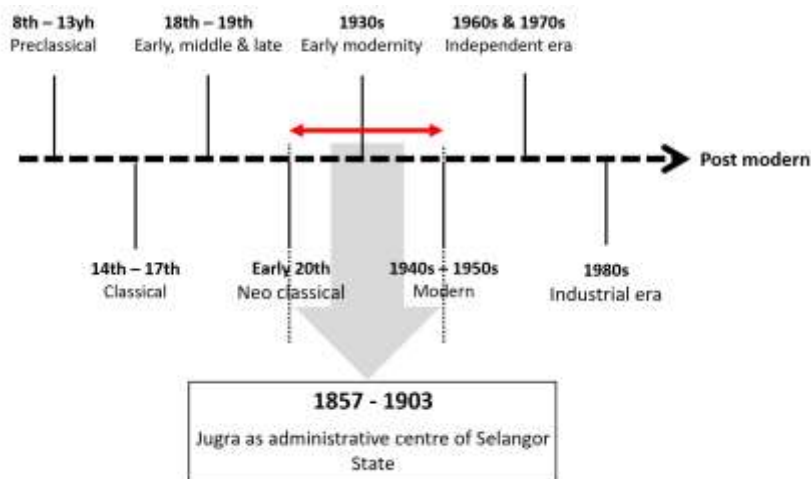


Figure 2: Historical Timeline of Jugra: Mapping Regional Era Evolution

Sources: (Puteri Shireen 2021; Tengku Anis Qariah 2021)

Jugra, renowned for its distinctive urban layout and historical significance, was neglected after the state government relocated its administrative centre to Klang and Kuala Lumpur. Although it ceased to be a significant political or administrative hub, Jugra still draws historical tourism interest due to its rich cultural and natural heritage. The historic Royal Town of Jugra boasts 11 potential heritage elements that could be developed into a historic tourism trail (Aidatul

Fadzlin Bakri et al. 2012), as shown in Figure 3. To ensure that Jugra's valuable cultural assets are preserved for future generations, it is essential to safeguard this notable historical urban landscape. In this ancient metropolitan region, tangible and intangible cultural assets' sustainability, protection, and preservation are crucial (UNESCO 2011b). According to Bak et al. (2019), cultural and natural assets are examples of tangible cultural heritage. These treasures must be protected to preserve Jugra's rich historical legacy and guarantee that future generations will continue to recognise and value it.

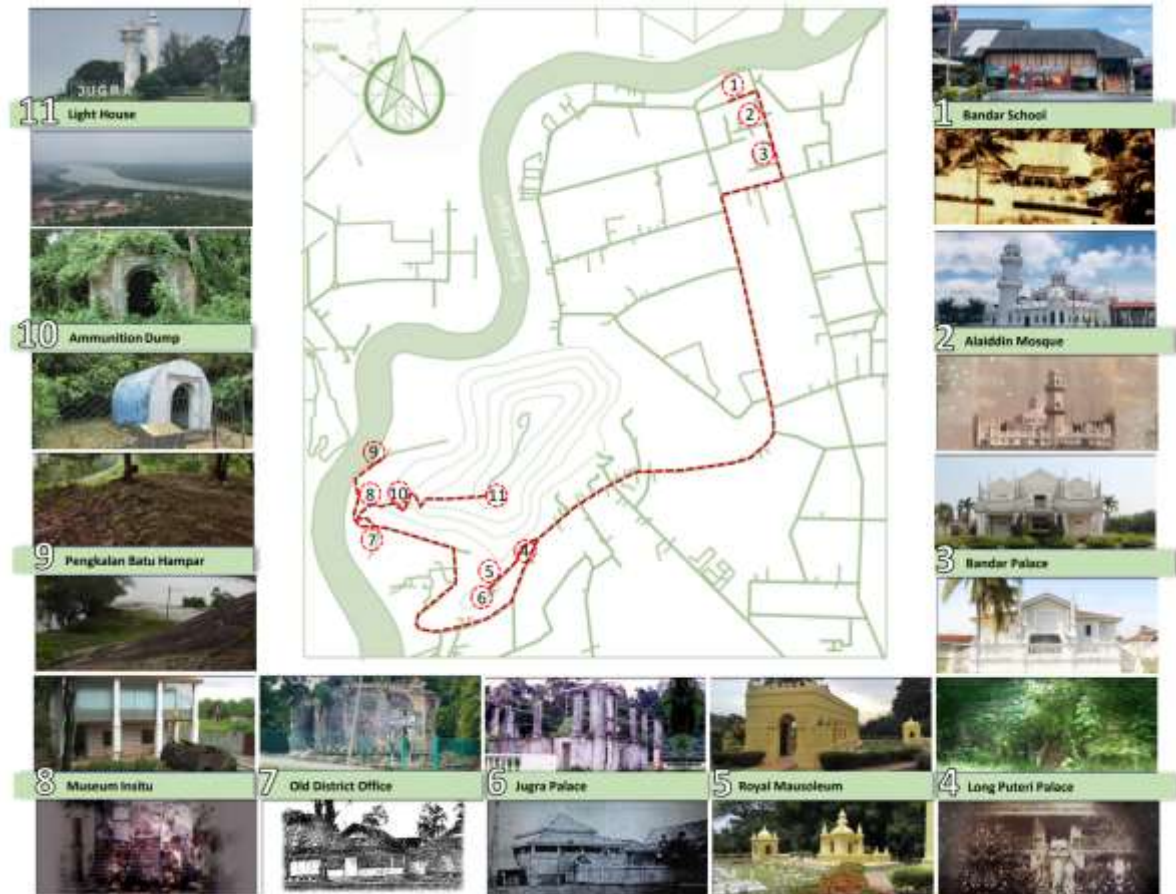


Figure 3: Tangible Heritage Elements in Jugra

Sources: (Mazarina, Nurhaya, and Puteri Shireen 2021)

Digital technology may significantly contribute to preserving and exhibiting Jugra's rich multicultural legacy by creating a storyboard and historical timeline. Digitising historical components in heritage tourism sites can substantially improve tourist engagement by offering a more immersive and interactive experience (Fusté-Forné 2020). With this strategy, more people may come and meaningfully explore and engage with Jugra's heritage. By integrating edutainment into the digital experience, users can experience both elements of learning and entertainment while exploring the site. The digital narration of Jugra's historical tale contributes to preserving and sustaining these valuable cultural treasures, allowing future generations to enjoy and take advantage of them as well (de Freitas, Sousa, and Ramazanov 2021; Mazarina, Nurhaya, and Puteri Shireen 2021; UNESCO 2011a)

Visitor Engagement in Heritage Tourism

Visitor involvement is crucial to heritage tourism since it substantially impacts tourist satisfaction, learning objectives, and the overall sustainability of cultural sites (Bozzelli et al. 2019). Interpretive techniques (Nurhaya 2018), interactive technologies (Alatrash, Arnab, and

Antleij 2021), educational initiatives (Remolar, Rebollo, and Fernández-Moyano 2021), and the physical and social surroundings (Dahan et al. 2022) are a few of the variables that affect visitor engagement at heritage sites. Interpretive techniques are essential to keeping people interested in cultural sites. Practical interpretation incorporates storytelling, guided tours, and interpretative panels that provide historical context and cultural insights. It also includes demonstrating a site's value engagingly and educationally. The use of interactive technology such as Virtual Reality (VR), Mixed Reality (MR), and Augmented Reality (AR) has revolutionised the method in which visitors interact with historical sites (Alabau-Montoya and Ruiz-Molina 2020). Through immersive experiences offered by such technologies, visitors may creatively engage with the heritage environment. For example, augmented reality (AR) can link the present to the past by superimposing historical images onto current settings (Gu et al., 2022). Virtual reality (VR) can transport visitors to historically significant events or otherwise inaccessible parts of a place, improving their understanding and engagement (Nguyen et al., 2022). Combining AR and VR elements, mixed reality (MR) provides a smooth transition between the real and virtual worlds (Milgram and Kishino 1994).

The influence of educational programs on visitors' participation at heritage sites is also significant (Lee, 2023; Zikas et al., 2016). These programs may include talks, seminars, in-person school visits, and practical exercises to accommodate different age groups and learning preferences. By increasing understanding, educational programs help visitors and the cultural site develop deeper connections. Interactive and participative learning environments encourage students to actively interact with the material (Huang et al. 2018; Nikolakopoulou et al. 2022; Zaia, Rose, and Majewski 2022). To improve engagement at heritage sites, it is essential to understand the expectations and motivations of visitors (Bozzelli et al. 2019; Kong 2021). Tourists come from various backgrounds and interests and may travel for pleasure, personal interests, or educational reasons. Historical sites that provide a variety of activities and educational materials to satisfy these diverse interests have a higher chance of engaging visitors. A deeper connection and increased pleasure with the site might result from satisfying or exceeding visitors' expectations (Dag, Çavusoglu, and Durmaz, 2023).

Visitor motivation and expectations, interpretative techniques, interactive technology, educational programs, and other complex elements all influence how visitors engage in heritage tourism. Heritage sites may improve tourist engagement by recognising and addressing these factors and deepening visitors' connection to cultural and historical heritage via meaningful and rewarding experiences.

Information Accessibility in Museums and Heritage Sites

Accessible information is crucial to improving visitors' experience of historical sites and museums. Providing clear and comprehensive information enhances the entire experience for visitors by helping them understand and appreciate the cultural and historical value of the exhibitions (Alzahrani 2020; Paladini et al. 2019). Through this extensive information, visitors can connect more with objects and narratives, enhancing their engagement and educational impact (Selmanović et al., 2020). Accessible information, such as informative signage, guided tours, and interactive displays, helps museums and historical sites achieve their educational aims of educating visitors about history, culture, and sciences. Additionally, knowledgeable users are more likely to have an enjoyable experience, recommend others to the site, and revisit, enhancing the site's reputation (Hsu and Liang, 2022). Museums and historical sites may do their part to be more welcoming to all visitors by providing information in various languages, using simple language, and implementing accessible formats such as audio tours and interactive displays.

Museums and heritage sites frequently face challenges in providing visitors with access to information due to inadequate signs and labelling, a shortage of information, a lack of interaction, accessibility issues for those with disabilities, and factor quality of the data (Chong et al. 2021). Unfortunately, several websites have done an inadequate job of describing the exhibitions they provide, which leaves visitors confused and frustrated since they don't have sufficient context. On the other hand, some sites offer excessive information, making users feel confused and unable to assimilate the material appropriately. To ensure that cultural material is accessible to a broad audience, curators should organise content in a way that is simultaneously detailed and easy to understand (Kyriltsias et al., 2020). A younger audience who enjoys interactive digital interactions may find traditional static displays less attractive. Incorporating interactive technology such as touchscreens and augmented reality can offer more exciting methods to access information, improving engagement and retention (Geng et al., 2022). Museums and cultural sites must use inclusive design techniques to cater to all visitors' requirements, particularly those with disabilities who often encounter different challenges in gaining information. An uneven visitor experience can arise when there is inconsistency in the level of the information supplied, with some exhibits offering detailed descriptions while others lack them. This lack of consistency can make certain site elements engaging and educational, while other aspects may be confusing or disconnected.

Impact of Digital Technologies on Visitor Experience

Through better information dissemination, digital technology has significantly improved the accessibility and navigation of heritage tourism (Alzahrani 2020). AR, VR, and MR technology have entirely changed how information is delivered at heritage sites. AR apps, for instance, efficiently superimpose historical data and photos into the actual environment. The legacy experience has become more educational and immersive through digital technology, effectively connecting the past with the present (Ogle et al., 2020). Virtual Reality (VR) technology allows visitors to fully engage with locations, enabling them to personally experience historical events or explore places that might otherwise be inaccessible. With this technology, it is possible to authentically recreate historical settings and gain an extensive understanding of the artefacts on exhibition. Mixed reality (MR) is a hybrid technology that blends augmented reality (AR) and virtual reality (VR) features, providing features from both environments (Milgram and Kishino 1994).

Digital technology in historical tourism may greatly influence visitors' emotions and mental well-being through interactive digital material (Persada 2019). Visitor engagement is significantly increased by interactive and captivating digital material. Engaging digital elements, such as augmented reality overlays or virtual reality simulations, encourages visitors to engage emotionally and intellectually. Digital technology, in consequence, helps them form a stronger connection to the cultural site and its history, leading to a memorable and meaningful visit (Jung et al. 2020; Xu and Zhang 2021). Digital technologies can stimulate powerful emotional reactions by creating captivating and immersive experiences. Virtual Reality (VR) can transport individuals to multiple periods and locations, directly allowing them to witness historical events. This immersive experience cultivates empathy and enhances appreciation of the historical context, ultimately developing an emotional attachment to the cultural site (Chunga, Chavarri, and Beltran 2021; Wei et al. 2022). By integrating game mechanics into non-game settings, gamification can increase psychological involvement in historical tourism (Pasca et al. 2021; Škola et al. 2020). Heritage sites may enhance the tourist experience and promote learning and memory retention by integrating challenges, quests, and prizes. Digital tourism will encourage visitors to explore the site more extensively and connect deeply with

the content. Through the use of digital technologies, visitors may have experiences that are uniquely suited to their preferences and interests. This adaptation makes the experience more relevant and engaging by increasing visitors' sense of belonging and engagement. Adapting to the visitors' preferences, learning style, and pace, personalised digital information enhances the experience.

Digital technologies such as augmented reality (AR), virtual reality (VR), and mixed reality (MR) are changing the way people engage with historical tourism. These technologies make information more accessible and easier to navigate, providing interactive, immersive experiences with a greater emotional and psychological impact on tourists.

Methodology

This study used web scraping methods to gather Google Review data for Bandar Palace in Jugra, Selangor, Malaysia, from 2019 until 2024. The primary focus was collecting reviews linked to Bandar Palace, including the supplementary text, posting year, and star ratings. The study aimed to provide an equitable perspective on visitors' experiences by evaluating favourable and unfavourable feedback. The researcher systematically examined the data with Atlas.ti software to identify themes and patterns related to the sense of place at Bandar Palace. Google Reviews offers real-time feedback and diverse perspectives from various reviewers, providing valuable insights into visitor experiences and perceptions. This accessibility fosters transparency and encourages improvements, while the qualitative data allows for exploring cultural sensitivities and differences in visitor perceptions.

Research Findings

Table 1: Total Number of Visitors Review in Google Review Web Based Of Bandar Palace, Jugra, Selangor From 2019 – 2024

Items	No of reviewer
Accepted	218
Rejected	225
Total	443

Source: Author

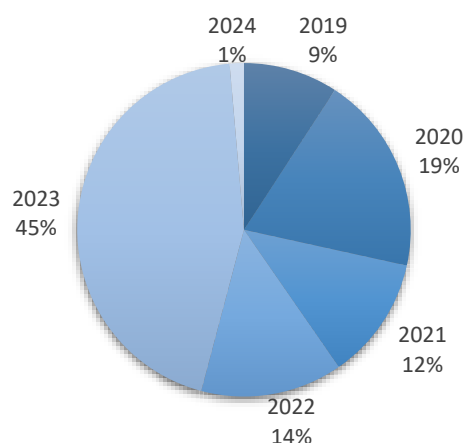


Figure 4: Numbers of Visitor Reviews From 2019 - 2024

Source: Author

Table 1 shows the total number of visitor reviews collected from Google Reviews, with 443 reviews gathered from 2019 to April 2024. After the screening, the researcher excluded 225

reviews because they were irrelevant to Bandar Palace or Jugra. As a result, the researcher accepted 218 reviews for this study. Figure 4's pie chart illustrates the distribution of reviews by year from 2019 to 2024.

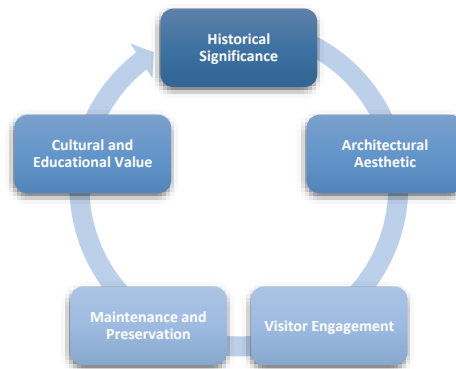


Figure 5: Recurring Themes and Patterns from Visitor Comment in Google Reviews Web Based

Source: Author

Using Atlas.ti software, the researcher analysed recurring themes and patterns from visitor comments on Google Reviews, as shown in Figure 5. The analysis revealed five key themes: Historical Significance, Bandar Palace, Visitor Engagement, Maintenance and Preservation, and Cultural and Educational Value. The researcher examined each theme in detail to uncover specific findings. Analysis of the Historical Significance Theme:

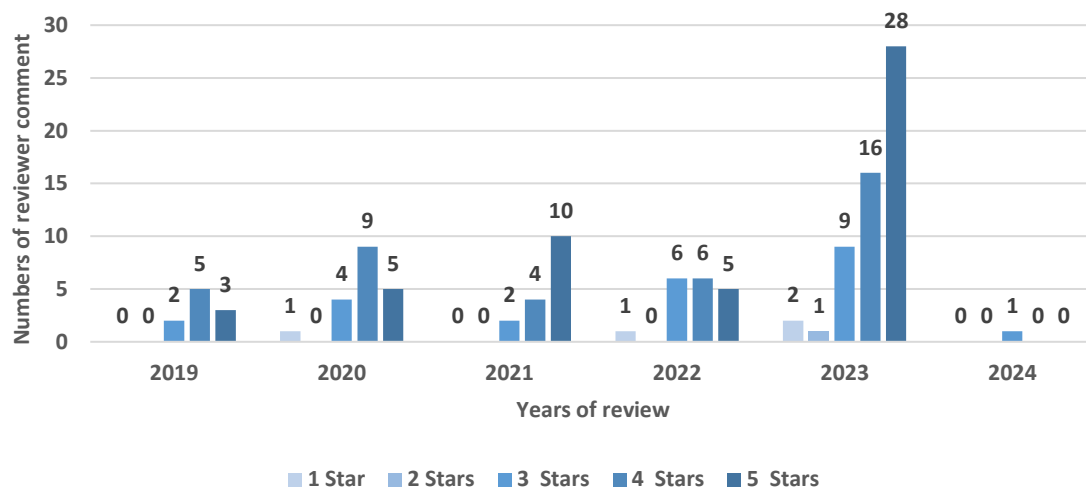


Figure 6: Star Ranking of The Historical Significance Theme Analysis

Source: Author

Throughout all the years, there has been a consistent appreciation for the historical significance of Bandar Palace. Figure 6 illustrates the reviews on historical relevance, indicating strong visitor appreciation for the historical importance and heritage of the palace with 51 reviews rating 5. Many of the reviews (91 out of 129) are rated 4 or 5, suggesting that visitors find the historical aspects highly engaging and valuable; therefore, the historical significance of Bandar Palace is a critical factor in visitor engagement and satisfaction. Reviews frequently mention terms like "historical," "history," "old," and "sultan," indicating that these aspects are crucial in shaping visitors' perceptions and experiences of Bandar Palace, as shown in Table 2.

Table 2: Sample of High-Ranking Visitors Review Towards Historical Significance of Bandar Palace, Jugra

ID	STAR RANKING	YEAR	REVIEW
ID-003	5	2023	Located in pleasant peaceful surroundings, this old historical castle was built in the same year as the Masjid Bandar by the fifth Sultan Selangor. Quite spacious compound, has multiple sections.
ID-032	5	2023	This is a very very good place to view! I love the old-style design, aged stain, everything
ID-053	5	2023	It's a great historical place if you are into history and culture

Source: Author

However, Table 3 shows that a few lower-rated reviews (rankings 1 and 3) highlight potential areas where visitor expectations regarding historical significance may not have been fully met. These reviews could provide insights into specific aspects that might need attention or improvement, such as the need for better maintenance and preservation, as frequently mentioned in the comments.

Table 3: Sample of Lower-Rated Reviews Regarding Historical Significance of Bandar Palace, Jugra

ID	STAR RANKING	YEAR	REVIEW
ID-067	2	2023	Nice place but needs serious upkeep. It's literally falling apart, which is a shame for such a historic place.
ID-094	1	2023	No maintenance to the old palace. Is getting bad to worse?
ID-186	1	2023	I'm not going to repair the building... The historical value is only the old palace, but there is no contents of the building to look at and refer to... So please.....

Source: Author

Analysis of the Architectural Aesthetic Theme:

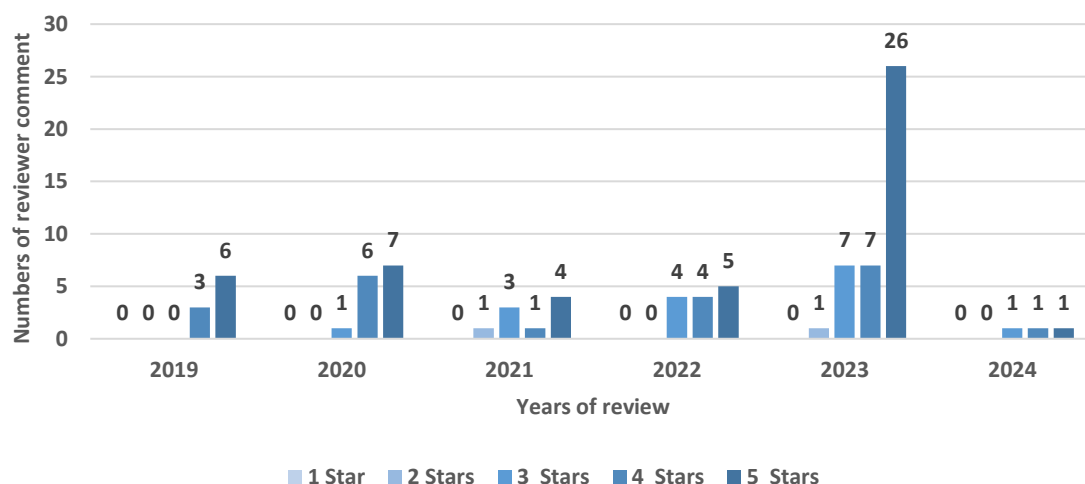


Figure 7: Star Ranking of The Architectural Aesthetic Theme Analysis

Source: Author

This analysis focuses on the 89 reviews mentioning terms related to architectural beauty, such as "beautiful," "architecture," "majestic," "building," and "structure," highlighting visitors' appreciation of Bandar Palace's architectural features with a substantial number of high ratings and consistent interest over the years as shown in Figure 7. Visitors appreciate the architectural features, significantly contributing to their positive experience at the palace. The highest number of reviews was in 2023, with 41 suggesting increased visitor engagement with the architectural theme during this period. However, as shown in Table 4, some reviews highlight the need for better maintenance and preservation, even among those who gave high ratings.

Table 4: Sample of Highlight Reviews for Building Maintenance and Preservation

ID	STAR RANKING	YEAR	REVIEW
ID-002	5	2023	A beautiful historical building with immense potential as a valuable tourist site/museum. Its beauty is marred by neglect, and now looks like a sad, abandoned haunted mansion. Free entry, no guided tour available but there are a few staff there for you to get some brochure or just some help with the photos lol. You can enter the building and access most of the areas. Despite the poor maintenance, it is still worth a visit, especially if you're an architecture enthusiast.
ID-096	5	2019	Beautiful palace, not your typical traditional Malay palace. But poorly maintain.
ID-195	5	2021	An interesting architecture of the palace... the empty rooms in the palace and each room must be tidied up with suitable accessories... the paint is also fading...

Source: Author

Analysis of the Maintenance and Preservation Theme:

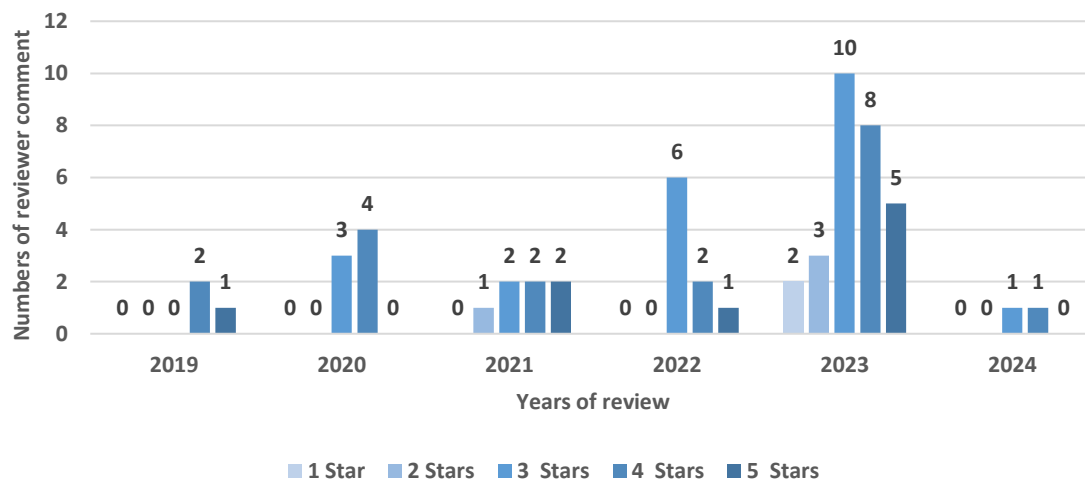


Figure 8: Star Ranking of The Maintenance and Preservation Theme Analysis

Source: Author

After screening, the researcher analysed 56 visitor reviews related to the Maintenance and Preservation theme. Figure 8 shows the star rankings associated with this theme. The analysis focuses on reviews mentioning terms such as "maintenance," "preserve," "care," "neglect," "restore," and "upkeep," highlighting visitor concerns and observations regarding the condition and care of Bandar Palace. Reviews with lower ratings (1 and 2) often cite poor maintenance and neglect as primary concerns, expressing disappointment in the lack of upkeep and

indicating that neglect and insufficient preservation efforts negatively impact their experience. Interestingly, even among high ratings (4 and 5), there are mentions of the need for better maintenance. This analysis concludes that, although visitors appreciate the historical and architectural aspects of Bandar Palace, maintenance issues are a noticeable concern that could be improved to enhance the overall experience.

Table 5: Example Negative Reviews Regarding the Maintenance and Preservation Theme

Maintenance Issue	Lack of Furnishing and Displays	Safety Concerns
ID-094: No maintenance to the old palace. It is getting bad to worse.	ID-186: The historical value is only the old palace, but there is no contents of the building to look at and refer to... So please.....	ID-030: When visiting the 2nd floor, please be extra careful as there are unstable soft floors and holes.
ID-030: Nice 19th century british-malay architectural, but very run down... Hopefully a better restoration can be made by Jabatan Warisan Negara	ID-001: Not much history to learn other than the pamphlet given. You're really only able to look at the architecture, with zero furnishing....	ID-005: Today, it's looks like not well maintain already. Getting rotten here and there.
ID-041: such a lovely place however like abandoned.	ID-009: The building has nice architecture but it is empty. Will be better if have some furnishing and poster displays for visitors to know the history.	ID-007: The cleanliness of the palace area is well maintained, only the building needs extra care because it is old so some of the wood floor has broken.....

Source: Author

Table 5 shows examples of negative reviews regarding the maintenance and preservation theme, categorised into three sub-themes: maintenance issues, lack of furnishing and displays, and safety concerns during heritage exploration at the Bandar Palace. Addressing these issues will significantly enhance visitor satisfaction, potentially lead to higher user experience ratings, and help preserve the site's historical and cultural significance. Digital solutions such as AR, VR and MR can provide virtual tours and interactive exhibits in the future.

Analysis of the Cultural and Educational Value Theme:

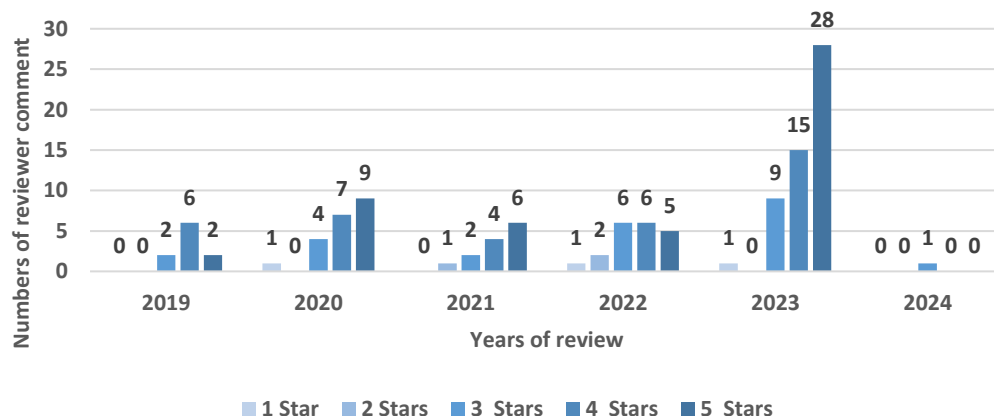


Figure 9: Star Ranking of The Cultural and Educational Value Theme Analysis

Source: Author

Terms such as "cultural," "education," "learn," "heritage," "tradition," and "history" were used in the screening process to identify visitor reviews highlighting the cultural and educational value of Bandar Palace. The researcher identified 118 reviews related to this theme, reflecting visitors' perceptions of the palace as a place of learning and cultural significance. Visitors highly value Bandar Palace for its cultural and educational significance, with numerous reviews expressing appreciation for the opportunity to learn about history and culture. The palace's educational and cultural site role is crucial in shaping visitors' perceptions and ensuring its continued importance as a heritage destination.

Figure 9 illustrates the analysis of reviews related to the Cultural and Educational Value theme, showing that 88 high-rated reviews (4 and 5 stars) often emphasise the educational and cultural value of the palace. Visitors appreciate the opportunity to learn about history and culture through their visits, indicating that these aspects are highly valued. The review's analysis suggests a sustained appreciation for the cultural and educational experiences offered at Bandar Palace. However, lower-rated reviews (rankings 1 and 2) highlight shortcomings, such as insufficient informational materials, lack of guided tours, or limited educational content. Addressing these concerns could enhance all visitors' cultural and educational experiences, potentially increasing overall satisfaction and ratings. The reviews highlight the educational and cultural value of the palace, making it an essential site for heritage and learning.

Discussion

Istana Bandar is a prominent heritage urban landscape in Jugra, Selangor, embodying the state's rich cultural heritage during Sultan Abdul Samad's reign. Jugra served as the administrative centre of Selangor after Bukit Melawati in Kuala Selangor and before the administrative functions moved to Klang and later Kuala Lumpur, where they remain today. Istana Bandar is a gateway into the transformation of Selangor's administration over time and a symbol of the cultural and architectural splendour of that period.

Several important theme from visitor reviews are highlighted in the research findings. According to the data collected under the theme "Historical Significance," visitors value Istana Bandar's illustrious past, emphasising its cultural significance and the necessity for further preservation efforts. Another significant appeal is the palace's architectural aesthetics; many reviewers appreciated its design and craftsmanship, but a few have pointed out that it needs greater maintenance. The Visitor Experience theme highlights that although many visitors have enjoyed their time at Istana Bandar, there is a repeating demand for more educational displays and guided tours that increase their understanding and engagement. Maintenance and preservation highlight important issues regarding the condition of maintenance, as visitors often express worries about neglect and the necessity of restoration endeavours. Finally, the Cultural and Educational Value theme emphasises the Bandar Palace's significance as an educational tool, even though more thorough and engaging teaching materials could be offered.

Bandar Palace could benefit significantly from using digital solutions to increase the engagement and enjoyment of its visitors. By implementing augmented and virtual reality (AR/VR) experiences, which are both interactive and informative, visitors may be immersed in historical reconstructions, virtual furnishings, and extensive educational overlays, all of which can significantly enhance the whole experience. Visitors may have a more immersive and participatory encounter with the site as these technologies bring the architectural aesthetic and the palace's historical significance to life. To further accommodate the varied demands of contemporary tourists, digital solutions such as smartphone applications and interactive kiosks can supply real-time information in addition to self-guided tours.

However, putting these digital ideas into practice comes with issues and challenges. It is crucial to ensure accessibility for all visitors, including individuals lacking advanced technological skills or limited access to digital devices. It can also be expensive to build and maintain these digital tools initially, and to guarantee their efficacy, continuous upgrades and technical assistance are required. To ensure that digital solutions enhance the visitor experience for everyone, addressing these issues requires careful planning, sufficient funding, and a focus on diversity.

Conclusion

Istana Bandar has the potential to significantly expand its position as a cultural and educational historic site by embracing digital innovations. This strategy can potentially attract more visitors while offering an additional immersive and engaging experience that effectively acknowledges its cultural significance and architectural magnificence. Visitors may have a more engaging, instructive experience using interactive digital guides, virtual tours, fantastic informative material, a reliable feedback system, and better maintenance inspections. These digital solutions solve existing visitors' challenges while establishing Jugra historic sites as cutting-edge, highly accessible, and informative places for local and international visitors.

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INFLUENCE OF *IHSĀN* (BENEVOLENCE) ON SUSTAINING INDUSTRIAL RELATIONS PRACTICES AT ISLAMIC UNIVERSITIES IN SOUTHEAST ASIA

Suhaimi Mhd Sarif¹

Dolhadi Zainudin²

Yusof Ismail³

Yayan Firmansah⁴

¹Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia (IIUM), Malaysia, (suhaimims@iium.edu.my)

²Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia (IIUM), Malaysia, (dolhadi@iium.edu.my)

³Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia (IIUM), Malaysia, (yusof.edu@gmail.com)

⁴Faculty of Economics and Management, University of Darussalam (UNIDA), Gontor, Ponorogo, East Jawa, Indonesia, (yayanf@unida.gontor.ac.id)

Abstract: *Ihsān* (benevolence) is often overlooked in industrial relations, despite its potential to promote and sustain harmony in the workplace. Traditional approaches to industrial relations focus on adhering to legal and organizational requirements, primarily through a tripartite system aimed at reducing operating costs and maximizing financial profits. In contrast, *ihsān* emphasizes fostering a harmonious and ethical relationship between employers and employees. This study explores the influence of *ihsān* in sustaining industrial relations among employees of Islamic universities in Southeast Asia. The research employed focused group discussion with staff from Islamic universities in Malaysia, Indonesia, Singapore, and Brunei. Participants argued that *ihsān*, in the form of trust, mutual cooperation, and a spirit of giving, holds greater value than monetary benefits. While financial resources are necessary to meet regulatory requirements and improve workplace conditions, participants emphasized that the true foundation of a harmonious workplace lies in instilling *ihsān*. They shared experiences from Islamic universities that have practiced *ihsān* for nearly a century, demonstrating the sustainability of such institutions in promoting a harmonious and humanized work environment. Participants proposed an *ihsān*-driven approach to industrial relations, one that complements the existing regulatory and material-driven systems. However, this study is limited to a focused group discussion with staff from a select number of Islamic universities in Southeast Asia. Future studies should expand to include a larger sample of Islamic universities across the region for broader insights.

Keywords: *Ihsān*, Industrial Relations, Islamic Universities, Southeast Asia, Workplace Harmony

Introduction

Industrial relations in most organizations are predominantly driven by regulatory compliance, shareholder interests, and financial motivations. The existing frameworks, centered on legal obligations and organizational mandates, with a predominant focus on reducing operating costs and maximizing profits (Arudsothy, 1988; Sharma, 1989; Bhopal, 1997; Hess, 2008; Shahiri, Osman, & Park, 2016). This regulatory and profit-driven approach, often reinforced by a tripartite system involving employers, employees, and the government, that places primary emphasis on fulfilling external requirements rather than addressing the humanistic aspects of the workplace (Kuruville & Arudsothy, 2005; Warner, 2014; Kumar et al., 2013; Shahiri et al.,

2016; Aminuddin, 2024). Figure 1 depicts the tripartite system of industrial relations. As a result, the ethical and relational dimensions of employer-employee interactions are frequently overlooked, creating gaps in fostering long-term harmony and mutual respect within organizations.

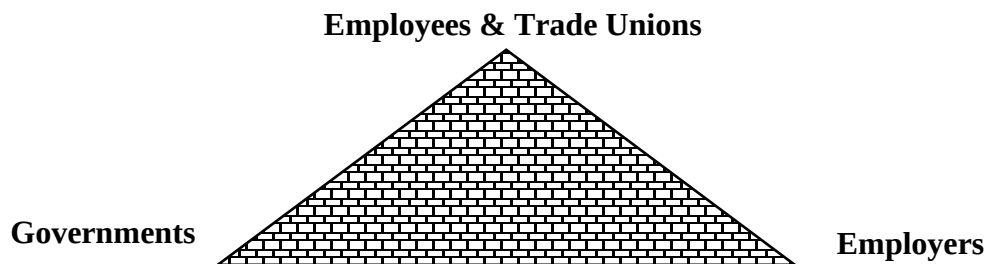


Figure 1: Tripartite System of Industrial Relations

Source: Aminuddin, 2024

One of the key elements missing in conventional industrial relations practices is the concept of *iḥsān* (benevolence), which promotes ethical conduct and a deep commitment to fostering goodwill and respect among individuals (Akhtar, 1992; Al-Twal, Alawamleh, & Jarrar, 2024). Unlike the traditional approach, which prioritizes material benefits and adherence to rules, *iḥsān* calls for an intrinsic motivation to build trust, compassion, and cooperation between employers and employees (Akhtar, 1992; Zakiyy, 2021; Abd Razak & Nik Mahmod, 2021; Ahmad, 2024; Al-Twal et al., 2024). It shifts the focus from purely transactional interactions to a more holistic view that values ethical treatment, shared well-being, and a spirit of generosity in the workplace. Figure 2 illustrates the the power of *iḥsān* in shifting the traditional approach to *iḥsān*-driven industrial relations.

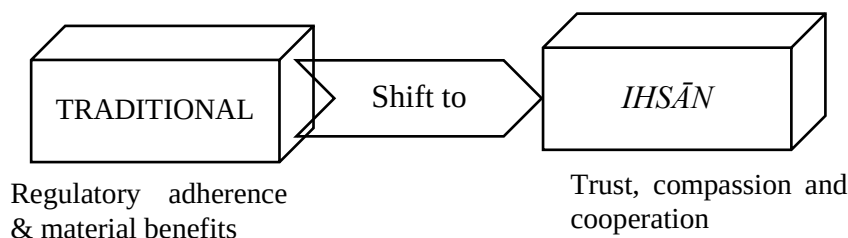


Figure 2: A Shift from Traditional to *iḥsān*-Driven Industrial Relations

Source: Akhtar, 1992; Al-Twal, 2024

This study aims to explore the influence of *iḥsān* in sustaining industrial relations, particularly within Islamic universities in Southeast Asia. By examining the practices of these institutions, which have a long-standing tradition of incorporating *iḥsān* into their organizational culture, this research highlights how benevolence can complement regulatory requirements and enhance workplace harmony. The findings will contribute to a broader understanding of how humanistic values, particularly *iḥsān*, can reshape industrial relations to create more sustainable and harmonious work environments.

Literature Review

Definition, Nature and Scope of Industrial Relations

The subject Industrial Relations is a subject under a sub discipline in the Human Resources Management major of Business Management studies with the aim to examine and implement strategies for effective handling the intricate connections and interactions among employers, employees, trade unions, and government agencies in the workplace (Lim et al., 2012;

Aminuddin, 2024). The primary objective of learning Industrial Relations is to establish a balanced and efficient work atmosphere that adheres to legal requirements. This is achieved by addressing matters such as employee rights, labour legislation, workplace conflicts, negotiations between employers and employees, and the influence of labour unions. Industrial Relations seek to achieve a harmonious balance between the various stakeholders involved, such as employers, workers, and governments (Abd Razak & Nik Mahmod, 2021; Ahmad, 2024). Thus, a harmonious workplace will provide equitable treatment and sustain a state of tranquilly.

The nature of the industrial relations, which is a critical aspect of human resource management, is an essential component of labour law studies in law schools. The focus and approach to the study of industrial relations are subject to variation across disciplines (Aminudin, 2024; Lim et al., 2012). The legal components of industrial relations within the framework of labour law are the primary focus of law faculties, with an emphasis on the analysis of regulations, the assurance of compliance, and the resolution of disputes (Abd Razak & Nik Mahmod, 2021; Ahmad, 2024). On the other hand, management faculties adopt a practical approach to industrial relations, emphasising strategies for effectively managing relationships between employers and employees within organisations (Kumar et al., 2013; Shahiri et al., 2016; Zakiyy, 2021).

Industrial relations are fundamentally concerned with the complex network of relationships that exist between employers, employees, trade unions, and government entities in the workplace (Zakiyy, 2021; Abd Razak & Nik Mahmod, 2021; Ahmad, 2024). The objective of the field is to oversee these relationships in order to preserve a legally compliant, productive, and harmonious work environment. The regulatory influence of government agencies, the function of trade unions, dispute resolution, labour law adherence, collective bargaining, and employer-employee interactions are all components of industrial relations (Aminudin, 2024; Lim et al., 2012).

Despite its extensive scope, contemporary industrial relations are primarily concerned with legal frameworks, organisational regulations, and monetary incentives, frequently neglecting the humanistic components that contribute to a harmonious work environment (Zakiyy, 2021; Abd Razak & Nik Mahmod, 2021; Ahmad, 2024; Aminuddin, 2024). Aminuddin (2024) posits that the examination of industrial relations typically integrates management and employment law; however, it fails to adequately address the human factors that promote authentic harmony. In the same vein, Lim et al. (2012) underscore the significance of collaborative strategies in labour relations, positing that partnership strategies can generate strategic competitive advantages. However, the conventional emphasis on profit maximisation and legal compliance continues.

The conventional perspective on industrial relations is influenced by a conflict-based paradigm that assumes that there are persistent tensions between capitalists, workers, bureaucrats, and authorities. The primary goal of this model is to optimise financial gains while simultaneously reducing operational costs. Arudsothy (1990) posits that industrial relations are the result of such conflicts, which are significantly influenced by political and bureaucratic constraints.

The dynamic and frequently adversarial nature of industrial relations in a variety of ASEAN countries is underscored by other researchers, such as Arudsothy (1988), Sharma (1989), Bhopal (1997), Kuruvilla & Arudsothy (2005), Hess (2008), and Shahiri, Osman, & Park (2016). These researchers demonstrate that historical and economic factors significantly

influence these relationships. For instance, Bhopal (1997) and Kuruvilla & Arudsothy (2005) in the examination on the impact of distinctive historical and economic circumstances on labour relations in various countries found the dynamic and adversarial industrial relations. The same concern argued by Warner (2014) and Kumar et al. (2013) in terms of the diversified range of methodologies and outcomes associated with industrial relations practices in the ASEAN region. As for Shahiri et al. (2016), the dynamic and adversarial imposed more challenges and trends. Indeed, the studies collectively suggest that industrial relations are still influenced by external constraints, such as legal mandates and financial objectives, as there is limited space for a more human-centered approach.

Nevertheless, the current industrial relations practices exhibit a substantial lacuna in their failure to prioritise the humanistic aspects, including *ih̥sān* (benevolence). Although legal compliance and financial objectives are crucial, they fail to consider the more profound ethical and relational components that foster a genuinely harmonious work environment (Zakiyy, 2021; Abd Razak & Nik Mahmud, 2021; Ahmad, 2024; Aminuddin, 2024). This study contends that the integration of *ih̥sān*—an Islamic concept of benevolence that promotes ethical conduct, mutual respect, and trust between employers and employees—can provide a more sustainable and humanised approach to industrial relations.

Ih̥sān and Workplace Harmony

Ih̥sān focusses in encouraging, promoting, advocating, and sustaining harmony in the workplace (Akhtar, 1992; Zakiyy, 2021). *Ih̥sān*, derived from the principle of benevolence, promotes individuals to beyond their fundamental obligations by demonstrating compassion, kindness, and moral superiority (Akhtar, 1992; Zakiyy, 2021; Abd Razak & Nik Mahmud, 2021; Ahmad, 2024). In the realm of industrial relations, *ih̥sān* cultivates an atmosphere in which empathy, comprehension, and reciprocal assistance play a vital role in the interactions between employers and employees (Abd Razak & Nik Mahmud, 2021; Ahmad, 2024). This strategy goes beyond fulfilling regulatory, legal, and economic requirements, since it imbues the workplace with a sense of humanistic concern and shared accountability.

Additionally, *ih̥sān* also aims to achieve economic advantages and uphold social responsibility. By incorporating *ih̥sān* into their practices, employers establish policies and strategies that not only adhere to legal requirements but also demonstrate a dedication to ethical superiority and social equity (Abd Razak & Nik Mahmud, 2021; Ahmad, 2024). For instance, in addition to complying with basic labour rules, a company may offer supplementary resources or adaptable arrangements to assist employees dealing with personal difficulties, thus cultivating a work environment that promotes the general welfare of its staff.

Ih̥sān also adheres to the tenets of corporate social responsibility (CSR), as it promotes initiatives that not only help the internal workers but also the wider community (Wahab & Ismail, 2019; Armayanto & Suntoro, 2023). Employers who demonstrate *ih̥sān* are more inclined to participate in CSR initiatives that surpass mere adherence to legal obligations and make a good impact on society (Wahab & Ismail, 2019; Armayanto & Suntoro, 2023; Badruddin, 2023; Sumi, Ahmed & Alam, 2024). This includes endeavours such as philanthropic donations, endeavours to promote environmental sustainability, and adherence to equitable trading practices, all of which demonstrate a dedication to social justice and the welfare of society.

By incorporating *ih̥sān* into industrial relations, organisations can attain a more comprehensive approach to workplace management (Badruddin, 2023; Sumi et al., 2024). This strategy

achieves a harmonious workplace by considering the requirements of regulatory compliance, economic sustainability, and social responsibility, while also emphasising the humanistic factors (Wahab & Ismail, 2019; Armayanto & Suntoro, 2023). *Ihsān* motivates organisations to beyond their responsibilities by demonstrating acts of benevolence, compassion, and principled guidance, fostering a conducive atmosphere for the growth and success of both employers and employees.

Ultimately, *ihsān* provides a robust structure for improving industrial relations through the cultivation of a workplace environment that prioritises empathy, benevolence, and ethical uprightness. *Ihsan*, when integrated with the essential legal, regulatory, and economic factors, contributes to the establishment, promotion, endorsement, and maintenance of a workplace that prioritises human dignity and social responsibility (Abd Razak & Nik Mahmod, 2021; Ahmad, 2024). This method ultimately results in a more cohesive, productive, and socially aware organisation, which benefits both individuals and the wider community.

Methodology

This study utilised a qualitative research approach by conducting focus group discussion (FGD). The qualitative research allows researchers to obtain profound and comprehensive insights from various participants (Mishra, 2016; Merriam & Grenier, 2019; Khoa, Hung & Hejsalem-Brahmi, 2023; Kuckartz & Rädiker, 2023). Indeed, the utilisation of FGD in this study facilitated a thorough exploration of participants' viewpoints.

The researchers organised focus group discussion with 10 staff members hailing from Islamic universities in Malaysia, Indonesia, Singapore, and Brunei. The session consumed a duration of 2 hours. The purpose of the discussion was to collect collective perspectives on the impact of *ihsān* on industrial relations practices in Islamic universities in Southeast Asia.

The researchers facilitated the FGD session and ensured that all participants gave informed consent before participating. The consent process was crucial in ensuring that participants had a complete understanding of the nature and objectives of the conversation, and willingly agreed to have the sessions videotaped.

Throughout the discussion, the researchers systematically directed the debates by employing a pre-established series of questions customised for each group. The purpose of these enquiries was to prompt participants to offer elaborate answers and promote dynamic, interactive conversation. The focus group discussion (FGD) was rigorously recorded using audio technology to correctly capture the entirety of the exchanges.

After the discussions, a proficient transcriber precisely transcribed the audio recordings, producing a thorough and meticulous account of the encounters. The researchers subsequently utilised thematic analysis to scrutinise the transcriptions, methodically discovering, analysing, and documenting reoccurring themes present in the data. This method facilitated the consolidation of intricate qualitative data into fundamental themes that accurately represented the collective opinions and experiences of the participants.

Results and Discussion

The results are based on the FGD with a total of 5 staff from Islamic universities from Malaysia, Indonesia, Singapore, and Brunei.

In promoting and sustaining harmony in the workplace, there is a need for a strong core value. Participant 1 said: *“I believe ihsān is at the core of our values in the workplace. Trust and mutual cooperation make us stronger as a community. Monetary rewards are important, of course, but without ihsān, the workplace becomes transactional and cold.”* The feedback from Participant 1 highlights the central role of *ihsān* as excellence in moral and ethical conduct value in fostering a vibrant and cohesive workplace culture (Wahab & Ismail, 2019; Bella, 2023). While recognizing the importance of monetary rewards for meeting practical needs, Participant 1 argued that *ihsān* goes beyond material compensation, emphasizing that trust and mutual cooperation are fundamental to creating a meaningful and strong workplace community (Wahab & Ismail, 2019; LaGree et al., 2023; Prayudi & Komariyah, 2023). Without *ihsān*, the participant suggests, the workplace risks becoming “transactional and cold,” where relationships are defined solely by material exchanges rather than by deeper, value-driven connections (Wahab & Ismail, 2019; Bella, 2023; LaGree et al., 2023; Prayudi & Komariyah, 2023).

As Participant 2 mentioned that: *“In our experience, some established Islamic universities have been practicing ihsān for almost a century, and it’s a key reason for their sustainability. It’s not just about meeting financial needs—ihsān creates a sense of belonging and commitment that keeps people connected to the institution.”* Participant 2 emphasized that the practice of *ihsān* is a journey with within Islamic universities. The participant suggests that while financial needs are important, it is *ihsān* that fosters a deeper sense of belonging and commitment among staff and faculty, creating lasting connections to the institution (Wahab & Ismail, 2019; Alkaf et al., 2024; Plester & Lloyd, 2024; Savira et al., 2024). The participant’s insight reflects the view that long-term institutional success is rooted in value-driven engagement rather than solely in financial incentives.

For Participant 3: *“Financial resources are necessary, especially when it comes to fulfilling regulatory standards. However, I have seen first-hand that when ihsān is present, people are more motivated and willing to go beyond what’s required. It cultivates a more humanized work environment.”* Participant 3 argued that both financial resources and *ihsān* within the workplace are necessary. While financial resources are acknowledged as essential, particularly for meeting regulatory standards, the participant points out that the presence of *ihsān* elevates the work environment (Plester & Lloyd, 2024; Savira et al., 2024). When *ihsān* is practiced, employees feel more motivated and are inclined to go beyond mere compliance, driven by a sense of purpose and mutual respect. This fosters a humanized work environment, where people engage not only to meet targets but also to contribute to the overall well-being of their colleagues and the institution (Wahab & Ismail, 2019; Alkaf et al., 2024; Plester & Lloyd, 2024). The discussion underscores the belief that ethical values, when integrated with financial and regulatory frameworks, can lead to a more holistic and sustainable workplace dynamic.

The advocating for harmony in the workplace requires readiness and willingness. Participant 4 said: *“What I found in our university is that ihsān, in the form of giving and mutual respect, creates a work culture where people genuinely care about each other. It’s not just about the paycheck at the end of the month; it’s about working together for a shared purpose.”* Participant 4 contended that *ihsān* has the transformative power in shaping a work culture based on giving and mutual respect (Wahab & Ismail, 2019; Bella, 2024; Savira et al., 2024). This insight suggests that *ihsān* builds stronger, more meaningful relationships within the workplace, promoting a collaborative atmosphere where the focus shifts from personal gain to collective success and harmony.

As for Participant 5: “*We need to consider how an ihsān-driven approach to industrial relations could complement the existing systems. Regulatory frameworks are important, but when you bring in ihsān, you enhance relationships and create more harmonious workplaces.*” The feedback from Participant 5 highlights the potential of integrating an *ihsān*-driven approach into industrial relations to complement existing regulatory systems (Abd Razak & Nik Mahmod, 2021; Ahmad, 2024; Aminuddin, 2024). While acknowledging the importance of regulatory frameworks for maintaining order and compliance, the participant suggests that incorporating *ihsān* into these systems can significantly enhance relationships in the workplace (Wahab & Ismail, 2019; Badruddin, 2023; Sumi et al., 2024). By fostering trust, respect, and cooperation, an *ihsān*-driven approach helps to create a more harmonious work environment, going beyond legal and regulatory obligations.

Table 1: Key Points and Themes from the Focused Group Discussion

Participant	Key points	Themes
1	“... <i>ihsān</i> is at the core of our values in the workplace. Trust and mutual cooperation make us stronger...”	Core values Trust Mutual cooperation
2	“... <i>ihsān</i> creates a sense of belonging and commitment ...”	Sense of belonging Commitment
3	“...when <i>ihsān</i> is present, people are more motivated and willing to go beyond what’s required.”	Motivation
4	“... working together for a shared purpose.”	Shared purposed
5	“...when you bring in <i>ihsān</i> , you enhance relationships and create more harmonious workplaces.”	Enhance relationships

Source: Feedback of the Focused Group Discussion

Based on the feedback, participants argued that *ihsān*, in the form of trust, mutual cooperation, and a spirit of giving, holds greater value than monetary benefits. While financial resources are necessary to meet regulatory requirements and improve workplace conditions, participants emphasized that the true foundation of a harmonious workplace lies in instilling *ihsān* (Wahab & Ismail, 2019; Badruddin, 2023; Sumi et al., 2024). They shared experiences from Islamic universities that have practiced *ihsān* for nearly a century, demonstrating the sustainability of such institutions in promoting a harmonious and humanized work environment. Participants proposed an *ihsān* -driven approach to industrial relations, one that complements the existing regulatory and material-driven systems.

Conclusion

In conclusion, this study emphasises the significant but frequently neglected function of *ihsān* (benevolence) in promoting and maintaining harmony in industrial relations, specifically in Islamic universities in Southeast Asia. While traditional industrial relations primarily emphasise adherence to legal and organisational obligations, with a focus on cost reduction and profit maximisation, *ihsān* brings a more morally upright and human-centric approach that enhances the relationships between employers and employees. The results suggest that trust, mutual cooperation, and a spirit of giving, which are fundamental aspects of *ihsān*, are considered more important than financial rewards in fostering a peaceful work environment. The experiences offered by Islamic universities that have been practicing *ihsān* for nearly 100 years provide additional evidence of the continued viability and efficacy of this strategy in fostering a humane work environment. The findings of this research indicate that integrating

ihṣān-driven strategies into industrial relations can enhance current material and regulatory frameworks, providing a comprehensive approach to fostering workplace harmony. Nevertheless, this study's concentration on a specific subset of Islamic universities in Southeast Asia imposes a limitation. Future study should focus on increasing the sample size and incorporating a wider variety of institutions from the region. This will allow for a more comprehensive understanding of the impact of *ihṣān* in industrial relations on a larger scale. Moreover, conducting a more extensive examination of the lasting effects of *ihṣān*-oriented industrial relations on the performance of organisations and the well-being of employees could yield significant knowledge for policy-making and implementation in both Islamic and non-Islamic work environments.

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STUDENTS' PERCEPTIONS OF DIGITAL STORYTELLING PROJECT: A PRELIMINARY STUDY

Nur Shafiekah Sapan¹

¹Centre for the Promotion of Knowledge and Language Learning, Universiti Malaysia Sabah (UMS), Malaysia, (nurshafiekah@edu.my)

Abstract: *This study investigated students' perceptions of digital storytelling projects and their potential impact on reading and critical thinking skills in Reading and Writing. A preliminary study involved 64 first-year English as a Second Language (ESL) students from Universiti Malaysia Sabah Labuan International Campus. The data gathered from the study were taken through a mixed-method approach, combining questionnaires and qualitative feedback from the participants. The data analysis revealed that students generally had positive perceptions of the project, with most participants thinking that the digital storytelling project enhanced their reading comprehension, critical thinking, and creativity. The study suggests that digital storytelling can be a valuable tool for developing reading skills and higher-order thinking in ESL learners. Future research is needed to explore digital storytelling projects' long-term effects on reading and critical skills.*

Keywords: *Critical Thinking, Digital Storytelling, English as a Second Language, ESL, Reading Skill*

Introduction

Technology has created a culture of desire towards gadgets in today's technologically fast-paced society. This digital revolution has led to a shift in reading habits, with many children opting for screens over books. The visual nature of digital content can make it more engaging for some children. Not only that, games, videos, and social media platforms provide endless entertainment at the touch of a button. While digital technology has undeniable benefits, it is important to recognise the value of reading. Books can foster critical thinking, imagination, and empathy. Furthermore, they expose the younger generation to different perspectives, expand their vocabulary, and improve their language skills.

The term digital natives associated with the present student population made educators around the world keep on experimenting with new technology to be integrated into the classroom. Digital natives which were coined by Marc Prensky refer to students who are growing up with technology as an integral part of their lives and are fluent in the language of computers, video games and the Internet (Prensky, 2001). Prensky (2001) suggested teachers should reconsider the teaching method and content when encountering digital natives in the classroom. Teachers need to learn how to communicate in the language and style of their students and simultaneously pay attention to the content of the subject. Additionally, exploring digital technologies can help bridge the gap between traditional curricula such as reading, writing and listening and digital literacy. This is how digital storytelling found its way to the classroom which has proven as one of the innovative pedagogical approaches that enhance students' engagement, language skills and meaningful learning (Smeda et al., 2012).

The rapid evolution of technology has given birth to the modern version of digital storytelling which was further developed at the Centre for Digital Storytelling in California in the 1990s

founded by Dana Atchley, Joe Lambert and Nina Mullen (Aboo Bakar, 2019; Mirza, 2020). They discovered that the new digital media technology allows people with little to no prior experience in multimedia to create strong personal stories. Since then, digital storytelling has been widely used in the teaching and learning environment and has been regarded as one of the innovative pedagogical approaches which provide a myriad of educational benefits. The combination of text, images, audio and video, makes digital storytelling compelling to be used by educators in the classroom, particularly in the teaching of the English language. Digital storytelling is widely regarded as an effective method for improving students' skills in speaking, writing, critical thinking, and problem-solving (Jitpaisarnwattana, 2018). However, despite its widespread use in language-learning classrooms, limited studies have investigated students' perceptions or attitudes towards its use as a project, particularly in their reading and critical thinking skills. Understanding students' perceptions is crucial in assessing the effectiveness of technology integration in the classroom (Al-Shammy, 2007, as cited in Jitpaisarnwattana, 2018). Thus, this paper aims to explore students' perceptions of digital storytelling projects and their potential benefits for reading and critical thinking.

Literature Review

Digital Storytelling

Storytelling is the oldest form of human communication that has been used throughout human history. Whether it is a bedtime story, a historical moment or a fairytale, storytelling could captivate, inspire, and educate. Humans have used storytelling as a tool for entertainment, education and sharing traditions and values of their cultures. The educational benefit of storytelling which is a natural yet powerful technique for the students to communicate, personalise and construct their own meaning based on what they know, and experience is the reason storytelling is applied in the classroom as one of the pedagogical approaches (Behmer, 2005; Smeda et al., 2014). The evolution of technology and the emergence of digital media have revolutionised the way storytelling is applied in the classroom. The traditional form of oral narratives has shifted to digital experiences with a modern approach. Normann (2011) cited in Smeda et al., (2014) stated that "Today people still tell stories, but now we have new media tools with which to share them. A digital story can hence be seen as a merger between the old storytelling tradition and the use of new technology," (p.3).

Digital storytelling definition varies according to researchers however most of them share several elements in their definition where digital storytelling uses digital multimedia or tools to create stories by combining images, narration and audio more engagingly. Robin (2006) defined digital storytelling as digital stories that mix various digital elements to convey information on a particular topic. These digital stories are a blend of digital graphics, text, recorded audio narration, video and music to enhance the storytelling experience. By incorporating these types of digital multimedia, digital storytelling offers a dynamic way to present information and understand certain subject matter.

Digital Storytelling and Reading Skills

Recognising the potential of digital storytelling as an effective educational tool, teachers across the globe have increasingly begun to incorporate it into their classrooms. They have seen how digital storytelling provides engaging and interactive environments. Digital storytelling not only serves as a medium that combines digital media with innovative teaching and learning practices but also significantly enhances students' motivation, collaboration and higher-order thinking skills (Dakich, 2008 cited in Smeda et al., 2014).

Language teachers have increasingly embraced digital storytelling in the classroom, leveraging its unique ability to improve students' language skills. Several studies have demonstrated that digital storytelling has positively impacted students' language skills, learning motivation and student engagement (Sadik, 2008; Snelson & Sheffield, 2009; Smeda et al., 2014; Mirza, 2020). The integration of multimedia elements into digital storytelling provides the students with immersive learning experiences that go beyond traditional methods. This method actively involves them in the creation of narratives, making learning more interactive and meaningful.

Alshrari (2015) examined the effect of digital storytelling on the reading skills of EFL second-intermediate students in Saudi Arabia. The study involved fifty students who were divided into two groups: experimental and control groups. A pre-test and post-test were administered to measure the impact. The finding revealed that students in the experimental group showed greater progress compared to the control group who received instructions through the traditional method (cited in Radaideh et al., 2020). A similar result was also produced by Hamdy (2017) where the experimental group performed better in reading and listening comprehension than the control group. Another study by Adiguzel and Kumkale (2018) explored the effect of using digital stories on reading comprehension in a secondary school in Turkey. The result suggested that using digital stories in English lessons had a positive impact on reading comprehension.

While previous studies have demonstrated the effectiveness of digital storytelling as a tool in enhancing reading comprehension, limited studies address how the creation of digital storytelling projects by students contributes to the improvement of their reading skills. Yang and Wu (2012) conducted a study on the impact of digital storytelling projects on students' academic achievement, critical thinking and learning motivation. The year-long experimental study revealed that engaging in a digital storytelling project enhances students' reading and writing skills where the students collaborate to construct the meaning of content-related themes by browsing, summarising and sharing several English materials in the process of composing their drafts. Another study by Jitpaisarnwattana (2018) investigates how EFL students' attitudes towards digital storytelling projects at a university in Thailand which focuses on language improvement and motivation. The study found that the integration of digital storytelling projects in the classroom improves their language skills, particularly their reading and writing skills. Recently, Mirza (2020) also explored the effectiveness of digital storytelling projects in improving the student's language proficiency. The result shows that creating digital storytelling videos provides enjoyable learning experiences and simultaneously improves language proficiency such as pronunciation, oral communication and writing skills.

Digital Storytelling and Critical Thinking Skills

Critical thinking skill has become one of the main skills in the 21st century which are essential for schools and work (Wiwikananda & Susanti, 2022). In language learning, critical thinking is essential in comprehending the reading materials and questions and interpreting them on a deeper level. Critical thinking is a higher-order thinking skill (HOTS) which according to Bloom (1956) involves problem-solving, decision-making and creative thinking (cited in Wiwikananda & Susanti, 2022). Facione (2013) defined critical thinking as "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based" (p.26). Critical thinking involves analysing and evaluating information, identifying logical relationships and drawing conclusions based on evidence. The use of digital storytelling as an educational approach has the potential to promote

critical thinking skills in students. Digital storytelling requires them to engage in reflective thinking as they conceptualise, design and present their stories. Yang and Wu (2012) found that digital storytelling projects allow the students to make critical decisions about structuring their narrative, selecting multimedia elements and interpreting of those elements in their project which contributes to developing their critical thinking skills. Wiwikananda & Susanti (2022) found that the deployment of digital storytelling improved students' critical thinking. They found digital storytelling "encourages the students to actively participate in the teaching and learning session in order to examine, evaluate and make decisions regarding a certain subject," (p.372).

Previous research has demonstrated the effectiveness of digital storytelling as a teaching method in language-learning classrooms. Additionally, digital storytelling can be used as a student-centred project. To better understand the impact of digital storytelling projects on students, this study aims to explore their perceptions and potential benefits for reading and critical thinking. There are two research questions in this study:

- i. What are students' perceptions of digital storytelling projects regarding their reading skills?
- ii. What are students' perceptions of digital storytelling projects regarding their critical thinking skills?

Methodology

Setting and Participant

The researcher conducted the study at Universiti Malaysia Sabah Labuan International Campus (UMSLIC), the second branch of Universiti Malaysia Sabah (UMS). The participants of this study were 64 first-year students enrolled in Reading and Writing in English class. The participants comprised 26 male and 38 female students, from the Faculty of International Finance Labuan (FKAL) and the Faculty of Computing and Informatics (FKI).

Digital Storytelling Project Description

All participants in this study enrolled in Reading and Writing in English class. Reading and Writing in English is one of the English subjects offered to proficiency-level students at Universiti Malaysia Sabah. It is a three-hour class per week for 14 weeks. The class aims to enhance students' reading and writing skills through exposure to various types of reading materials and essay genres. The digital storytelling project is one of the assessments for this subject. For this project, students are required to select an English novel from a list of classic titles, including *The Old Man and The Sea*, *The Hound of Baskerville*, *Of Mice and Men*, *Animal Farm*, *Lord of the Flies*, *To Kill a Mockingbird*, *The Outsider*, *The Great Gatsby* and *Journey to the Center of the Earth*. At the start of the semester, the lecturer briefed the students on the project, which was carried out in groups of four or five. After reading their chosen novel, students began the project by creating a storyboard, a crucial step for visualising their digital story. A storyboard template was provided to guide them in including the necessary elements of their story. After the completion of their storyboards, each group met with the lecturer for feedback before producing their digital story video. Each group then created a seven-minute digital video. In the 14th week of the semester, each group presented their digital story videos. Figure 1 illustrates the flowchart of the digital storytelling project.

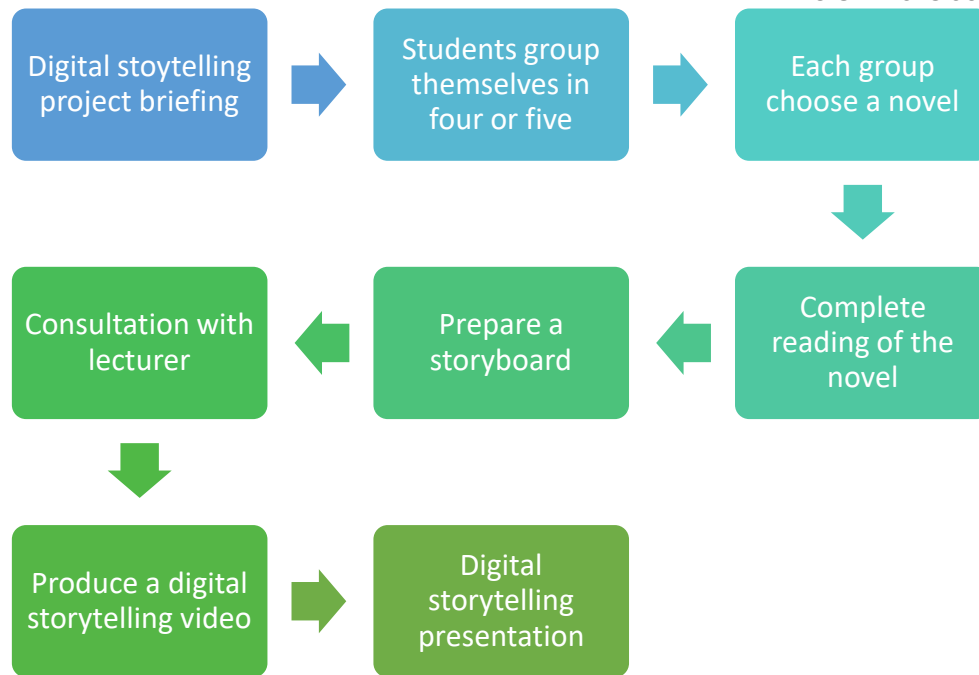


Figure 1: Flowchart of Digital Storytelling Project

Data Collection and Instrument

To collect data, a set of closed and open-ended questionnaires was administered to the participants to complete using Microsoft Forms. The researcher used a questionnaire adapted from Jitpaisarnwattana (2018) in his study. There are three sections to the questionnaire. Section A includes demographic questions, Section B contains 16 five-point Likert scales with 1 being 'Strongly Disagree and 5 being Strongly Agree' measuring students' perceptions on digital storytelling projects and Section C consists of 11 open-ended questions (see Appendix). The open-ended questions sought to gain additional insights into students' perceptions and opinions as reflected in their answers to Section B.

Data Analysis

The data from the closed-ended questions were analysed using frequency analysis to examine the distribution of responses for each question. The five-point Likert-scale items were interpreted as follows: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree. When reporting the data, the scores for the Likert-scale items were combined, such as 4 (agree) and 5 (strongly agree) or 2 (disagree) and 1 (strongly disagree). The open-ended questions provided additional insight into the answer from Section B and support for the quantitative findings.

Result and Discussion

Research Question One: What are students' perceptions of digital storytelling projects regarding their reading skills?

Questions one and seven in Section B of the questionnaire assessed participants' perceptions of how the digital storytelling project enhanced their reading skills. These questions specifically focused on the project's effectiveness in improving reading comprehension of the chosen novel and overall reading ability. Additionally, open-ended questions were included to elicit detailed responses from participants. The quantitative and qualitative results consistently indicated that the digital storytelling project positively impacted students' reading skills and understanding of

the chosen novel. As shown in Figure 2, a significant majority of participants (95.3%) agreed that the project improved their overall reading skills, while only 4.7% disagreed.

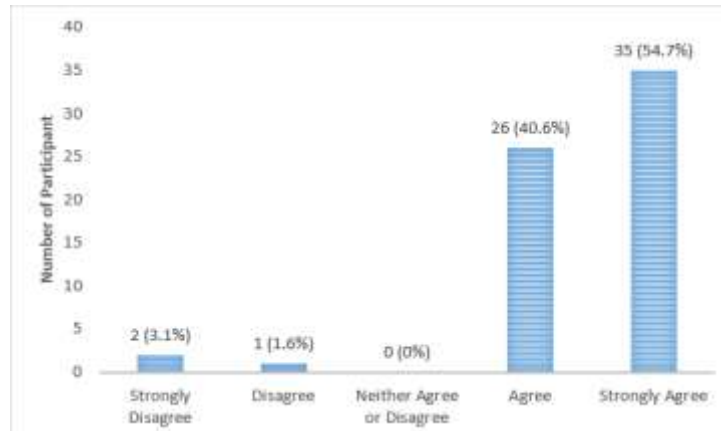


Figure 2: The Digital Storytelling Project Helped Me Improve My Reading Skill

Question seven revealed that most participants found the digital storytelling project to be beneficial for deepening their understanding of the novel. This was reflected in their ability to choose critical parts of the story, identify themes, and connect the novel to their personal experiences, as demonstrated in their digital story videos. Figure 3 further supports this finding, with 95.3% of participants agreeing that the project improved their understanding of the novel and only 4.7% disagreeing.

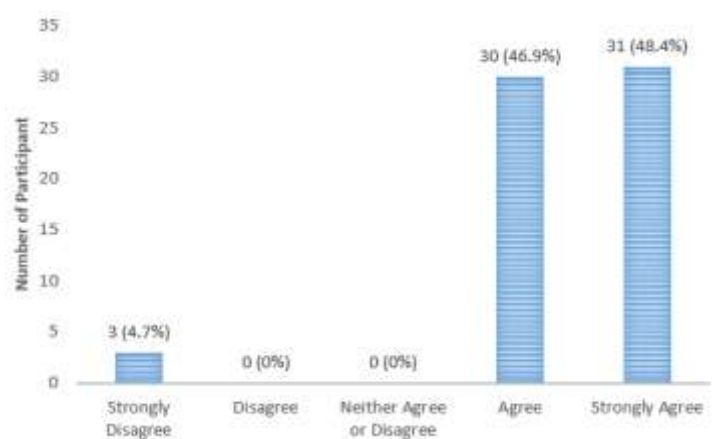


Figure 3: The Digital Storytelling Project Enhanced My Understanding of the Novel That I Read

These findings are consistent with previous research by Anggeraini and Nurul (2017) and Jitpaisarnwattana (2018), which highlighted the positive effects of digital storytelling projects on students' reading skills. As outlined previously, students were assigned to read a novel from the provided selection and then create a digital storytelling video based on the novel. This process required a deep engagement with the reading material, as students must choose significant scenes, analyse events and connect them with the novel's theme. This active engagement enhances their comprehension of the novel.

The qualitative feedback provided by the participants further supported these quantitative findings, with students reporting increased comprehension and a deeper understanding of the story's key elements prior to creating their digital storytelling videos.

"by reading the novel and the understanding the story" - R5

"What I like about digital storytelling is it make me clearer about the story that we have read" – R17

"Its help me to read the whole novel and understand it on my own. Then, do our part that already been seperated for each member" - R24

"For me,digital storytelling project helped me by teach me to understand well the story and put short summary on it so that i can explain to the audiences" - R38

"The project improved my reading skills by requiring me to research and analyze texts for story creation" – R41

"The digital storytelling project helped me develop my reading skills by reading a novel. Reading a full novel allows me to focus on the storyline and every line the novel author tried to convey" - R53

"While reading the novel to know and understand the story in the novel before it is made into an animation" - R63

Additionally, students reported that working together on a digital storytelling project encouraged knowledge sharing and helped clarify any misunderstandings, ultimately leading to a deeper understanding of the novel and improved digital story video production.

"We need to discuss what are the different understanding between us and we need to include it in the book review video" – R49

"The digital storytelling project helped me improve collaboration with my group members by sharing ideas, communicating, and helping to solve problems together. This will make us to be more close towards each other" – R53

"Enhanced Communication: Working on a digital storytelling project requires constant communication. This has fostered better dialogue among group members, ensuring everyone is on the same page and contributing their ideas" – R60

Educators worldwide have recognised the potential of digital storytelling to enhance students' understanding of content. This approach allows students to actively construct meaning from content, share experiences, and facilitate collaboration and discussion (Yuksel et.al., 2011). A study by Yang and Wu (2012) found that collaboration among participants in preparing their digital story project can enhanced their understanding of content-related themes from multiple sources of English materials. These quantitative and qualitative results strongly indicate that the digital storytelling project significantly improved students' reading skills. By requiring the students to thoroughly explore and analyse the key elements of the reading materials, the project supported a more active and engaged approach to reading.

Research Question Two: What are students' perceptions of digital storytelling projects regarding their critical thinking skills?

The findings of this research suggest that digital storytelling projects enhance students' critical thinking skills. As illustrated in Figure 4, 89.1% of participants agreed that creating a digital storytelling video improved their critical thinking skills, while 10.9% either disagreed or remained neutral. The result obtained in this study echoes the studies by Al-Shaye (2021) and Wiwikananda & Susanti (2022) which also demonstrated that integrating digital storytelling into classroom activities improved students' critical thinking.

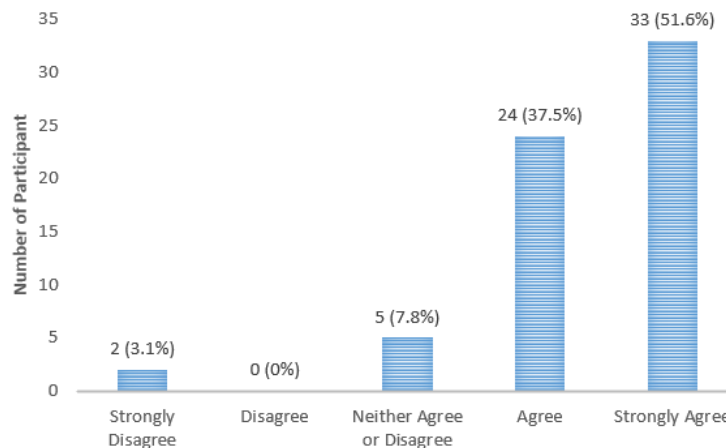


Figure 4: The Digital Storytelling Project Improved My Critical Thinking

This digital storytelling project is a multifaceted process that can significantly enhance students' critical thinking skills. Before creating their digital story video, students must analyse the story by breaking it down into several key elements which are plot, characters, themes, and personal review. This analysis allows them to synthesise these components into their own version of the narrative for the digital story. Creating a digital story requires a deep understanding of the original material and its accurate representation in animation. Sadik (2008) stated that the digital storytelling process not only enables the students to think critically about their subject matter but also helps clarify and reflect on their knowledge. These can be seen through the responses from the students which indicate that their critical thinking was enhanced during the preparation of their digital storytelling projects.

“Critical thinking, new word discovery, and development my English accent even more fluent” – R34

“Critical thinking skills” – R36

“Critical Thinking: Analyzing and constructing stories has enhanced my ability to think critically and organize ideas logically. This has translated into clearer and more persuasive communication. - R60

“Creating digital stories helps me develop these technical skills because it makes me do some research, writing, critical thinking and creativity. - R63

Producing a digital story video does not simply summarise the novel that they have read but the students also need to consider which important element to include while adhering to the time limit. The summary presented in the video must be clear and concise. Addressing these difficulties requires critical thinking and problem-solving skills. Mirza (2020) found that integrating digital storytelling projects in the classroom can significantly enhance students' critical thinking skills where they learn to communicate relevant communication within a limited timeframe.

The process of transforming the content of the text into animations includes various steps that the students need to follow through to make their digital storytelling video a success. Other than reading and understanding the text, the students need to carefully choose the appropriate visuals such as images, illustrations or even live-action footage that accurately represent the story's content. Adding audio components to digital storytelling videos such as voice-overs or background music and special effects can also enhance the viewing experience for audiences.

“Digital storytelling project allows me to creative thinking and create story visual in interesting way” – R52

“Digital storytelling projects an interesting way to learn through video. The way digital storytelling conveys information is easy to understand which is interesting with whatever method is used in the background such as animation” – R53

“I have learned how to create engaging digital content, including interactive elements and dynamic storytelling techniques” – R58

“While reading the novel to know and understand the story in the novel before it is made into an animation” – R63

This result is supported by studies conducted by Yang and Wu (2012) and Abdel-Hack & Helwa (2014) who found that using digital storytelling projects to develop critical thinking abilities helped the participants to interpret the significance of certain elements of stories, visuals, and software. This corroboration of findings strengthens the effectiveness of digital storytelling projects in improving critical thinking skills.

Pedagogical Implications

The result of this study provides evidence that digital storytelling projects can be an effective tool for teaching and learning in improving language skills. This approach offers a modern and innovative alternative compared to traditional teaching methods by integrating technology into the learning process. Digital storytelling project stimulates engagement by encouraging the students to actively participate in the learning process rather than being passive readers or listeners. By combining storytelling with digital media, students develop their language skills, particularly in this study, reading skills and enhance their creativity and critical thinking skills. However, for a digital storytelling project to be effective, teachers must ensure the project is well-structured and grounded in a solid theoretical framework (Jitpaisarnwattana, 2018).

Conclusion

The findings of this study show that digital storytelling projects can play a pivotal role as a teaching and learning tool for stimulating learning in the 21st-century classroom. The digital storytelling project is making students become content creators where they have the choice to select the key elements of the text, identify themes and make personal connections with the material. This hands-on approach is aligned with the digital native habits of the current generation of students making reading more relevant and stimulating. Through this study, integrating digital storytelling projects into reading and writing classes can significantly improve students' comprehension of the reading material. It provides opportunities to analyse and synthesise the content, selecting only the most important elements to include in their storytelling video. Robin (2006) stated that creating digital storytelling empowers students to create meaningful stories and present their ideas in a compelling manner.

The study also highlights the significant role of digital storytelling projects in enhancing students' critical thinking skills. In completing the project, students were required not only to be creative in crafting their stories but also needed to analyse information, evaluate different perspectives, and make thoughtful decisions on how to present their stories. The process of reflection, organisation and making decisions encouraged them to think critically, thus improving their critical thinking abilities. Smeda et al., (2010) cited in Abdel-Hack & Helwa (2014) emphasised that integrating digital storytelling into the curriculum is a strategic

approach to fostering higher-order thinking skills which require students to actively engage and reflect on the content rather than passively receive information. Moreover, digital storytelling projects also allow students to take an active role in their learning where they would be responsible for their projects with minimal guidance from teachers (Ohler, 2006; Al-Shaye, 2021). This student-centred approach promotes autonomy allowing students to take ownership of their learning while improving problem-solving, creativity and critical thinking.

Limitation of the Study

This preliminary study has several limitations. First, the sample size was limited to the sections taught by the researcher, which may not fully reflect the whole student population. Thus, a comparison study between English classes employing digital storytelling projects is recommended to validate the current findings and obtain a comprehensive view of this issue. Secondly, the study focused solely on students' perceptions and did not include a direct measure of reading and critical thinking skills. Finally, the present study was conducted over a short timeframe, which limits the ability to assess the long-term impact of digital storytelling projects on students' reading and critical thinking skills. Future research could address these limitations by including a larger, more diverse sample over a longer period, including direct measures of reading and critical thinking skills, and employing a longitudinal design to examine the effectiveness of digital storytelling projects on reading skills.

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Appendix: Students' Perceptions of Digital Storytelling Project Questionnaire

No	Item
Section A	
1	Age:
2	Gender: Male / Female
3	Faculty: FKAL / FKI
4	Race:
Section B	
1	The digital storytelling project helped me improve my reading skill
2	The digital storytelling project helped me improve my writing skill
3	The digital storytelling project helped me improve my grammar
4	The digital storytelling project helped me improve my vocabulary knowledge
5	The digital storytelling project helped me improve my critical thinking
6	The digital storytelling project improved my teamwork skill
7	The digital storytelling project enhanced my understanding of the book that I read
8	The digital storytelling project aroused my curiosity, even if it was difficult to do
9	The digital storytelling project made me like English more
10	The digital storytelling project was challenging
11	The digital storytelling project was interesting
12	The digital storytelling project was a motivational tool for me to learn English
13	The digital storytelling project was very engaging
14	The digital storytelling project is useful for my English learning
15	I think I will be able to use the skills that I learned from the digital storytelling project in other aspects of my life.
16	I am satisfied with my digital storytelling project
Section C	
1	What do you like about the digital storytelling project?
2	What do you dislike about the digital storytelling project?
3	What is the most challenging part of the digital storytelling project?
4	How did the digital storytelling project improve your reading skills?
5	How did the digital storytelling project improve your writing skills?
6	How did the digital storytelling project improve your critical thinking?
7	How did the digital storytelling project improve your vocabulary knowledge?
8	How did the digital storytelling project improve your overall English skills?
9	How did the digital storytelling project improve your editing skills?
10	How did the digital storytelling project improve your collaboration with your group members?
11	How did the digital storytelling project enhance your learning experience?

PRELIMINARY STUDIES IN DETERMINATION OF THE MICROBIOLOGICAL QUALITY AND ACCEPTANCE OF SELECTED IRRADIATED PERISHABLE FOOD PRODUCTS DURING STORAGE

Seri Chempaka Mohd. Yusof^{1*}

Azhar Mohamad²

Mohd. Hafiz Abdul Nasir³

Cosmos George⁴

Ahsanulkhaliqin Abdul Wahab⁵

¹Malaysian Nuclear Agency, Malaysia, seri@nm.gov.my

²Malaysian Nuclear Agency, Malaysia, azhar_m@nm.gov.my

³Malaysian Nuclear Agency, Malaysia, mhafiz_an@nm.gov.my

⁴Malaysian Nuclear Agency, Malaysia, cosmos@nm.gov.my

⁵Malaysian Nuclear Agency, Malaysia, ahsanul@nm.gov.my

*Corresponding Author

Abstract: Food products such as bread, cakes and other delicacies are highly perishable products which are mainly deteriorate due to staling, moisture loss and microbial spoilage. More than 90% of mould contamination occurs during cooling, slicing, or wrapping operations. The effectiveness of food preservation by ionizing radiation is very well documented, established and prestigious international organizations support its wholesomeness. Gamma ray, an ionizing radiation is currently known to be a safe technology for treating food products in extending their shelf-life. Studies were carried out to overcome arisen of the safe shelf-stable food and to evaluate the suitability of irradiation in preserving local sliced breads and bahulu cakes. Generally, these food products can be kept in room temperature only for one or two weeks respectively. Fresh packed products were obtained from local producers and irradiated at doses of 2.0 kGy, 5.0 kGy and 10 kGy, using 60Co gamma irradiation source at MINTec-Sinagama. The irradiated and non-irradiated samples were displayed at room temperature storage periods for 1 month. Microbiological analysis was carried out to determine status of bacteria (Total Plate Count) and fungi counts. The results were expressed as colony forming units per gram (cfu/g). Colour changes of the products were recorded using Colorimeter (Minolta) for lightness (L), redness (a) and yellowness (b) values. Acceptability of the irradiated products were determined through sensory evaluation by using 30 members (male and female) of untrained panellists. Results showed that irradiation at 2 kGy has the ability in reducing the microbial loads (both bacterial and fungal colonies) in the irradiated samples and there was no presence of microbes after irradiated at 5 and 10kGy. Nevertheless, after 1 month of storage, the microbial load increased in the control samples but remained low in the irradiated samples. Both samples irradiated at 2 kGy were more acceptable in sensory evaluation especially texture and taste and there was a significant change ($P < 0.05$) in the lightness of the sample after irradiation. The samples become darker after irradiation at 10 kGy. These results demonstrated the ability of gamma irradiation for the decontamination of selected perishable food products and reliable process for food storage in commercial industry. A longer shelf-life periods should be studied for the acceptability, microbiological and physicochemical quality of this product.

Keywords: Gamma, Irradiation, Perishable food, Microbial, Storage

Introduction

Food irradiation is closely related with nuclear technology, hence application of it must follow food regulation act 1985 where the related industry must gain permission from Ministry of Health Malaysia. In 2011, Malaysia have achieved one of the biggest achievements in this industry when Ministry Health of Malaysia have approved food irradiation process up to 10kGy through food irradiation regulation 2011. This rule and regulation have fully enforced in Malaysia since 2013 until now. Food irradiation technology involve exposing food product with ionizing radiation under controlled environment. This technology has been used widely as an alternative method to preserve food product by increasing food shelf-life without changing food original taste, color, texture and food's nutritional content. Scientifically findings, show that food irradiation has the ability to increase food safety, reduce post-harvest lost and overcome the trade barriers.

Bread and cakes are highly perishable products that mainly deteriorates due to staling, moisture loss and microbial spoilage. More than 90% of mould contamination occurs during cooling, slicing or wrapping operations (Magan et al, 2003). There is increasing public concern about food preservatives and an urge to reduce their amounts exist in the food industry (Saranraj & Geetha, 2012), which affects bread production and also associated mould spoilage (Magan et al, 2012). The effectiveness of food preservation by ionizing radiation is very well documented (Josephson & Peterson 1983), and prestigious international organizations support its wholesomeness (WHO, 1989). Irradiation offers a potential effort to enhance microbiological safety and quality of food through shelf-life extension. The benefits of irradiation as a sanitary treatment of many types of food are well known, some of which are applied commercially in several countries. Gamma irradiation technology has positive effects for destroying the pathogen microorganisms and by improving the safety and shelf stability of food products without compromising the nutritional or sensory quality and its use is gradually increasing worldwide (Ahn and Nam, 2004; Oluwakemi et al., 2018). Bread and bahulu cakes only able to sustain not more than one week in room temperature make it as high perishable food product. Food stored in refrigerator can take up space and will be difficult during electric shortage especially during natural disasters such as floods, earthquakes and other emergencies. Thus, this preliminary study was conducted to gain early information about the suitability of bread and bahulu cakes to be irradiated and stored at room temperature.

Materials and Methods

Fresh packed sliced breads and bahulu cakes were obtained from local producers and irradiated at irradiation doses of 2 kGy, 5 kGy and 10 kGy, using ^{60}Co gamma irradiation at MINTec-Sinagama. The irradiated and non-irradiated samples were displayed at room temperature storage period of one month.

Samples (25g) in duplicates from the irradiated and their corresponding non-irradiated control batches were aseptically homogenized for 1 min with 225 ml sterile saline in a Stomacher (Seward Medical, UK). Appropriate serial dilutions of the homogenate were carried out. Total plate count by pour plate method, was determined using Plate Count Agar incubated at 30°C for 48 hours and Potato Dextrose Agar for molds (incubated at 30°C for 5 days). The results were expressed as colony forming units per gram (cfu/g).

Colour changes of the products were recorded using Colorimeter (Minolta) with L, a, b values i.e. Lightness (L), redness (a) and yellowness (b). Acceptability of the irradiated products were determined through sensory evaluation using 30 members (male and female) of untrained panellists. A 5-point hedonic rating scale was used with 5 points as the most acceptable and 1

point as the most unacceptable. The attributes evaluated were aroma, texture - firmness, texture - brittleness, taste and overall acceptance. Statistical analysis using ANOVA test and comparisons were made by Duncan's multiple range tests.

Results and Discussion

Irradiation at 2 kGy reduced the fungal and microbial loads in irradiated sliced breads and bahulu caked compared to the control samples (not irradiated). The fungal and microbial loads in samples irradiated at 5 and 10 kGy were more lowered than samples irradiated at 2kGy (Table 1 and 2). After storage at one month, the fungal and microbial loads were increased in the control samples but maintained low in samples irradiated at 2, 5 and 10 kGy.

Table 1: The Number of Bacterial Colonies in Breads and Bahulu Cakes Irradiated with Different Doses and Storage Time.

BAHULU			
Irradiation (kGy)	dose	Bacterial counts (cfu/g) - 0 Day	Bacterial counts (cfu/g) - 1 Month
0 (control)		2.96×10^6	9.00×10^6
2		1.33×10^6	2.00×10^6
5		0	0
10		0	0
BREAD			
Irradiation dose (kGy)		Bacterial counts (cfu/g) - 0 Day	Bacterial counts (cfu/g) - 1 Month
0 (control)		6.17×10^6	8.94×10^6
2		5.30×10^6	6.03×10^6
5		3.30×10^6	4.10×10^6
10		1.27×10^6	1.9×10^6

Table 2: The Number of Fungal Colonies in Breads and Bahulu Cakes Irradiated with Different Doses and Storage Time.

BAHULU			
Irradiation (kGy)	dose	Fungal counts (cfu/g) - 0 Day	Fungal counts (cfu/g) - 1 Month
0 (control)		2.96×10^6	9.00×10^6
2		2.00×10^6	1.33×10^6
5		0	0
10		0	0
BREAD			
Irradiation dose (kGy)		Fungal counts (cfu/g) - 0 Day	Fungal counts (cfu/g) - 1 Month
0 (control)		1.30×10^6	2.30×10^6
2		1.00×10^6	1.40×10^6
5		0	0
10		0	0

There were significant changes in the morphology of in samples that irradiated at 2, 5 and 10 kGy. Samples irradiated at 2 kGy were more accepted in sensory evaluation especially the texture and taste (Figure 1 and 2). Samples irradiated at 5 kGy and 10 kGy were totally changed in the texture and taste acceptance. It can be concluded by increasing doses, the dryness and

the sweetness of the samples were also increased proportionally. Bread irradiated with higher dose experience bitter taste compared to bread exposed to lower radiation.

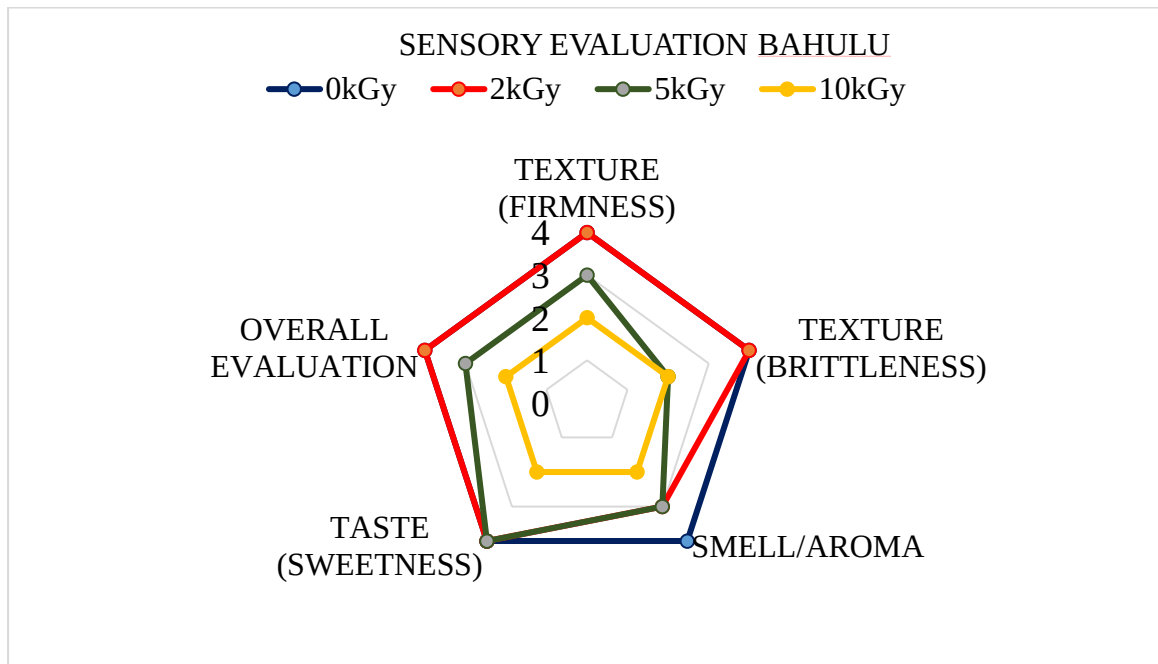


Figure 1: Sensory Evaluation of Irradiated Bahulu Cakes Samples After 1 Month Storage.

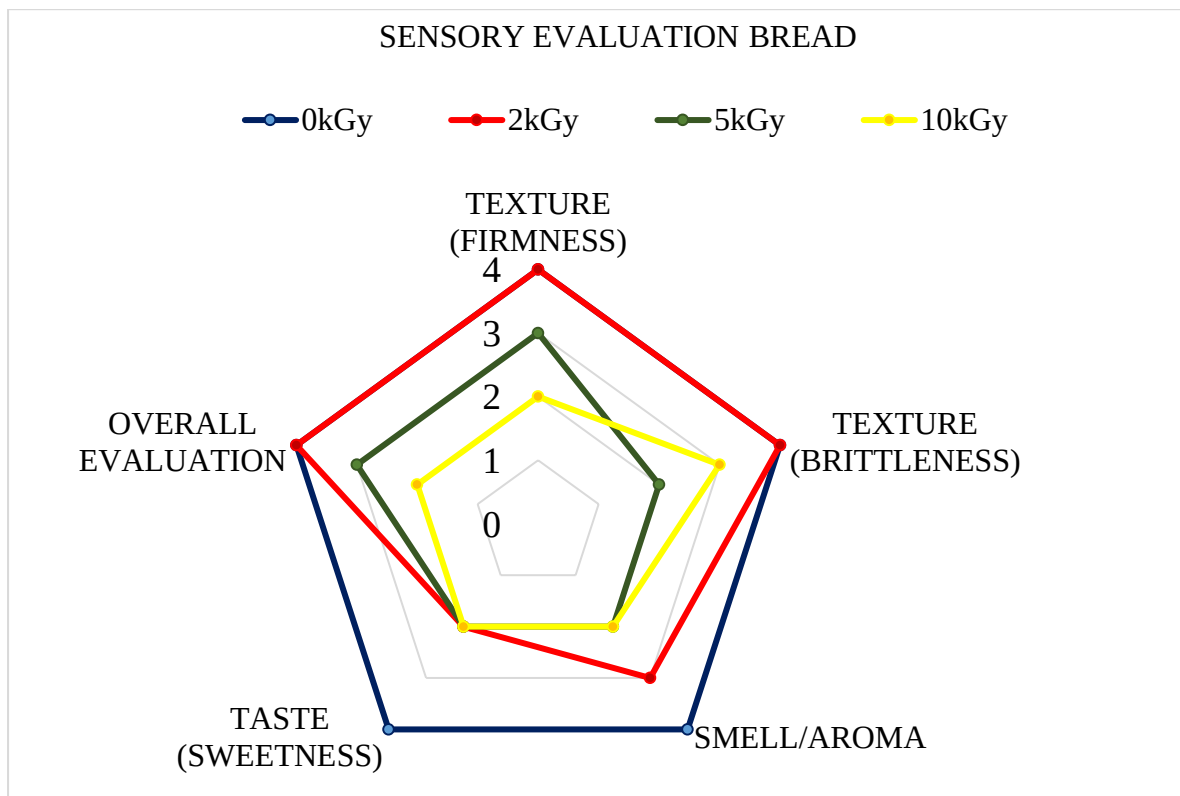


Figure 2: Sensory Evaluation of Irradiated Sliced Breads Samples After 1-Month Storage.

There is no significant difference for the L (lightness) of bahulu and bread irradiated with 2kGy of gamma with control in 0 day of storage. However, the L value decreased significantly when irradiated with 5kGy and 10kGy in 0 day of storage for both bahulu and bread (Figure 3, 4, 5 and 6). This showed that high dose of radiation more than 5kGy has an effect on the lightness of the food. For a value, the redness (a) and yellowness (b) of the irradiated bahulu cakes increased when the radiation dose increases during the 0 day of storage. The yellowness (b value) of the bahulu cakes increased after one-month storage meanwhile there was no significant change of yellowness of irradiated bread samples after 1-month storage.

From the result it can be concluded that increased radiation doses will decrease the overall sensory acceptance. This shows that radiation dose has an effect on the sensory aspect of these samples. This result is supported by Bandyopadhyay, et al. (2020) from his experiment when food irradiated with 5 kGy of gamma radiation reduced the firmness of the food. Other than that, it can be concluded that increased irradiation dose increased the dryness and sweetness of these bahulu cake samples. Bread irradiated with higher dose experienced bitter taste compared to bread exposed to lower radiation. Ionizing irradiation is one of the food preservation techniques with minimum interruption of the functional, nutritional, and sensory properties of food products at lower doses. However, higher dose of irradiation, especially higher than 10 kGy, can lead to physicochemical changes and significantly deteriorate sensory properties of foods (Miller, 2005; Kim et al., 2006).

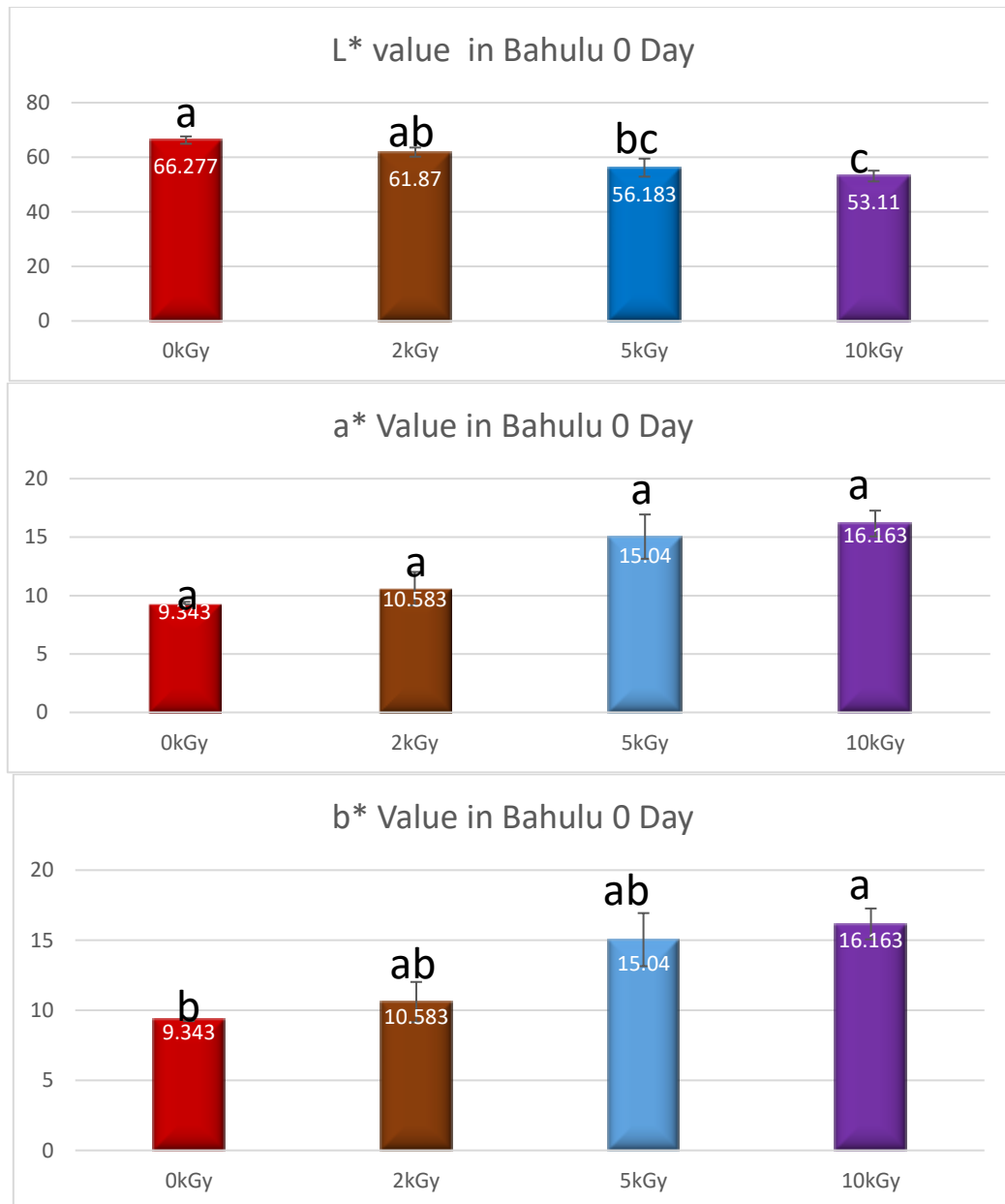


Figure 3: Lightness (L), Redness (A) And Yellowness (B) Values of Bahulu Cakes Samples After Irradiated with Different Doses.

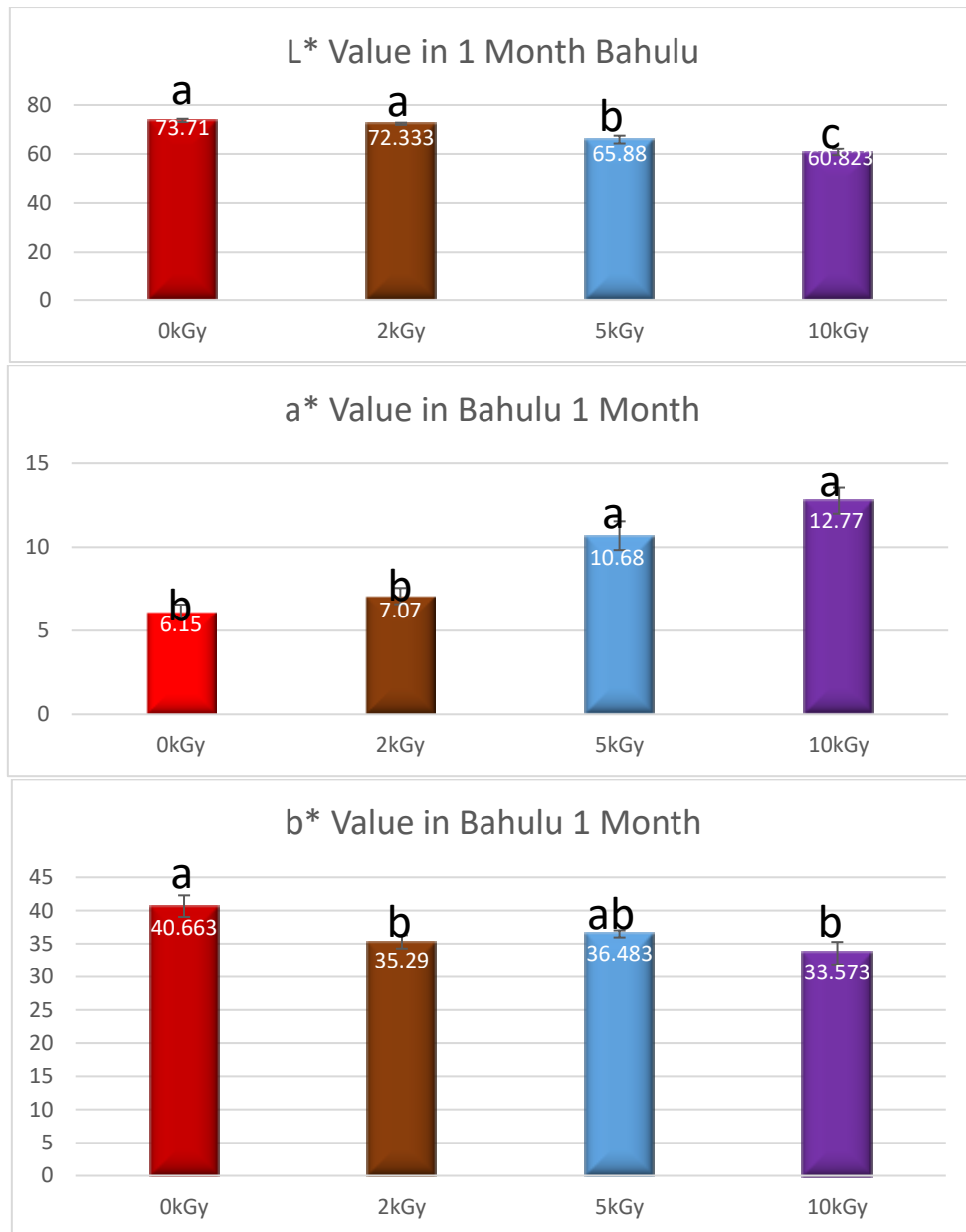


Figure 4: Lightness (L), Redness (A) And Yellowness (B) Values of Bahulu Cakes Samples After Irradiated with Different Doses After Storage In 1 Month.

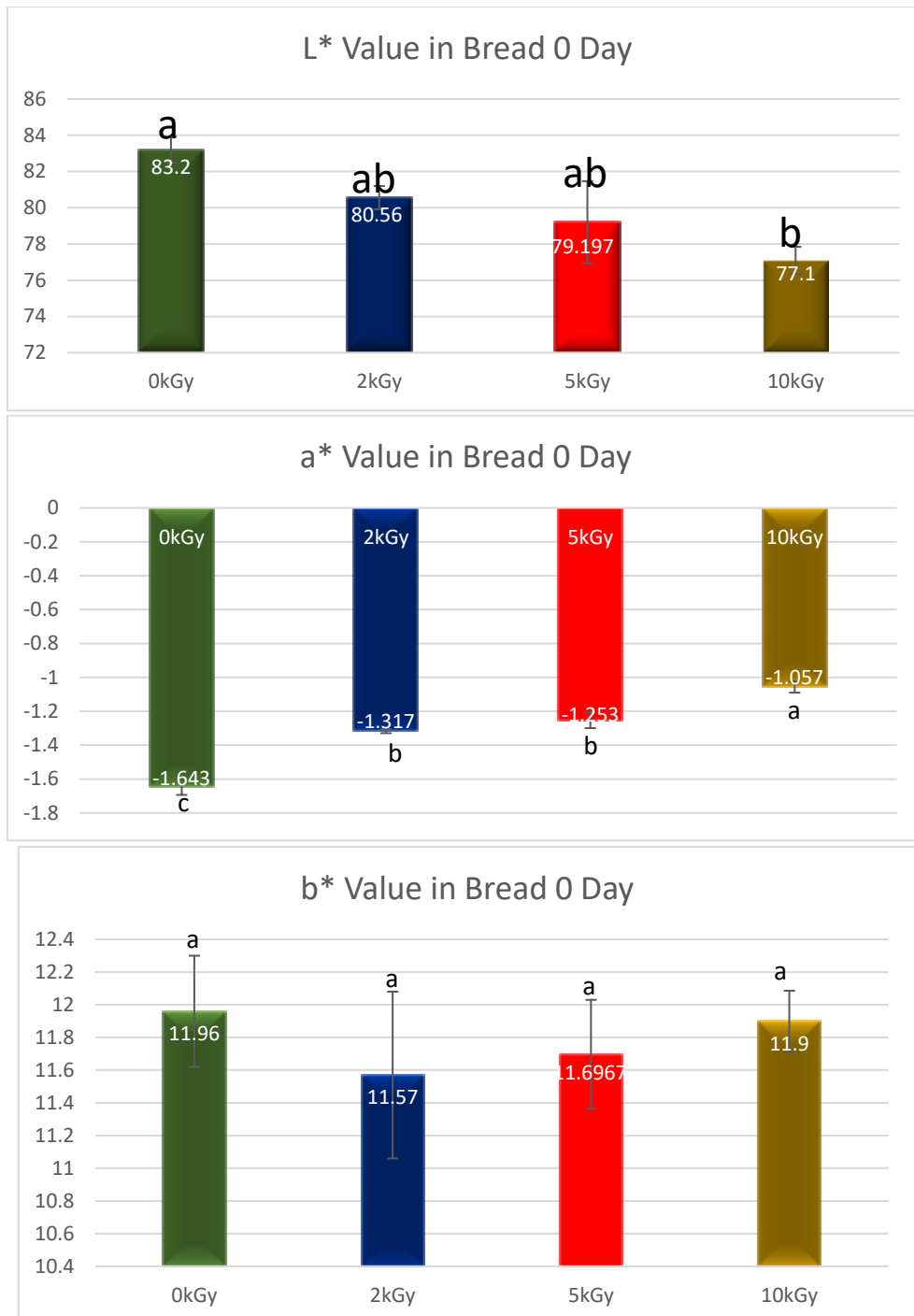


Figure 5: Lightness (L), Redness (A) And Yellowness (B) Values of Bread Samples After Irradiated with Different Doses.

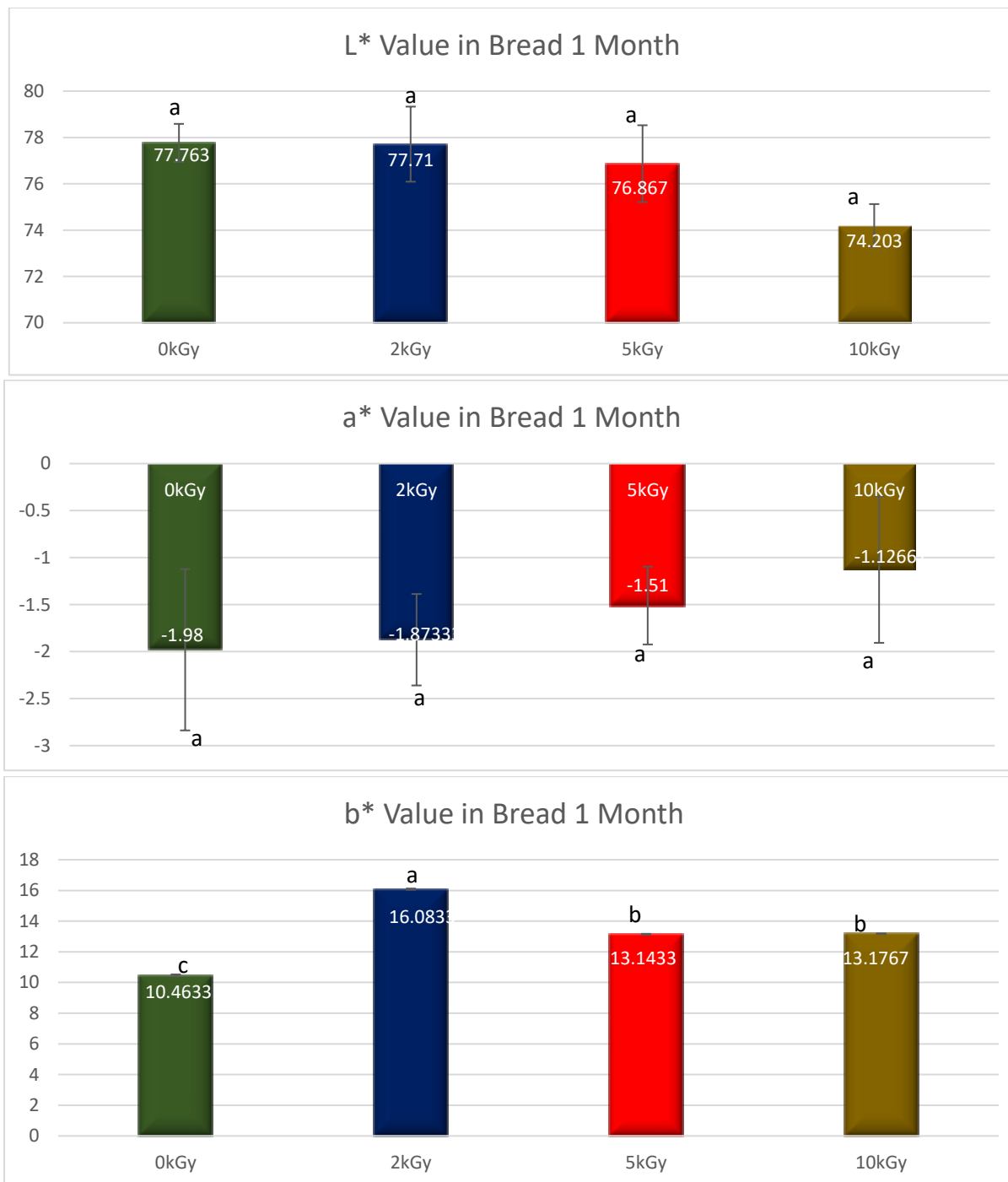


Figure 6: Lightness (L), Redness (A) And Yellowness (B) Values of Bread Samples After Irradiated with Different Doses After Storage 1 Month

Conclusion

Irradiation at dose 2 kGy was suitable in preserving local perishable food products such as bread and bahu cakes and was accepted in morphology and sensory evaluation. Therefore, any food industry that interested to use this technology need to improvise their formulation in order to maintain the originality acceptance of the product. These products can be displayed or kept at room temperature for 1 month (maximum). These results showed the ability of gamma irradiation for the decontamination of selected food and reliable process for food storage in commercial industry. Irradiation can offer a great potential effort to enhance microbiological safety and quality of food through shelf-life extension.

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GADGET DEPENDENCY AND ITS IMPACT ON ACADEMIC PERFORMANCE: A STUDY AMONG HIGHER EDUCATION STUDENTS

Asmahanim Haji Mohamad Yusuf¹

Mohd Nur Fitri Mohd Salim^{2*}

Mohamad Safwat Ashahri Mohd Salim³

Alya Sabrina Rusmi⁴

Wan Nur Dieyana Airein Wan Amri⁵

Nurul Farhanah Mohd Sobirin⁶

Nurina Izzati Mohamad Rohaizad⁷

^{1,2,4,5,6,7}Akademi Pengajian Bahasa, Universiti Teknologi MARA Cawangan Negeri Sembilan, Kampus Seremban, Malaysia

³Akademi Pengajian Bahasa, Universiti Teknologi MARA Cawangan Perak, Kampus Tapah, Malaysia

*Corresponding Author: fitrisalim@uitm.edu.my

Abstract: *The increasing occurrence of gadget usage in educational environments has led to various effects on students' academic experiences. This study investigates the dependency on gadgets in classrooms among students at a Malaysian university, focusing on its frequency and correlation with academic performance. A sample of forty students from the Faculty of Computer and Mathematical Sciences was selected through purposive sampling. Data collection was performed using a questionnaire distributed via WhatsApp and Telegram, followed by analysis using SPSS software. Findings revealed that while most students frequently use gadgets during lectures, there is no significant correlation between gadget usage and their academic performance, measured by GPA and CGPA. However, students perceived that gadget positively contributed to their academic engagement and efficiency. The results suggest that while gadgets are valuable for accessing educational resources, their use must be balanced to prevent distraction. The study concludes with recommendations for educators and institutions to optimise the integration of technology into classroom environments, promoting both responsible gadget use and effective learning outcomes.*

Keywords: *Gadget dependency, Academic performance, Higher education, Technology integration*

Introduction

The integration of technological advancements into society has fundamentally altered both how individuals engage with technology and how they interact through it, significantly influencing contemporary educational practices and the broader learning community. (Gadzali, 2023; Martin et al., 2019). According to Hanaysha et al., (2023), considering these new developments, it is imperative that higher education institutions move swiftly and efficiently and incorporate technology into their curricula, teaching, and all other activities to enhance students' learning experience. The advancement of technology influences the use of gadgets in a classroom setting. Gadgets typically refers to small technological objects with specific functions, emphasizing their role as innovations or novelties in various fields, particularly in education where they serve as learning media (Julianingsih et al., 2021). In a classroom setting, gadgets can refer to electronic devices that students and educators use to enhance the learning process. Some of the examples include tablets, laptops and educational applications on smartphones.

The necessity of digital competency at various stages of education has been widely recognized in the past years (Alam et al., 2023). Hence, this has caused students in higher education institutions to be dependent on gadgets as gadgets provide students with easy access to a wealth of information and educational resources. Besides, gadgets like tablets make it easier for students to take notes during lectures as well as to facilitate students in doing collaborative projects. The reasons for gadget use can vary based on individual preferences, learning styles and the instructional methods employed in the classroom.

It is undeniable that the use of gadgets in the classroom can enhance the process of learning by providing interactive tools for students (Kumar, 2024; Kurniawan et al., 2019). However, the use of gadgets in the classroom should align with educational goals and be integrated thoughtfully into the curriculum so that student performance will not be affected. The most intriguing and problematic aspect revealed by a large amount of research is that instead of leveraging their digital abilities for improving the quality of their academic achievement, students frequently use technology mostly for social and leisure purposes to the detriment of their overall academic performance, and socio-emotional functioning (Labăr & Țepordei, 2019). In the contemporary educational landscape, the pervasive use of gadgets among university students in the classroom has become a prominent phenomenon (Nguyen, 2020). However, the extent of gadget use, its impacts on academic performance, and the correlation between gadget usage frequency and scholastic achievements remain inadequately understood (Al-Absy, 2023).

This study addresses this gap by investigating the use of gadget in class. It seeks to measure the frequency of gadget use, identify its effects on academic performance, and establish correlations between usage patterns and academic outcomes. As technology integration becomes integral to education, understanding the nuances of gadget use in classrooms is crucial for educators, policymakers, and institutions striving to create optimal learning environments. Thus, this study aimed to provide valuable insights into the complex relationship between gadget dependency and academic performance among University A students.

Research Objectives

This study aimed to analyse students' reliance on gadgets in class among degree students from different faculties at University A. The objectives of this study are:

- a) To measure the frequency of use of gadgets in class.
- b) To identify the impacts on academic performance due to the use of gadgets in class.
- c) To find the correlation between the frequency of use of gadgets in class and the academic performance.
- d) To identify student's perceptions towards gadget usage in class.

Literature Review

Labăr and Țepordei (2019) in a study mentioned that teens and young adults are always "on" these days, checking and using their mobile devices due to widespread access to digital devices and internet connections. Because they are the most convenient device and typically have an internet connection, smartphone users are more susceptible to what some have called "smartphone addiction." It is therefore reasonable to assume that their routines will continue in the workplace or in the classroom. The most fascinating and troubling finding from a plethora of research is that students often use technology primarily for social and recreational purposes, which negatively impacts their overall academic performance and socio-emotional functioning, rather than utilizing it to improve the quality of their academic achievement. Nearly all students own a smartphone or tablet, and lecturers do not prohibit their use, except for assessment

periods, if the devices are silent and do not interfere with the lesson or discussion. Hence, multitasking on a smartphone is allowed if there is no explicit or implicit law prohibiting the use of smartphones.

In the early days of gadgets usage in classroom, Bowman et al., (2010) investigated the use of instant messaging while reading. They found that students' reading comprehension and reading time were affected by instant message (IM). Based on this research, Clinton (2021) conducted a comprehensive meta-analysis on the relationship between trend of multitasking through gadgets and reading performance. She found that there are negative relationships between the two practices throughout the studies involved in the meta-analysis, further strengthening the claim that gadgets have negative influence in a classroom setting.

There are studies which suggested that the use of technology in classrooms can interfere with classroom learning and negatively impact academic performance. Urien (2024) highlighted that the constant checking of mobile phones disrupts the flow of instruction. This can affect students' understanding and retention in the process of learning, ultimately affecting their academic performance (Urien, 2024). Additionally, Gath (2024) supported this claim by stating that the increased use of gadgets especially mobile phones often leads to distractions in students' learning process. Ultimately, if the use of gadgets is not controlled, it may lead to various implications on students' academic results thus affecting their future (Passah et al., 2022).

In a study entitled "Modelling smartphone addiction: The role of smartphone usage, self-regulation, general self-efficacy and cyberloafing in university students" conducted by Gökçeşarlan et al., (2016), it is found that there are connections between the roles of smartphone usage, self-regulation, general self-efficacy, and cyberloafing in smartphone addiction. The study discusses the results within the context of the effect of smartphone addiction on learning environments and individuals. Ultimately, it should be noted that smartphone addiction can have a variety of detrimental effects on learning environments and individuals, as well as on social relationships, academic performance, cyberloafing, self-regulation, and general self-efficacy.

Jiang et al. (2022) and Lepp (2014) investigated the relationship between gadgets such as mobile phones with outcomes such as academic performance, anxiety, and satisfaction with life in college students. The study found that high gadget usage was associated with lower GPA and higher anxiety, which in turn was related to lower satisfaction with life. The studies suggest that increased gadgets use may have negative impacts on academic performance, mental health, and subjective well-being. This relationship has been consistently observed in various studies, indicating that increased gadget use, including calling and texting, is associated with lower academic performance.

Methodology

The instrument used to collect the data was a questionnaire. This method is used to survey the issues of dependency of gadgets by students in class of University A. The questionnaire consisted of 39 questions which were divided into 4 different sections. Section 1 focused on the demographic information, Section 2 focused on the use of gadgets in class, section 3 focused on the academic performance of the respondent and Section 4 focused on student's perception towards the usage of gadgets in class. The respondents consisted of 40 University A students coming from the Faculty of Computer and Mathematical Sciences at the University. There were 27 female respondents and 13 male respondents. The age of the respondents was

21 and above. The questionnaire was distributed through WhatsApp and Telegram until 40 responses were collected. All the respondents answered and returned the questionnaire. The data were analysed to transform from frequency count into percentages. Then the data was visualized into charts. Then, related data to find the correlation between the frequency of use of gadgets in class and the academic performance analysed by using the Statistics Package for Social Science (SPSS) Software.

Findings

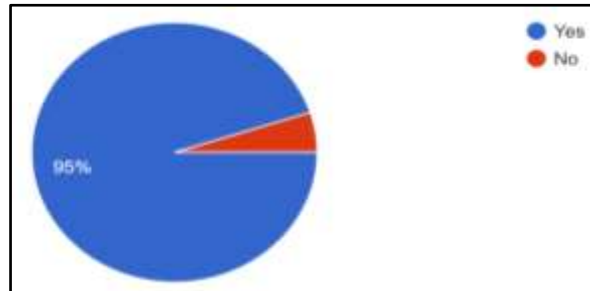


Figure 1: The Percentage of Gadgets Usage in Class

Based on Figure 1, most of the respondents (95%) answered yes, they use gadgets in class and only 5 percent of the respondents answered no.

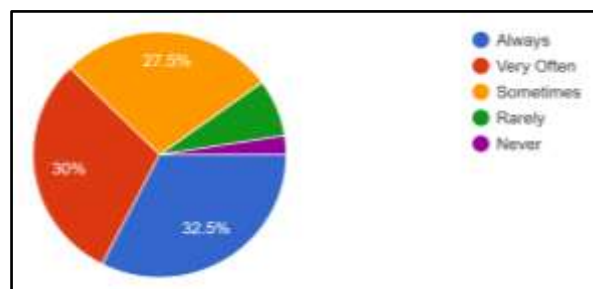


Figure 2: The Percentage of Frequency of Using Gadgets in Class

For this question, the options given were always, very often, sometimes, rarely and never. From Figure 2, 32.5 percent of the respondents answered always, and 30 percent of the respondents answered very often. 27.5 percent said they only use their gadgets sometimes in class. The remaining 7.5 percent answered that they rarely use their gadgets in class and 2.5 percent respondents answered never.

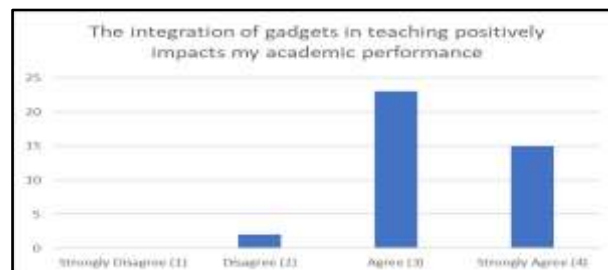


Figure 3: Question 1; The Integration of Gadgets in Teaching Positively Impacts My Academic Performance

Based on Figure 3, it can be concluded that only 2 respondents disagree, while the remaining 23 and 15 respondents chose to agree and strongly agree respectively.

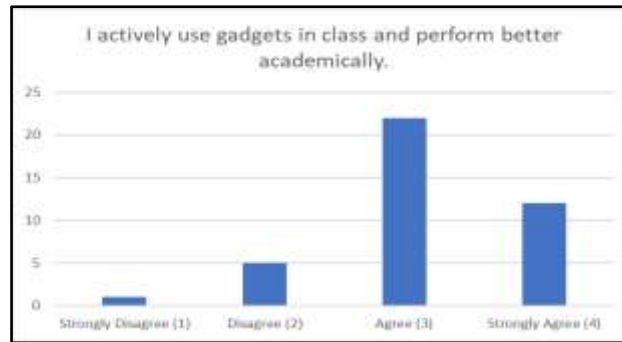


Figure 4: Question 2; I Actively Use Gadgets in Class and Perform Better Academically

Referring to Figure 4, 1 respondent strongly disagrees with the statement that they actively use gadgets in class and perform better academically. Five respondents disagreed. The remaining 22 and 12 respondents chose to agree and strongly agree respectively.

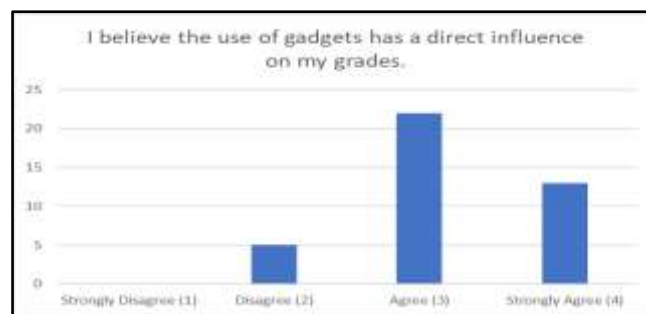


Figure 5: Question 3; I Believe the Use of Gadgets Has A Direct Influence on My Grades

Based on Figure 5, only 5 respondents disagree while the remaining 22 and 13 respondents chose to agree and strongly agree respectively, to the statement that they believe the use of gadgets has a direct influence on their grades.

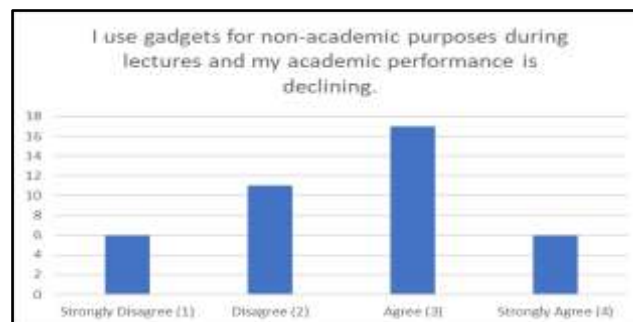


Figure 6: Question 4; I Use Gadgets for Non-Academic Purposes During Lectures and My Academic Performance Is Declining

For the next statement, based on Figure 6, it can be seen that 6 respondents strongly disagree and 11 respondents disagree with the statement. The remaining 17 and 6 respondents chose to agree and strongly agree respectively.

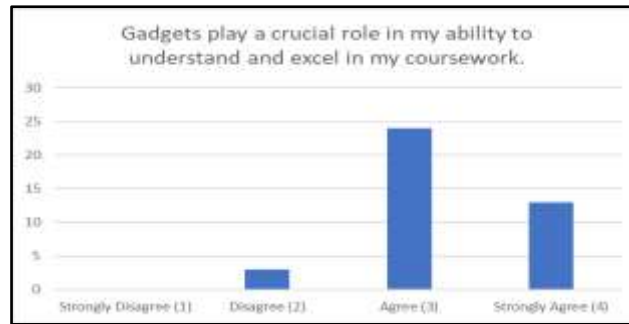


Figure 7: Question 5; Gadgets Play A Crucial Role in My Ability to Understand and Excel In My Coursework

For the statement ‘Gadgets play a crucial role in my ability to understand and excel in my coursework’, to this statement, based on Figure 7 only 3 respondents disagree. The remaining 24 and 13 respondents agree and strongly agree respectively to the statement.

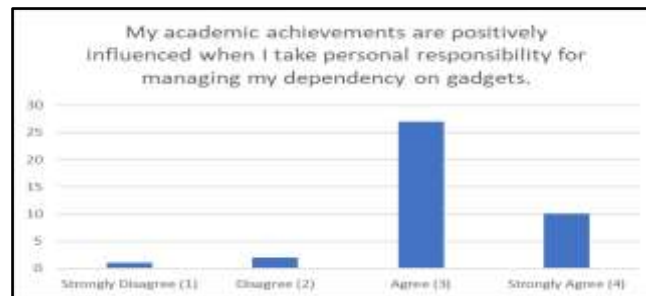


Figure 8: Question 6; My Academic Achievements Are Positively Influenced When I Take Personal Responsibility for Managing My Dependency on Gadgets

And lastly, for the statement ‘My academic achievements are positively influenced when I take personal responsibility for managing my dependency on gadgets’, to this statement, based on Figure 8, only 1 respondent strongly disagrees, and 2 respondents disagree. The remaining 27 and 10 respondents agree and strongly disagree respectively to the statement.

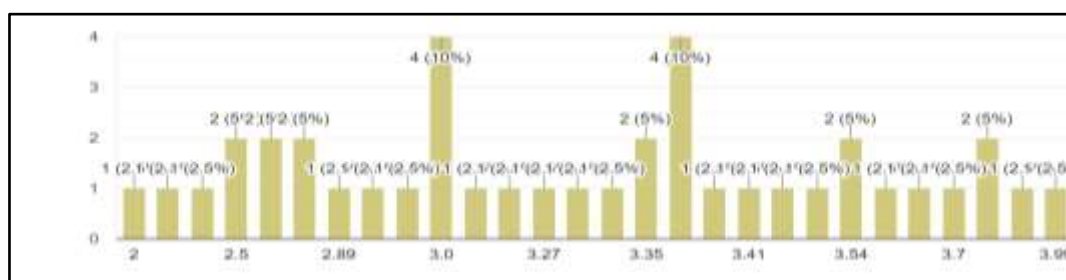
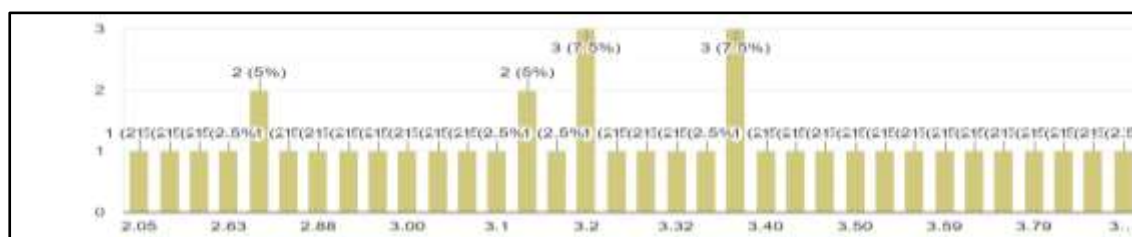


Figure 9: Current GPA Responses from The Respondents



Correlations				
			GPA	freq_use_gadgets_in_classes
Spearman's rho	GPA	Correlation Coefficient	1.000	-.233
		Sig. (2-tailed)	.	.147
		N	40	40
	freq_use_gadgets_in_classes	Correlation Coefficient	-.233	1.000
		Sig. (2-tailed)	.147	.
		N	40	40

Figure 11: Correlations between GPA and Frequency of Use of Gadgets in Class and Academic Performance

As shown in Figure 11, the GPA and frequency of use of gadgets in class and academic performance has 0.147 Sig. value. Since this value is bigger than 0.05, it can be concluded that the GPA and frequency of use of gadgets in class and academic performance has no correlation.

Correlations				
			freq_use_gadgets_in_classes	CGPA
Spearman's rho	freq_use_gadgets_in_classes	Correlation Coefficient	1.000	-.232
		Sig. (2-tailed)	.	.150
		N	40	40
	CGPA	Correlation Coefficient	-.232	1.000
		Sig. (2-tailed)	.150	.
		N	40	40

Figure 12: Correlations between CGPA and Frequency of Use of Gadgets in Class and Academic Performance

Shown in Figure 12, the CGPA and frequency of use of gadgets in class and academic performance has 0.150 Sig. value and since this value is bigger than 0.05, it can be concluded that the CGPA and frequency of use of gadgets in class and academic performance has no correlation.

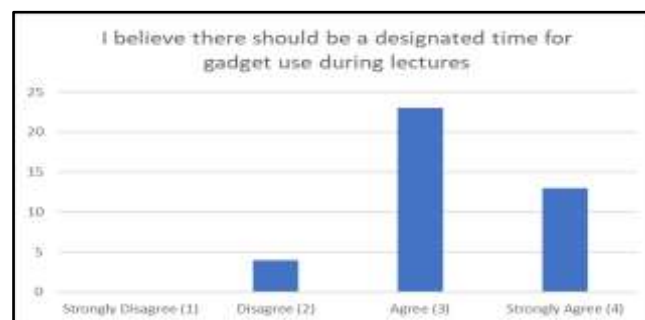


Figure 13: Question 1; I Believe There Should Be A Designated Time for Gadget Use During Lectures

For Question 1, based on Figure 13, only 4 respondents disagree. The remaining 23 and 13 respondents chose to agree and strongly agree respectively.



Figure 14: Question 2; I Should Be Allowed to Use My Personal Gadgets for Educational Purposes in The Classroom

For Question 2, based on Figure 14, 26 respondents chose they agree with the statement and the remaining 14 chose strongly agree.

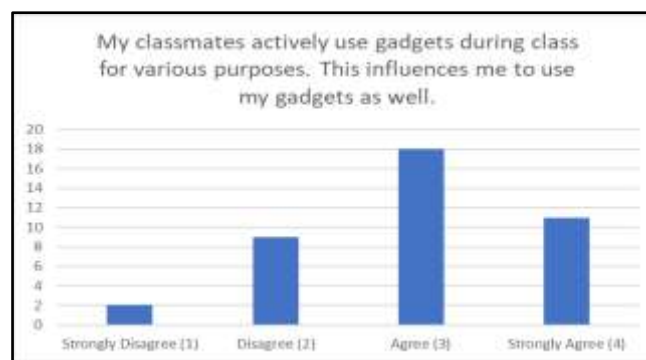


Figure 15: Question 3; My Classmates Actively Use Gadgets During Class for Various Purposes. This Influences Me to Use My Gadgets as Well

For Question 3, based on Figure 15, it can be inferred that 2 and 9 respondents strongly disagree and disagree respectively with the statement. While the remaining 18 and 11 respondents agree and strongly agree respectively to the statement.

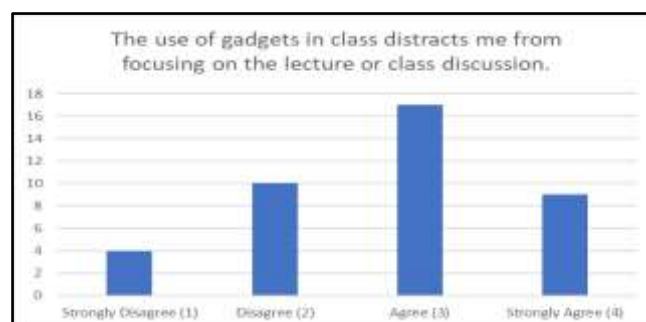


Figure 16: Question 4; The Use of Gadgets in Class Distracts Me from Focusing on The Lecture or Class Discussion

For the next question, based on Figure 16, 4 and 10 respondents strongly disagree and disagree with the statement 'The use of gadgets in class distracts me from focusing on the lecture or class discussion', respectively. The remaining 17 and 9 respondents chose the option agree and strongly agree, respectively.

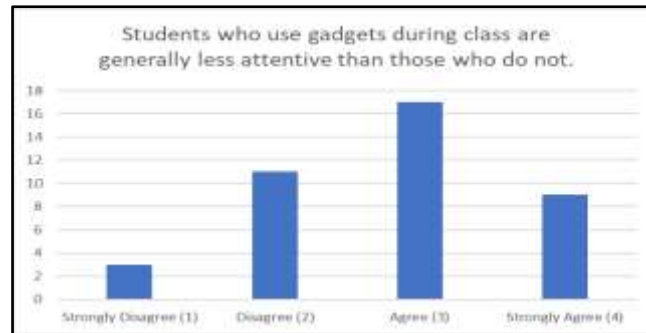


Figure 17: Question 5; Students Who Use Gadgets During Class Are Generally Less Attentive Than Those Who Do Not

Based on Figure 17, 3 and 11 respondents strongly disagree and disagree with the statement, respectively. The remaining 17 and 9 respondents chose to agree and strongly agree with the statement, respectively.

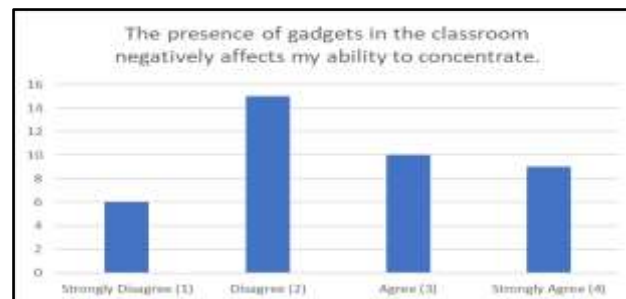


Figure 18: Question 6; The Presence of Gadgets in The Classroom Negatively Affects My Ability to Concentrate

Based on Figure 18, 6 and 15 respondents strongly disagree and disagree with the statement, respectively. The remaining 10 and 9 respondents chose to agree and strongly agree with the statement, respectively.

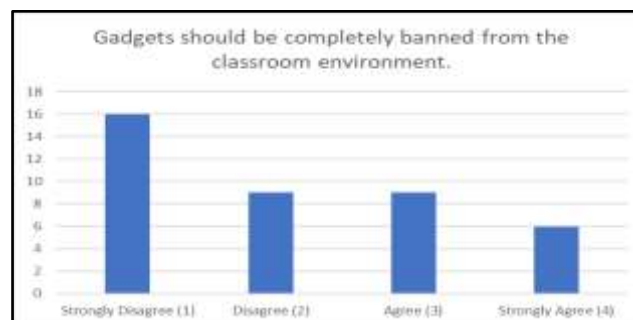


Figure 3.6.8: Question 7; Gadgets Should Be Completely Banned from The Classroom Environment

For the next question, based on Figure 19, 16 and 9 respondents strongly disagree and disagree with the statement ‘Gadgets should be completely banned from the classroom environment’, respectively. The remaining 9 and 6 respondents chose the option agree and strongly agree, respectively.

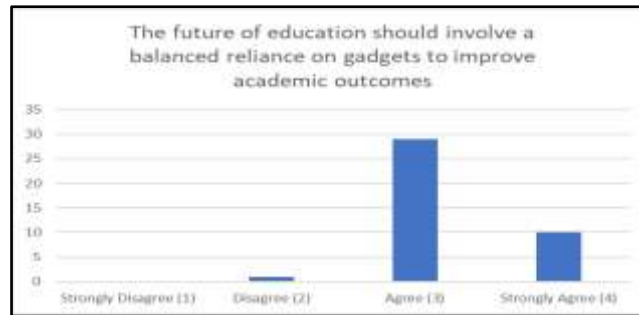


Figure 20: Question 8; The Future of Education Should Involve A Balanced Reliance on Gadgets to Improve Academic Outcomes

For the next question, based on Figure 20, it can be seen that only 1 respondent disagrees with the statement ‘The future of education should involve a balanced reliance on gadgets to improve academic outcomes. The remaining 29 and 10 respondents chose the option agree and strongly agree, respectively.

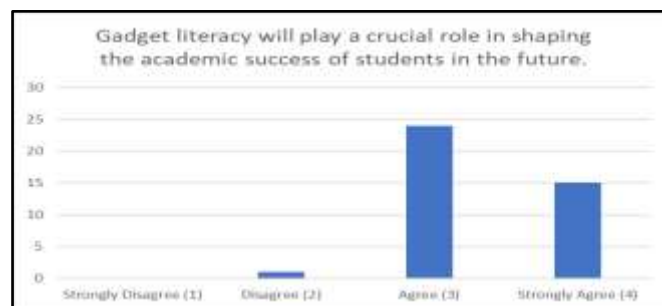


Figure 21: Question 9; Gadget Literacy Will Play A Crucial Role in Shaping the Academic Success of Students in The Future

For Question 9, based on Figure 21, only 1 respondent disagreed with the statement ‘Gadget literacy will play a crucial role in shaping the academic success of students in the future’. The remaining 24 and 15 respondents chose to agree and strongly agree respectively.

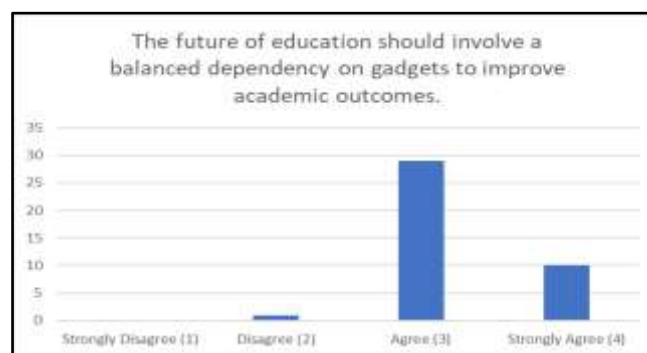


Figure 22: Question 10; The Future of Education Should Involve A Balanced Dependency of Gadgets to Improve Academic Outcomes

For Question 10, based on Figure 22, only 1 respondent disagreed with the statement ‘The future of education should involve a balanced dependency of gadgets to improve academic outcomes. The remaining 29 and 10 respondents chose to agree and strongly agree respectively.

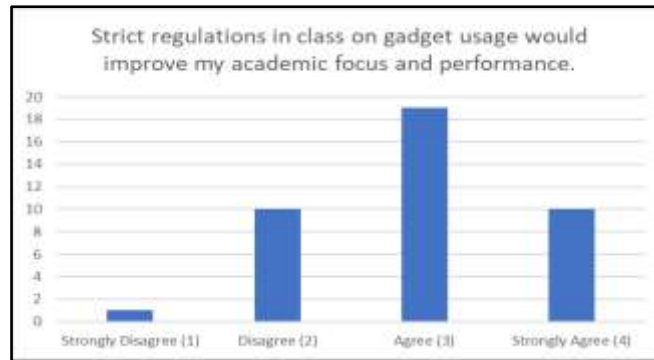


Figure 23: Question 11; Strict Regulations in Class on Gadget Usage Would Improve My Academic Focus and Performance

For the last question, based on Figure 23, 1 and 10 respondents strongly disagree and disagree with the statement 'Strict regulations in class on gadget usage would improve my academic focus and performance', respectively. The remaining 19 and 10 respondents chose the option agree and strongly agree, respectively.

Discussion

Research Objective One: According to the surveys, most respondents (combining "always" and "very often") appeared to use their electronic devices in the classroom frequently, suggesting a significant level of technological integration in the classroom. While a small percentage of participants either reported using their gadgets "never," "sometimes," or less frequently ("rarely"). Thus, the results for the frequency usage of gadgets in class were mixed.

Three important details become clear when analysing the survey data on the use of gadgets in the classroom. First, by using interactive and technology-driven methods of learning, educators may adapt their teaching strategies to take advantage of the widespread use of gadgets. Secondly, there's a chance to enhance the way digital literacy is provided so that students learn the skills they need to use gadgets responsibly. Finally, a systematic approach to technology integration is essential, with the goal of maximizing the educational benefits of gadgets while reducing potential distractions. Together, these suggestions address the various degrees of technology use and provide a productive and well-rounded learning environment.

Research Objective Two: According to the survey's outcomes, most participants had a positive perception of how significantly technology affected students' academic performance. Most respondents acknowledged that using gadgets in the classroom had a direct positive impact on their grades and that it enhanced their academic performance. Nonetheless, some students also acknowledged utilizing technology during lectures for non-academic purposes, indicating a possible concentration difficulty. Despite this, the majority think that the use of technology was essential to their understanding and excellence in the classroom. Additionally, those surveyed highlighted the beneficial impact of personal responsibility in managing gadget dependence on academic performance. Overall, the results showed that students have an intricate knowledge of the benefits and drawbacks of using technology in the educational environment. Hence, the results were mixed for this objective.

Three main details were brought to light by the survey results. Initially, educational institutions ought to proactively encourage the responsible usage of electronic devices by students, tackling the acknowledgement tendency to get involved in extracurricular activities while in class. Furthermore, educators should carefully incorporate technology into the syllabus by taking

advantage of the positive perception that it has on student performance. To sum up, schools and universities should give top priority to digital literacy programs that give students the necessary skills to use technology gadgets for learning. All these suggestions are designed to foster a responsible and balanced use of technology in the classroom by highlighting the benefits of gadget use while reducing any possible problems.

Research Objective Three: The findings show that, as the Sig. value of 0.147 suggested, there is no statistically significant correlation between GPA and the frequency of gadget use in class. Similarly, the Sig. value of 0.150 indicates that there is no statistically significant link between the frequency of gadget use and CGPA. As a result, the data analysis indicated that there is not a significant correlation between the use of technology in the classroom and academic achievement, as shown by the GPA and CGPA. Thus, the results for the correlation between the frequency of usage of gadgets and scholastic achievement were positive.

Three details are presented regarding the fact that there was no statistically significant correlation found between the frequency of gadget use in the classroom and GPA/CGPA. First, carry out additional research to find out what other factors, beyond the use of gadgets, affect academic results. To make sure that the integration of educational technology is in alignment with academic objectives, second, academic institutions should consider evaluating its effectiveness. Finally, institutions may develop digital literacy support programs to give students the necessary resources they need to use technology to enhance learning. These suggestions are meant to improve comprehension, maximize the use of technology, and nurture digital literacy to have a positive impact on academic achievement.

Research Objective Four: The results indicated that respondents' opinions on the use of technology in the classroom were not all that clear. Opinions on the impact of peer gadget use and the perceived distraction it generated differed, even though most people believed that certain times for students to use gadgets during lectures were a good idea and that using personal gadgets for educational purposes was appropriate. Opinions on whether the presence of gadgets affected concentration varied, and there were differences among respondents over the idea of prohibiting gadgets from classrooms. However, a solid majority underlined the importance of gadget literacy in defining the future of education and favored a balanced reliance on gadgets for greater academic achievements. Based on individual preferences and views, the results emphasized the necessity of a comprehensive and adaptable approach to technology use in the educational setting. Thus, the results were mixed.

Institutions should evaluate the effects of any technology regulations on a regular basis, getting input from teachers and students to make sure the policies are working to improve student performance and concentration in the classroom. Moreover, encouraging student-teacher cooperation in exploring innovative methods for incorporating technology into the classroom can strengthen the beneficial connection between technology and learning. Lastly, educational institutions must provide strategies and resources to help students minimize distractions during class, tackling differing opinions on the potential negative impacts of gadgets on concentration. Intensive and efficient learning can be enhanced by workshops on time management, note-taking techniques, and setting up a digital learning environment.

Recommendation

University should encourage students to use gadgets in class as most students agree that using gadgets in class helps to enhance their overall learning experience. This may benefit both students and lecturers as technology provides access to a variety of digital resources, interactive

applications, and online platforms for better understanding and engagement with course materials. Therefore, students can quickly retrieve relevant data and broaden their understanding related to topics discussed in class. Besides, digital tools streamline tasks such as note-taking, document sharing, and time management contribute to a more organized learning process.

Although the use of gadgets is encouraged in class, students must limit the usage of gadgets during lectures as excessive use of gadgets can lead to distractions, hindering students' focus on lectures and class activities, as agreed by majority of students surveyed. Strict regulations on gadget usage can help mitigate academic dishonesty, as students may be tempted to use devices for unauthorized purposes during lectures. Apart from that, limiting gadgets use encourages students to engage in face-to-face interactions with peers and lecturers. Therefore, students should establish clear boundaries in using gadgets in class to foster better communication skills, as well as maintaining a conducive learning environment.

Lecturers should integrate designated breaks for students to use their gadgets in between lectures as it may be beneficial for students to refresh their mind, reducing fatigue from continuous lectures as most of the time, a classroom session can take up to two hours per session. Besides, gadget breaks offer students an opportunity to review and consolidate what they have learned on their gadgets for better understanding of the material taught beforehand. Students can access relevant information, research materials, and collaborate with peers within the short gadget breaks, helping students to return to the lecture with renewed focus. Thus, it can be concluded that giving students a short break during lectures to use their gadgets, be it for entertainment purposes or educational purposes, can contribute to a balanced and healthier overall learning experience.

University management in charge of facilities and campus services should create a more technology-friendly environment on campus by ensuring that the classroom is equipped with better necessary infrastructure to support students' use of gadgets for educational purposes. This may include, installing charging stations in or near classrooms to accommodate students who rely on electronic devices, a more robust and reliable Wi-Fi network with high-speed internet access, and subscribing more essential educational applications that align with specific needs and goals of the educational institution. Additionally, universities should ensure that they comply with data privacy and security regulations Universities may also establish a reliable technology support system for students and lecturers to address any issues that may arise regarding those facilities provided to ensure a quick resolution of technical difficulties, as well as minimizing disruptions during lectures. By incorporating these elements, universities can create an environment that not only supports students in using gadgets for educational purposes, but also enhances the overall learning process through seamless integration of technology into the classroom settings.

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EXPLORING NOUN MODIFIERS: A SEMANTIC ANALYSIS OF SINGULAR AND PLURAL FORMS

Norhafizan Awang¹
Mirrah Diyana Maznun²
Siti Anisah Mohd Hatta³
Norlida Razali⁴

¹Academy of Language Studies, Universiti Teknologi MARA Kelantan Branch (UiTM), Malaysia, (hafizanawang@uitm.edu.my)

²Academy of Language Studies, Universiti Teknologi MARA Perak Branch (UiTM), Malaysia, (mirrahdiyana@uom.edu.my)

³Academy of Language Studies, Universiti Teknologi MARA Kelantan Branch (UiTM), Malaysia, (anisah780@uitm.edu.my)

⁴Academy of Language Studies, Universiti Teknologi MARA Kelantan Branch (UiTM), Malaysia, (norlida8093@uitm.edu.my)

Abstract: *This study explores the functional application of the English grammatical subsystem, specifically noun modifiers. It challenges the traditional rule that states noun modifiers must always be singular, suggesting that this rule may not fully account for all language uses. To verify this, the study seeks to determine whether plural noun modifiers occur in real-world contexts. The research adopts a meaning-based framework, drawing from the works of Reid (2011) and Tobin (1990) from the Columbia School of Linguistics. A textual analysis approach was employed, using a dataset of journalistic articles from *The Economist*. The analysis involved quantifying both singular and plural noun modifiers, with results processed through SPSS software (version 21.0) and interpreted using basic descriptive statistics. The key objective was to test the validity of the traditional noun modifier rule by examining its application in authentic English usage. The findings demonstrate that plural noun modifiers do, in fact, appear in natural language contexts. In line with Reid's Entity Number System, it was hypothesised that the use of the -s suffix in noun modifiers signals the intent to convey a "more than one" meaning. Ultimately, the results underscore that each grammatical feature, including noun modifiers, is selected for its specific semantic function, contributing independently to the overall meaning of communication.*

Keywords: *English Grammar, Traditional Rule, Noun Modifier, Semantic Analysis*

Introduction

Language is fundamentally a system of communication in which users rely on various signs to convey their intended meanings (Dirven & Verspoor, 2004). This principle emphasises that language learners should not only focus on the structural aspects of language but also grasp the multitude of meanings those structures encode. In essence, users must understand the deeper workings of language. Over the past two decades, semiotic and functionalist scholars, including Reid (1991), Tobin (1990), and Govindasamy (2005), have analysed language through a quantitative lens, providing meaning-based explanations for the usage of lexical and grammatical items across languages, including English. Such approaches have broadened our understanding of how language is functionally deployed, especially in specific grammatical subsystems such as noun modifiers.

A noun modifier, in grammar, refers to an element that alters or adds to the meaning of a noun. Traditionally, modifiers serve to provide context or additional detail to a noun, often, fulfilling

the descriptive role of an adjective. For example, in the phrases “intelligent student” or “good teacher,” the preceding words are adjectives that provide additional information about the noun. However, it is not only adjectives that can modify nouns. Nouns themselves can function as modifiers, as in “office building,” “registration process,” or “mountain bike,” where the noun in the modifier position takes on adjectival role.

According to traditional grammar rules, a noun modifier should not carry the plural “-s” suffix: “When a noun is used as an adjective, it is in its singular form... When a noun used as a modifier is combined with a number of expression, the noun is singular, and a hyphen is used” (Azar et al., 1999: 105). This rule is exemplified in the transition between the sentences: “They sell shoes at that store” and “It is a shoe store.” In this example, the noun “shoes” is transformed into the singular “shoe” when it assumes the role of a modifier. By this logic, a phrase like “flowers garden” would be considered incorrect, even though the concept of more than one flower in a garden might make intuitive sense.

Nonetheless, contemporary language usage reveals instances where plural noun modifiers, such as in “sports magazine” or “arts degree,” appear, contradicting the traditional grammar rule. This raises the question: how common are these plural forms? If they occur only occasionally, the traditional rule holds. However, if plural noun modifiers are prevalent, it suggests that grammar must account for this alternative form. This issue is pertinent to many language users, including learners, teachers, and textbook writers.

The purpose of this study is to reassess the validity of the conventional rule concerning noun modifiers, examining their usage in real-world English contexts. Following the functional framework of the Columbia School of Linguistics, this study seeks to determine the extent to which singular and plural noun modifiers are used in actual discourse.

Research Objectives

The main objectives of this study are as follows:

1. To verify whether noun modifiers are consistently singular, as stated in traditional grammar rules.
2. To investigate the extent to which plural noun modifiers are used in real-world contexts.

Research Questions

In line with the objectives, this study seeks to address the following research questions:

1. Are noun modifiers always singular?
2. To what extent are plural noun modifiers present in actual language use?

Literature Review

Different Perspectives on Language

Language, according to Graddol, Cheshire, and Swann (2003), is a complex system of communication that requires linguists to analyse the relationships between its components. Gauker (2003) highlights that the primary function of language is to allow speakers to express their thoughts to listeners, with both encoding and decoding meanings. However, this process is not always straightforward, as speakers may encode one meaning, and listeners may decode it differently (Malaikolunthu, 2007).

The role of language users in determining meaning is crucial. Saussure (in Bertolo, 2003) argues that meaning comes from the language users, not from the language itself. This notion, shared by Reid (1991), underlies the idea that “language under-determines meaning,” emphasising the importance of a speaker’s knowledge and experience in constructing meaning. Redi, Otheguv, and Stern (2002) further assert that linguistic meaning explains the distribution of linguistic forms, rather than being an object of explanation itself.

Fromkin et al. (2003) claim that all languages rely on a finite set of sounds or gestures, which are combined to create meaningful expressions. Language can also be seen as a problem-solving tool, where speakers find ways to achieve their communicative goals. In this sense, the structure of language is driven by its communicative function, as proposed by Reid and The Columbia School Linguistics.

Traditional Rule of Noun Modifiers

Traditionally, noun modifiers are expected to be in the singular form when modifying another noun. This rule is deeply ingrained in English grammar, but there are growing instances where plural noun modifiers appear, particularly in contexts such as “sports magazine” or “arts degree”. Quirk et al. (1985) note that the plural attributive constructions is becoming more common, especially in British English.

There are several situations where the plural form of noun modifiers is used:

1. To avoid ambiguity, as in “an arts degree” versus “an art degree”
2. When no singular form exists, such as in “a customs officer.”
3. To denote variety, such as “a soft drinks manufacturer.”
4. In topical issues often found in news stories, for example “the Watergate tapes affair.”

These exceptions to the singular noun modifier rule raise questions about the prevalence of plural noun modifiers and their implications for grammar rules.

Noun Modifiers as N+N Structures

The study of noun modifiers has long been of interest to linguists, particularly in the form of noun + noun (N+N) structures. These constructions, which involve one modifying another, have been studied since the early 20th century. While early scholars like Bloomfield (1984) and

Lees (1960) viewed N=N structures as compounds, more recent research has examined their syntactic and semantic roles.

Levi (1978) proposed that complex nominals, or N+N structures, are derived from underlying sentence structures, often created by the deletion of predicates or through nominalisation. Others, like Gómez (2009), have identified various semantic relations within N+N structures, such as “A is part of B” (e.g., “board member”) or “A indicates the purpose of N” (e.g., “pie tin”).

The increasing use of plural noun modifiers in these structures, especially in British English, suggests a shift in how noun modifiers function in modern grammar.

Research Methodology

This study was conducted using a meaning-based framework, as proposed by Reid (2011) and Tobin (1990). This framework views language as a system of signs, with each sign carrying meaning that contributes to the overall communication of message. Textual analysis and

quantitative methods were employed to assess the occurrences of singular and plural noun modifiers in real-world contexts.

Research Design

A mixed-method approach was used, combining quantitative and qualitative research methods. The quantitative analysis focused on counting the occurrences of singular and plural noun modifiers, while the qualitative analysis aimed to interpret these findings within the meaning-based framework. SPSS (version 21.0) was used to compute and analyse the data.

Sample Selection and Data Collection

The study used purposive sampling to select 100 journalistic articles from The Economist. The articles were chosen based on the following criteria:

1. Authored by native English speakers.
2. Expository in style.
3. Published between 2014 and 2024.
4. Each articles exceeded 500 words to ensure sufficient data for analysis.

The data was collected by identifying all occurrences of noun modifiers—both singular and plural—within the articles.

Data Analysis

The data analysed using simple descriptive statistics to quantify the occurrences of singular and plural noun modifiers. The following table shows the template used for analysis:

Table 1: Template for Analysing Noun Modifiers		
Noun Modifiers	Singular (Without suffix –s)	Plural (With suffix –s)
...		
...		
Total:		

Additionally, articles containing both singular and plural noun modifiers were categorised based on their word count (under or over 1000 words) to compare the distribution of plural noun modifiers in shorter versus longer articles.

Findings

Occurrences of Noun Modifiers

The first research question aimed to verify whether noun modifiers are always singular. To address this, a textual analysis was performed, identifying 514 noun modifiers across 100 journalistic articles. Out of these, 51 instances were plural noun modifiers, accounting for 9.9% pf the total occurrences. The findings indicate that while singular noun modifiers remain predominant (90.1%), plural forms do exist, suggesting that the traditional rule is not absolute.

The following figures show the occurrences of noun modifiers.

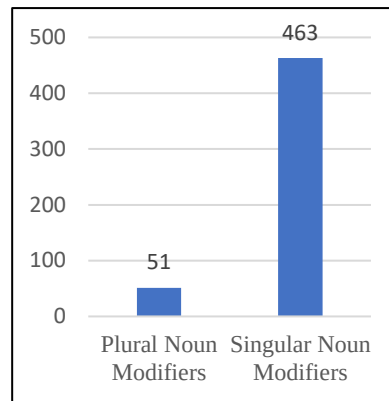


Figure 1: Noun Modifiers

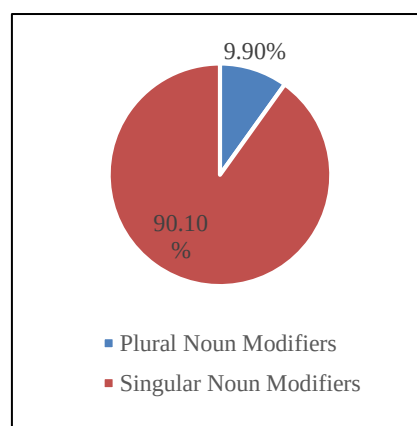


Figure 2: The Percentage of Noun Modifiers

The following excerpts illustrates an example of plural noun modifiers usage:

“The economy, jobs, and steel: Hard decisions. The labour market is improving, but the White House is still worried.” (The Economist, November 13th, 2017)

In this example, the plural noun “jobs” modifies “market,” violating the traditional rule that noun modifiers should always be singular. This example, along with many others, demonstrates that plural noun modifiers are indeed present in actual language use.

Extent of Plural Noun Modifier Usage

The second research question sought to determine the extent of plural noun modifier usage in actual language contexts. A more detailed analysis was conducted on 31 articles that contained both singular and plural noun modifiers. Of the 223 noun modifiers found in the articles, 51 were plural (22.9%) and 172 were singular (77.1%).

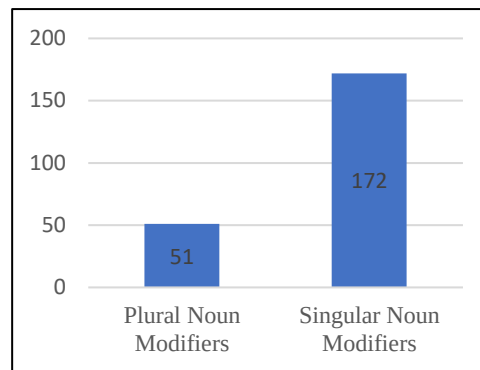


Figure 3: Plural and Singular Noun Modifiers in 31 Articles

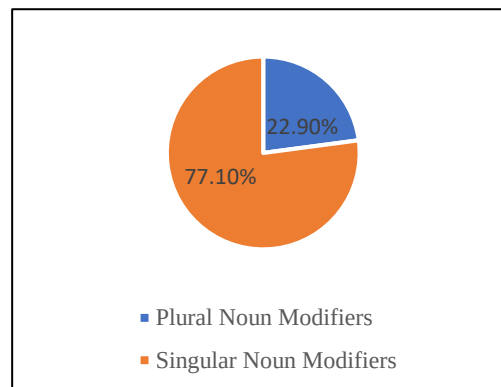


Figure 4: The Percentage of Plural and Singular Noun Modifiers in 31 Articles

Interestingly, a comparison between shorter (under 1000 words) and longer (over 1000 words) articles revealed no clear correlation between article length and the frequency of plural noun modifiers.

In articles with fewer than 1000 words, there were 32.1 plural noun modifiers per 1000 words, whereas longer articles had 22.3 plural noun modifiers per 1000 words. This suggests that the use of plural noun modifiers does not necessarily increase with article length, but rather depends on the context and communicative needs of the writer.

Discussion

Re-examining the Traditional Rule of Noun Modifiers

The traditional grammar rule that noun modifiers should always be singular has long been accepted in English language teaching. However, the findings of this study challenge this rule by demonstrating that plural noun modifiers do, in fact, occur in real-world language contexts. While singular noun modifiers are still more common, the presence of plural noun modifiers in nearly a quarter of the analysed articles indicates that they are not merely exceptions.

The traditional rule may not need to be entirely discarded, but it clearly requires reconsideration. If plural noun modifiers are prevalent in actual usage, grammar instruction should reflect this reality. The results of this study suggest that a more flexible approach is needed, one that allows for both singular and plural noun modifiers depending on the communicative context.

The Issue of Ambiguity

It has been suggested that plural noun modifiers are used to avoid ambiguity. However, the analysis of the 51 plural noun modifiers in this study does not provide strong evidence for this claim. In most cases, plural noun modifiers were used simply because they reflected the plurality of the entity being described, not because of any potential ambiguity. For example, in the sentence:

"In 2018, the value of goods-and-services exports will run to 31.7% of global GDP." (*The Economist*, October 12th, 2018)

The plural noun “goods” is used not to avoid confusion with “good,” but because there is no singular form for “goods” in this context. Thus, while ambiguity may be a factor in some cases, it is not the primary reason for the use of plural noun modifiers in the data analysed

Conclusion

This study has demonstrated that the traditional rule requiring noun modifiers to be singular is not fully representative of actual language use. The findings show that plural noun modifiers do occur, albeit less frequently than singular ones, and they play an important role in conveying precise meanings in various contexts. Therefore, the traditional rule, while still largely applicable, cannot be seen as absolute.

The study's results align with functional approaches to grammar, which emphasize the role of language in communication rather than strict adherence to prescriptive rules. In practice, language users select grammatical features, including noun modifiers, based on their communicative needs, and the presence or absence of the -s suffix plays a crucial role in signaling whether the modifier refers to one entity or more than one.

For educators and learners, these findings underscore the importance of a meaning-based approach to grammar instruction. Rather than focusing exclusively on rules, students should be encouraged to notice how different forms of noun modifiers—singular or plural—function in real-world texts to convey specific meanings. By incorporating examples from authentic language use, teachers can help students develop a more flexible and nuanced understanding of grammar that reflects the realities of communication

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FACTORS INFLUENCING CUSTOMER SATISFACTION WITH FOOD AND SERVICE QUALITY AT STUDENT CAFETERIA

Syuhirdy Mat Noor¹
Nurul'Aishah Zakaria²
Nurul Syafika Azri³
Amierul Hazry Ahmad Yusoff⁴

¹Faculty of Hotel & Tourism Management, Universiti Teknologi Mara (UiTM), Malaysia, (syuhirdy094@uitm.edu.my)

²Faculty of Hotel & Tourism Management, Universiti Teknologi Mara (UiTM), Malaysia, (nurulnzakaria@gmail.com)

³Faculty of Hotel & Tourism Management, Universiti Teknologi Mara (UiTM), Malaysia, (2020819282@student.uitm.edu.my)

⁴Faculty of Hotel & Tourism Management, Universiti Teknologi Mara (UiTM), Malaysia, (2021868428@student.uitm.edu.my)

Abstract: Customer satisfaction in university cafeterias is shaped by key factors such as food quality, service efficiency, ambiance, and pricing. Understanding and improving these elements is essential for creating a positive dining experience that enhances students' overall university life. This study examines the relationship between service quality and food quality and their effect on student satisfaction. The research was motivated by inconsistencies in service delivery among campus cafeteria operators, which can hinder the achievement and maintenance of student satisfaction. To improve customer satisfaction, it is crucial for cafeterias to identify and address the factors that influence their operations, both positively and negatively. The purposive sampling technique was employed, resulting in the collection of 400 questionnaires from UiTM students for data analysis. The study found that food quality received a higher average rating than service quality. Finally, recommendations are provided, and avenues for future research are examined.

Keywords: Food Quality, Service Quality, Cafeteria, Customer Satisfaction

Introduction

The food service sector within the hospitality industry has seen significant growth, particularly in institutional food service, which caters to large groups of people at institutions such as schools, hospitals, prisons, childcare centers, elder care facilities, and through catering services. This type of food service is vital for providing consistent, large-scale meal offerings in settings where the demand is high and constant. Each year, the number of food service workers in these institutions continues to rise to meet growing needs. In university settings, the awareness of the expanding college student market is crucial for successful food service management. A study by Kim, Moreo, and Yeoh (2004) points out that the increasing number of students enrolled in institutions is driving the rising demand for on-campus food services.

Institutional food service is a critical component of the food service industry, responsible for delivering large-scale meal provisions in various institutions such as schools, hospitals, prisons, elder care facilities, and corporate settings. It is designed to meet the nutritional needs of large groups while adhering to strict guidelines related to health, safety, and dietary requirements. Research has highlighted the importance of institutional food services in enhancing the quality of life for individuals within these environments. For example, a study by Gregoire (2013) emphasized the role of institutional food service in healthcare settings, noting its impact on

patient satisfaction and recovery outcomes. Additionally, research by Wansink and Hanks (2013) showed that strategic menu designs and meal presentations in institutional settings can significantly influence food choices, promoting healthier eating habits.

Data from the Malaysian Ministry of Higher Education indicates that in 2002, private institutions enrolled 197,736 students, while state universities had 937,213 students. The surge in enrollment required universities to expand their facilities, including constructing new dining halls to accommodate on-campus living. A report from Research and Markets shows that Malaysia's food service industry saw a 4.3% sales increase, from MYR 1,769.0 million in 2006 to MYR 1,953.1 million in 2011. Additionally, Marketing Charts reports that college students have an estimated spending power of \$90 billion. This rising purchasing power, along with the robust growth in Malaysian food service sales, is expected to drive revenue in university food services. To meet students' needs and preferences, food service providers must remain attentive to these factors. Research by Ng (2005), Oh (2000), and Yuksel & Yuksel (2002) highlights the importance of customer satisfaction in the food service industry, which plays a key role in retaining repeat customers and attracting new ones.

For students' cafeterias, both service quality and product quality are vital in shaping customer satisfaction. Improving either aspect can enhance students' overall experience, leading to increased satisfaction, loyalty, and even positive word-of-mouth. Cafeteria management should therefore focus on training staff to provide high-quality service and ensuring the food offerings meet the expectations and needs of the student body. This study highlights the importance of considering both service and product quality when aiming to improve customer satisfaction in a student cafeteria setting.

Literature Review

Service Quality

Service quality has become a vital component for businesses aiming to maintain a competitive edge and enhance customer satisfaction. It is defined as the customer's overall perception of the effectiveness of a service in meeting their needs and expectations. This perception often determines the level of customer satisfaction, loyalty, and the likelihood of repeat business. High service quality is often linked to key attributes like reliability, responsiveness, assurance, and empathy, which are considered essential in delivering positive customer experiences (Parasuraman, Zeithaml, & Berry, 1988). In recent years, the focus on service quality has intensified, especially with increasing competition and customer expectations. Service quality models such as SERVQUAL continue to be widely used to measure service performance and identify gaps between customer expectations and perceptions. Businesses are encouraged to adopt a customer-centric approach to improve service processes and ensure consistent quality across all touchpoints.

For instance, in a 2019 study, Choudhury and Harrigan emphasized that service quality significantly influences customer satisfaction, particularly in the digital age, where businesses must adapt to evolving customer needs in both online and offline settings (Choudhury & Harrigan, 2019). Similarly, in 2020, Dagger et al. highlighted the importance of responsiveness and personalized services in achieving customer satisfaction in the healthcare sector (Dagger, Danaher, & Gibbs, 2020). More recently, a 2021 study by Prentice and Loureiro emphasized that post-pandemic, businesses face new challenges in maintaining service quality due to shifts in customer behavior and expectations. They found that service providers need to focus more on hygiene, safety, and digital interaction to ensure customer satisfaction in a rapidly changing market environment (Prentice & Loureiro, 2021).

Reliability

Reliability, a fundamental dimension of service quality, refers to a service provider's ability to consistently deliver the promised service with accuracy and dependability. It is considered a crucial factor in shaping customer satisfaction, as it ensures that customers' expectations are met consistently over time. In the food service industry, reliability is equally crucial to customer satisfaction, as it reflects the ability to consistently deliver accurate orders, provide timely service, and maintain food quality. **Namkung and Jang (2008)** focused on the restaurant industry and found that reliability in food quality and service consistency has a significant impact on customer satisfaction. They emphasized that customers are more satisfied when restaurants consistently meet their expectations, such as delivering the correct food order in a timely manner. Additionally, **Ryu, Lee, and Kim (2012)** investigated customer satisfaction in the context of quick-service restaurants. The study revealed that reliability, which includes delivering food orders correctly and promptly, is a key factor affecting customer satisfaction. Customers place high value on consistent and accurate service when dining in quick-service establishments.

In the hospitality industry, reliability includes delivering consistent service, such as timely check-ins, accurate reservations, and dependable food and beverage service. Recent studies emphasize the significance of reliability in fostering customer satisfaction and loyalty. For instance, Zhang et al. (2018) found that reliability in hotel services significantly contributes to guest satisfaction, particularly in luxury settings. Similarly, Mensah and Mensah (2018) identified reliability as a top factor in determining customer satisfaction in Ghanaian hotels. More recently, Demir et al. (2021) demonstrated that hotel guests place high value on reliable services, such as prompt issue resolution and consistent service delivery.

Responsiveness

In a food court environment, Garg and Kumar (2017) emphasize the importance of responsiveness due to the typically limited time customers have to dine. Delays in taking orders or providing accurate menu information can lead to customer frustration and drive them to choose other dining options. Efficient communication among staff can enhance responsiveness, reducing delays and errors. Additionally, an effective system for handling complaints and resolving issues swiftly is crucial for maintaining customer satisfaction. As noted by Mensah and Mensah (2018), responsiveness is a vital component of service quality in a food court, significantly affecting the overall customer experience and satisfaction. Responsiveness is a critical element of service quality that significantly influences customer satisfaction. When staff promptly and effectively address customers' requests and needs, it fosters a sense of being valued and well-attended, leading to a more positive overall experience and higher satisfaction with the food court. Conversely, slow or inadequate responses can cause frustration and dissatisfaction. Thus, responsiveness plays a crucial role in enhancing and sustaining customer satisfaction in a food court (Lei, 2013). When service meets or surpasses customers' expectations, their satisfaction with the experience is likely to increase (Canny, 2014).

Kwortnik and Thompson (2009) introduced the Service Experience Management (SEM) framework, which integrates service marketing and operations to enhance service quality and customer satisfaction. Their research emphasizes the critical role of responsiveness within the service experience, arguing that effective management and improvement of responsiveness such as delivering timely and accurate responses to customer needs can significantly boost customer satisfaction and loyalty. Pérez and Rodríguez del Bosque (2015) examined the impact of service quality on customer satisfaction across the hotel and restaurant industries. Their study highlights that responsiveness, among other service quality dimensions, is a key factor

in achieving customer satisfaction in both sectors. They found that timely and effective responses to customer inquiries and complaints are essential for a positive customer experience, and they provide insights into how different facets of responsiveness contribute to overall satisfaction. Similarly, Chechi and Valle (2019) explored how various dimensions of service quality, including responsiveness, influence customer satisfaction in the hospitality industry. Their findings reveal that responsiveness—characterized by prompt and effective service delivery—is a major driver of customer satisfaction. The study underscores the importance of training staff to be responsive and efficient to meet and exceed customer expectations, thereby enhancing overall customer experiences.

H1: There is a relationship between service quality and customer satisfaction.

Food quality

Food quality is a fundamental element in the food service industry, playing a critical role in shaping customer satisfaction and loyalty. The perception of food quality encompasses various attributes, including taste, presentation, and freshness, which collectively contribute to the overall dining experience. In a highly competitive market, where customer preferences are diverse and expectations are high, the ability to consistently deliver high-quality food can differentiate a restaurant from its competitors and foster positive customer relationships.

Research has consistently shown that food quality is a crucial determinant of customer satisfaction. For instance, studies by Jin, Line, and Wang (2012) and Namkung and Jang (2007) have highlighted the importance of food quality attributes in creating positive dining experiences. Their findings suggest that factors such as the sensory appeal of food such as taste, appearance, and freshness are integral to customer satisfaction and can significantly influence their dining decisions. Moreover, Kamal, Hussain, and Tariq (2016) have emphasized the interplay between food quality and other factors like price fairness, revealing that a combination of high-quality food and reasonable pricing can enhance customer loyalty and repurchase intentions. This underscores the need for food service providers to not only focus on maintaining high standards of food quality but also to balance it with fair pricing strategies. Shahzadi, Anwar, and Khan (2018) highlighted the importance of food quality in conjunction with service quality and atmosphere as critical factors influencing customer satisfaction and the intention to revisit full-service restaurants. Their research underscores that a combination of these elements is essential for enhancing the overall dining experience and encouraging repeat patronage. Similarly, Luo, Li, and Zhang (2019) found that food quality plays a significant role in shaping customer satisfaction. Their study identified key attributes of food quality, including taste, freshness, and price, as crucial determinants of customer perceptions and satisfaction levels.

Price

Research has consistently demonstrated the critical role of price fairness in influencing customer satisfaction and loyalty within the hospitality industry. Sweeney and Soutar (2001) developed a scale to measure consumer perceived value, which includes pricing fairness as a significant determinant of overall satisfaction. Their study highlighted that perceived value, encompassing fair pricing, significantly impacts customer satisfaction. Building on this foundation, Kwortnik and Thompson (2009) explored how effective service experience management, including fair pricing, integrates with service marketing and operations to affect customer satisfaction. Their research emphasized that managing service experiences, which includes equitable pricing, is essential for achieving high levels of customer satisfaction.

Further investigation into this topic was provided by Hsu and Huang (2016), who found that perceived price fairness significantly impacts both customer satisfaction and loyalty in the hotel industry. Their study revealed that guests who perceive hotel pricing as fair are more likely to report higher satisfaction and demonstrate stronger loyalty. Complementing these findings, Kim and Lee (2013) identified that fair pricing is crucial for enhancing customer satisfaction and fostering loyalty in the hotel sector. Their research underscores the importance of pricing strategies in shaping positive customer experiences and ensuring repeat patronage. Together, these studies illustrate that fair pricing is a fundamental element in enhancing customer satisfaction and loyalty, highlighting the need for hospitality providers to adopt pricing strategies that align with customer expectations.

Cleanliness

Cleanliness is a critical factor influencing customer satisfaction in the hospitality industry. Baker and Crompton (2000) explored the relationship between quality, satisfaction, and behavioral intentions, emphasizing that cleanliness is a fundamental component of service quality that impacts customer satisfaction and future behavioral intentions. Building on this, Choi and Chu (2001) identified cleanliness as a significant determinant of hotel guests' satisfaction and repeat patronage in their study of the Hong Kong hotel industry. Their findings indicated that cleanliness, along with other factors, plays a crucial role in shaping overall guest satisfaction and likelihood of return. Further research by Kwortnik and Thompson (2009) investigated how effective service experience management, including cleanliness, integrates with service marketing and operations to impact customer satisfaction, emphasizing that cleanliness is a crucial component of the overall service experience essential for positive customer perceptions. Building on these insights, Kim and Kim (2016) specifically explored the impact of cleanliness and service quality on customer satisfaction in the hotel industry, highlighting that maintaining high standards of cleanliness is critical for achieving high levels of customer satisfaction and sustaining competitiveness in the hospitality sector.

H2: There is a relationship between food quality and customer satisfaction.

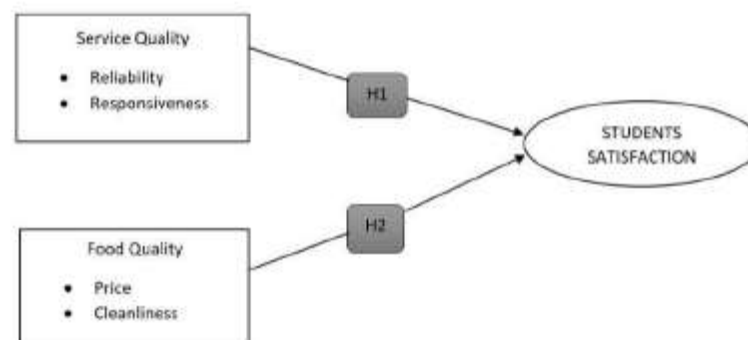


Figure 1: Research Framework

Problem Statement

In many university cafeterias, maintaining high standards of both service quality and food quality is essential to ensuring student satisfaction. However, recent studies suggest that students frequently encounter inconsistencies in both areas, leading to dissatisfaction and a decline in repeat visits. Service quality factors such as staff responsiveness, friendliness, and reliability are often cited as key determinants of customer satisfaction in cafeteria settings. Additionally, food quality aspects like price and cleanliness, and nutritional value play a crucial

role in shaping students' overall dining experience. When either service or food quality is lacking, students feel their expectations are unmet, negatively impacting their overall campus experience. Addressing gaps in both service and food quality is thus critical for enhancing student satisfaction and ensuring the cafeteria remains a preferred dining option. The aim of this study is to investigate the relationship service and food quality towards customer satisfaction at the cafeteria.

Methodology

The study employed a quantitative research design, focusing on the collection and analysis of numerical data to draw conclusions. A survey method was used to evaluate customer satisfaction concerning the service and food quality at a university cafeteria.

Unit of Analysis

The study specifically targeted students at UiTM Penang as the chosen population. To explore the factors of service quality and food quality influencing customer satisfaction at the cafeteria, a convenience sampling method was employed.

Research Design

This research employs a quantitative approach to assess student satisfaction at UiTM Penang's cafeteria. Data will be gathered through questionnaires distributed via Google Forms on social media platforms such as WhatsApp, Telegram, Instagram, and Facebook. The study examines key aspects of service quality like reliability and responsiveness, along with elements of food quality such as price and cleanliness. A convenience sampling method, will be used to select participants based on accessibility. The researcher opted for a descriptive and hypothesis-testing approach to gather detailed information through the questionnaire, enriching the overall findings of the study.

Sampling and Population

The sampling method aims to identify the entire population of individuals who visit the cafeterias at UiTM Permatang Pauh. For this study, sampling will be employed, with respondents being primarily students who frequently visit the cafeteria. A purposive sampling technique will be utilized to gather the necessary data for this project. The university has more than three cafeterias, each of which has been chosen as a location for data collection. A sample size of 400 has been determined as appropriate. As a result, the survey will be distributed to individuals who dine at the UiTM cafeteria in Permatang Pauh, Penang. A pilot test will be conducted to ensure the reliability and validity of the questionnaire. According to Diener et al. (2009), a pilot test typically requires 10–30 samples to assess the consistency of the content. A pilot study was carried out to collect initial raw data and evaluate the procedures for data entry and processing. In this pilot phase, 30 students from UiTM Penang were chosen as participants.

Research Instrument.

An online survey questionnaire was developed using Google Forms, featuring questions in both English and Malay. This bilingual approach was adopted to enhance the questionnaire's accessibility and comprehension for respondents, allowing them to answer more effectively based on their language preference. The questionnaire is organized into four sections: the first section collects demographic information; Part B includes eight questions related to the independent variable of service quality; Part C features seven questions focused on food quality; and Part D contains four questions aimed at measuring the dependent variable, customer satisfaction. A Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), will be used to gauge responses.

Data Analysis

The research is centered on descriptive data, analyzing customer satisfaction at the university cafeteria with respect to service quality and product quality. Descriptive analyses will be performed using IBM SPSS Statistics, which will include calculating mean values, frequencies, and standard deviations, as well as creating graphical representations such as bar charts and statistical summaries. Furthermore, the Pearson Correlation Coefficient will be employed to investigate the relationships between the variables in more detail.

Findings

Reliability Test

Reliability testing is a crucial statistical method employed to assess the consistency and stability of a measurement instrument or its subscales. It aims to determine the extent to which the tool or its items consistently measure the same construct across repeated administrations. One of the most widely utilized indicators of reliability is Cronbach's Alpha, which evaluates the internal consistency of a scale or set of items. In the present study, Cronbach's Alpha was employed to evaluate the internal consistency of the instrument, determining the extent to which the test items are correlated and measure the same underlying construct. According to Sekaran (2003), a Cronbach's Alpha value of 0.6 is generally considered acceptable. It is important to note that the number of items in a scale can affect Cronbach's Alpha, with shorter scales often resulting in lower values. In this study, the reliability analysis generated Cronbach's Alpha coefficients for each variable, all of which exceeded 0.6, indicating a sufficient level of reliability for the instrument.

Table 1: Reliability Statistic

Variable	Cronbach's Alpha	N of Items
Service Quality	.955	8
Food Quality	.988	7
Customer Satisfaction	.962	4

Descriptive Analysis

Descriptive analysis is a fundamental statistical method utilized to summarize and interpret the key characteristics of a dataset. It provides a comprehensive overview of the data by organizing and presenting information related to its distribution, central tendency, and variability. Commonly used measures in descriptive analysis include mean, median, mode, standard deviation, and range, complemented by visual tools such as histograms, bar charts, and frequency distributions. The primary objective of descriptive analysis is to offer a detailed understanding of the dataset, rather than to test hypotheses or make inferences. By delivering a clear representation of the data's structure and patterns, descriptive analysis serves as a critical preliminary step in research, enabling the identification of trends, relationships, and potential anomalies that may guide subsequent analyses.

Demographic Profile of Respondents

This section presents the demographic profile of the respondents, including information on their gender, age, level of study, and frequency of customer satisfaction with the UiTM Penang cafeteria.

Table 2: Respondents Profile

	n.	%
Respondent	400	
Gender		
Male		

Female	162	40.5%
	238	59.5%
Age		
18-20 years old		
21-24 years old	82	20.5%
25-27 years old	283	70.8%
28 year above	34	8.5%
	1	.3%
Educational Level		
Pra-Diploma		
Diploma	4	1%
Bachelor Degree	136	34%
Master	259	64.8%
	1	.3%

Out of the 400 respondents, 238 (59.5%) were female, while 162 (40.5%) were male. Many respondents, 283 individuals (70.8%), were within the 21-24 age group, making it the largest segment. The second-largest group, aged 18-20, consisted of 82 respondents (20.5%). Additionally, 34 respondents (8.5%) fell within the 25-27 age range, and only one respondent (0.3%) was aged 28 or older. In terms of educational level, most respondents were pursuing a bachelor's degree, with 259 individuals (64.8%). Diploma-level students accounted for 136 respondents (34%), while pre-diploma and master's level students were represented by 4 (1%) and 1 (0.3%) respondent, respectively.

Descriptive Statistic for Each Variable

Table 3: Mean Score and Standard Deviation for Price

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Service Quality	400	6	20	14.3	1.465
Food Quality	400	3	15	12.17	1.189
Customer Satisfaction	400	3	15	12.10	1.140
Valid N(listwise)	400				

The service quality data shows a minimum value of 6 and a maximum value of 20, resulting in a range of 14. With a mean of 14.3, the data indicates that the observations generally cluster around this central value. The standard deviation of 1.465 is relatively low, suggesting that the data points are closely grouped around the mean, indicating a high level of consistency. For product quality, the dataset records a minimum value of 3 and a maximum value of 15, resulting in a range of 12. The mean value of 12.17 indicates that, on average, the observations are centered around this point. With a standard deviation of 1.189, the data points are relatively close to the mean, reflecting low variability and suggesting a consistent dataset with a strong central tendency. The customer satisfaction scores range from a minimum of 3 to a maximum of 15. The dataset shows a relatively narrow range with an average score of 12.10 and a low standard deviation of 1.140. These statistics suggest that the scores are largely concentrated around the mean, indicating limited variability and a consistent distribution.

Pearson Correlation Coefficient Analysis

Table 4: Pearson Correlation Matrix between Variables

		Service Quality	Product Quality	Customer Satisfaction
Service Quality (IV)	Pearson Correlation	1	.768**	.293**
	Sig. (2-tailed)		.000	.000
	N	400	400	400
Product Quality (IV)	Pearson Correlation	.768**	1	.429**
	Sig. (2-tailed)	.000		.000
	N	400	400	400
Customer Satisfaction (DV)	Pearson Correlation	.293**	.429**	1
	Sig. (2-tailed)	.000	.000	
	N	400	400	400

** Correlation is significant at the 0.01 level (2-tailed)

Table 4 indicates a moderate positive correlation between service quality and customer satisfaction ($r = .293$). The correlation analysis confirms a significant positive relationship between these two variables, supporting the hypothesis that service quality is significantly related to customer satisfaction. This finding is consistent with the study by Rauch, Collins, Nale, and Barr (2015), which also reported a moderate positive relationship between service quality and customer satisfaction, thereby reinforcing the results of the current study. Conversely, Liat, Mansori, and Huei (2014) argued that the relationship is stronger, suggesting that higher perceived service quality leads to significantly higher levels of customer satisfaction in the hotel industry.

The analysis further indicated a moderate positive correlation between food quality and customer satisfaction ($r = .429$), suggesting that better food quality is associated with higher levels of customer satisfaction. This finding supports the hypothesis that food quality significantly positively influences customer satisfaction. This result aligns with the studies by Ryu, Lee, and Kim (2012), Heung and Gu (2012), and Cottam and Goodwin (2020), which also identified a moderate positive relationship between food quality and customer satisfaction. Conversely, research by Baker and Andrews (2019) and Kang and Lee (2021) observed a high positive relationship between food quality and customer satisfaction, indicating a more substantial impact in their contexts.

Discussion

This research investigates the influence of service quality and food quality on customer satisfaction at UiTM Penang cafeteria. The study aims to analyse the relationships between these two variables and their impact on customer satisfaction. For each variable, two alternative hypotheses have been proposed. The findings reveal that both service quality and food quality significantly affect customer satisfaction, which in turn contributes to the continued patronage of the cafeteria.

The findings of Hypothesis 1, which examines the relationship between service quality and customer satisfaction, indicate a positive impact on UiTM Penang students. This variable emphasizes the reliability and responsiveness of cafeteria staff. When the cafeteria consistently delivers accurate orders, maintains food quality, and fulfills service promises, students are more likely to return and develop loyalty. This loyalty helps reduce customer churn and encourages repeat visits, leading to more stable revenue. Additionally, when staff

are able to provide prompt service, address customer inquiries, resolve issues, and meet needs efficiently, customer satisfaction increases. On the cafeteria's side, management should focus on training staff to improve responsiveness, ensuring that customer concerns are addressed quickly and effectively. Strategies may include reducing wait times, handling inquiries attentively, and proactively resolving problems.

Regarding Hypothesis 2, there is a moderate positive relationship between food quality and customer satisfaction. This relationship highlights the importance of price and cleanliness in the cafeteria. When customers perceive prices as fair and the cleanliness of the food is upheld to a high standard, they feel they are getting good value for their money. This positive relationship suggests that customers are more likely to be satisfied when they receive high-quality, clean food at a reasonable price, leading to an increase in perceived value. This not only encourages repeat business but also fosters greater customer loyalty. For the cafeteria, maintaining cleanliness and fair pricing is crucial, as it offers a competitive advantage, particularly in a market where customers have other dining options. Management should prioritize hygiene in food handling, storage, and preparation, as poor cleanliness can result in foodborne illnesses that can damage the business. Additionally, any necessary price increases should be carefully justified by improvements in food quality, portion sizes, or other service enhancements to avoid negatively affecting customer satisfaction.

Conclusion

Research on university cafeterias offers valuable insights into customer satisfaction and perceptions of these establishments. By exploring key factors such as service quality and food quality, this study helps cafeteria owners understand what customers, particularly students, prioritize. The findings show that students place a strong emphasis on food quality, particularly in terms of price and cleanliness. This suggests that prices should be reasonable and affordable, and the food should be clean and safe to consume. Additionally, providing consistent, timely service and quick delivery will further enhance student satisfaction. Overall, the research provides practical recommendations for cafeteria owners to improve services, offer affordable pricing, maintain food cleanliness, and increase customer satisfaction.

One limitation of this study is its exclusive focus on the opinions of students from UiTM Penang. This limited demographic scope may not fully represent the perspectives of other customer groups, such as university staff and external visitors. Additionally, the study relies on self-reported data, which can be subjective and may not always accurately reflect actual experiences. For future research, it is advisable to include a more diverse sample encompassing various age groups, professions, and institutions, such as other universities, to obtain a broader understanding of customer satisfaction in university cafeterias. Employing observational methods or analyzing sales data could further validate the findings and provide a more objective measure of service quality. Moreover, investigating factors such as pricing strategies and marketing efforts by cafeteria management could offer additional insights into the factors contributing to business success.

Overall, this study demonstrates that the cafeteria plays a significant role in providing comfort and satisfaction to its customers. Therefore, supporting these establishments is crucial, as they fulfill the food-related needs and expectations of both students and university staff.

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AUGMENTED REALITY BASED VISUAL ATTENTION AND WORKING MEMORY ANALYSIS FOR CHILDREN USING COMPUTER VISION

A F M Saifuddin Saif ¹

Zainal Rasyid Mahayuddin ²

Adil Mahmud Choudhury ³

¹Department of Computing, Information and Mathematical Sciences, and Technology (CIMST), Chicago State University

² Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia, Malaysia

³ Department of Computer Science, American International University – Bangladesh

Abstract: *The mental learning arrangement of children and the impact of visual attention make computer vision researchers extremely inquisitive. Understanding child psychology in the early stage is one of the significant factors for their smooth mental growth which includes thinking patterns, learning styles, and psychological development. Visual inclining is one of the primary drivers of mental advancement in a child where the visual system is constrained by the subject's eye. In this context, the idea of visual attention in children could uncover new learning patterns by means of the visual framework which is addressed by this research. Previous researchers attempted to discover various aspects in this context such as kid improvement, conduct acknowledgment, and field of intrigue where they did not use computer vision and augmented reality technology adequately. This research presents a rigorous investigation to learn about children's psychological development through assigning interactive tasks to children. For this, this research developed a computer vision-based augmented reality system that gets a grouping of videos and identifies data from participating individuals. In this context, this research audited the coordination of eye, head, and hand developments amid the execution of a block copying assignment. Overall experimental investigation performed by this research presents a significant pattern to understand children's psychology. The impacts of the proposed investigation using computer vision-based augmented reality will contribute significantly to design improved education materials for children from an early stage.*

Keywords: *Visual Memory Analysis, Augmented Reality, Computer Vision*

Introduction

Interaction always happens through head and eye movements, gestures, sounds, and poses. The visual experience of humans is undauntedly coupled to activity to the viewer's eye, and body enhancement. Technologies and research fields like Computer vision, neural networks, Cognitive science, and Human-computer interaction can be utilized to break down the visual considerations in people-to-people cooperation or interaction. A portion of these progressions are undertaking important, and objective coordinated, while others are unconstrained. From a PC vision perspective, most existing estimations for inquiry affirmation and following social affiliations, activities, and joint ideas are likewise annexed to the activity and the generally influencing and coupled eye, head, and body headways of the people. This examination ponders the bit of the kids or people on considerable engine development and those of the social partner in masterminding the visual counters of the baby. Kids find out about new things from

guardians, objects, social creatures, and creatures through regular communication regularly. That is how a child improves learns new things and grows. This is in like manner a fundamental request for hypotheses of human learning. The learning procedure relies upon many things like conditions, the learning system, and the general population around them.

Children learn about new things like objects, actions, other social beings, animals, and language through interaction with parents or other social beings. Mainly interactions happen by expressing bodily actions like head and eye movements, breathing, gestures, vocal sound, body sway, and pose [1][2]. A few investigations from formative examinations demonstrate that when associating head, hands, and eye shifts, eye stare is firmly coupled and plays a noteworthy character. One ongoing discovery utilizing a similar arrangement of eye stare discovery. Understanding visual attention in kids or individuals could give new experiences into how the visual framework creates amid developmental years and how visual consideration and decision assume a job being developed and learning. To achieve this, the interaction between children and parents can be observed and recognized to propose efficient estimation of the substance of their visual fields of view and gather gaze information to record where they search inside the visual field. Some ongoing psychophysics think about grown-ups performing regular assignments, for example, playing with toys, demonstrating a nearby coupling between eye, head, and hand developments with eye stare marginally driving the head and after that the hands [4]. In addition, later proof from formative examinations likewise proposes that when little children are physically following up on items, head movement furthermore, eye shifts and eye gaze are firmly coupled, with most looks to an item likewise including concurrent head turns and hand gestures.

With the open doors for egocentric perspectives come challenges, unmistakably in light of the fact that first-singular video is incredibly amazing stood out from video from a stationary camera. Since a first-individual camera is annexed to the head, each head turns and every modification in body presentation causes overall changes in the in any case singular view. A portion of these progressions are undertaking important, and objective coordinated, while others are unconstrained. From a computer vision point of view, most existing calculations for question acknowledgment and following accept cameras are stationary or have a known, straightforward movement demonstration. Numerous researchers found that eye as well as body development assumes an imperative part in collaboration and learning [4]. Be that as it may, just utilizing the eye it cannot be stated just in regard to visual consideration. On the off chance that we must find out about the advancement process, eyebrow development should be addressed. The visual inclining framework has pivotal distinction while watching, focusing, and showing on account of youngsters and guardians accepting cameras are stationary or have a known, straightforward movement. This requires the coordination of these developments in both realities. Investigations of eye, head, and hand developments have regularly been with single developments, more often than not to flashed upgrades. Be that as it may, the general issue is substantially more troublesome. Eye, head, and hand all need to act regarding a typically arranged framework and remain synchronized in time over various activities [26] which was addressed in this research.

Background Study

To understand the visual world, feeling and subjective systems ought to explicitly deal with a subset of this information. Thought can be viewed as a spatial spotlight [3] that can be realized. Visual consideration understanding in children could open up new expansion into visual system progression in years and how visual thought and assurance are basic in perceiving premium, enhancement, and learning. Late investigations demonstrate that we as of now have imagined

numerous things in the field of Computer vision, Cognitive science, and Human PC association utilizing diverse gadgets and calculations. Those can be utilized to investigate the visual consideration in youngster parent or individual-to-individual connection. The examination is to see how the visual consideration in kid-parent cooperation mostly works. The visually inclining framework has earth-shattering distinctions while watching, focusing, and showing on account of youngsters and guardians. Right when the adults are involved with complex errands from influencing sandwiches to reproducing square guides to suggests that the flashing typical for the human body in space fills in as a pointing reference for limiting material things to inside figuring [5]. Numerous examines believe that eye as well as body development assumes an imperative job in collaboration and learning. In any case, just utilizing the eye it can not be said just regarding visual consideration. On the off chance that we have to find out about the advancement process, eyebrow development should be checked too. It will bring more precision. On the off chance that just eye development is watched, just the consideration will be eyewitness not the response to the issue [6].

In the field of visual attention analysis, numerous criteria of the progression and learning condition and the prerequisite for goals on taking in framework to pick up from that normal condition are assembled not as for the certifiable plan of the baby's experiences. Actually, it depends on grown-up feelings about the arrangement of experience and moreover, a few investigations from formative examinations demonstrate that when connecting head, hands, and eye shifts, eye stares are firmly coupled and play a noteworthy character. The modification to parenthood is incomprehensibly perceived to be a period of dynamic change in the family system, and since it is assumed that what shows up in one family subsystem ought to be identified with what turns up in youngster-parent connections. One recent finding used the same system of eye gaze detection. Both children and parents where are playing with a toy and visually take care of the articles held without anyone else's input as well as the items held by another accomplice in doing as such, they pay visual attention and keep up facilitated by taking a gander at the toy in the meantime. In addition, if they are paying attention is the object then the child is noticing and learning. Nevertheless, in this research, the problem is it is only about the attention of the child, but there is no correct explanation of development. Just because a child is looking at something that does not satisfy that child is interest is that facial expression and eyebrow movement can extract that data [4].

Tatler et al. [8] showed the breaking points of visually striking nature in anticipating eye stare, finding that while base-up saliency measures are significantly perceptive of look in inert pictures, they do whatever it takes not to whole up well to naturalistic customary settings with self-assured overview lead. Their proposed models require to consider of other larger amount factors. Without a doubt, using head-mounted eye trackers transformed into a present example in think visual thought of adults concerning ordinary practices, which has quite recently incited basic disclosures. Because of particular hindrances like camera weight, picture quality, and head shacking, there have been a few considerations on following and recording first-singular view video and eye advancements. To manage boisterous information, best-in-class AI approaches first gather information (with or without showing names) and after that depend on imagining progressed numerical computations that can be associated with the pre-accumulated data. The learning system itself is dormant in this methodology, getting information in a confined stream [9]. Interestingly, youthful youngsters learn through their own particular activities that straightforwardly figure out what they see, how they see it, and when they see it. Through body development, youthful students effectively make the visual contribution on which protest learning depends. On the off chance that we are to construct fake gadgets that can all alone learn and also little children, we may benefit from seeing exactly how youthful

human students select data through their own behaviour [10]. Adding to these Matthew et al [7] showed that playing video games improves the development of visual attention by playing video games in school-age children.

While gaining from communications from adolescent-parent multimodal identifying structure was commonly used in various request and generally depended upon all around adjusted first-singular video and eye advancement. In any case, as displayed by past examinations [14], all-around adjusted first-singular video and eye improvement data are so far reliable approximations of people's visual fields and what they deal with in the view. Consequently, it was a decent methodology. For focal points, the Multimodal detecting framework [13] [18] [17] [20] makes a controlled domain, less jumbled than the genuine world. Item position, relative sizes, holding exercises, and articles in consideration can be resolved. With 6 movements following the system(240Hz) set in both head and hand. This likewise decided the connection between head(eye) and hand developments. Despite the fact that it has a few weaknesses the flat edge of the first individual camera was 900 where, all things considered, a grown-up. The Reward-based models of gaze allocation [15] put learning at the focal point of theoretical records of eye direction, it is imperative to think about how it may be executed in the mind. It likewise takes care of the issues of the multimodal framework where the visual field is an issue. Nicola et al [21] tested an infant's intellectual abilities through a very different method where on each of the four errands every youngster was tested: move screen concealing assignments and the move-article and the looking-where and point-course picture undertakings. The concealing errands were constantly regulated first; generally, the request for the organization of the assignments was completely counteracted. Chen et al [17] demonstrated promising outcomes and it likewise unraveled an equivocalness of the multimodal show where the creators did not know whether eye and head development was trailed by one another. It additionally demonstrated a few mistakes of impediments, for example, from the tyke's gaining from condition as and furthermore its hand and eye cooperation however the entire thing was generally one-sided as the tyke was in a controlled domain and he was just permitted to play with the articles before him, where in genuine circumstances the visuals may get a great deal jumbled. Ann et al. [22] performed through propensity and nipple occasions the technique where he took both 8 months and a year and through look and articulation towards an article they endeavored to foresee if by one-year babies could create a comprehension of look and articulation of grown-ups through these preliminaries. The strategy was genuinely straightforward and did not expect anybody to have any learned capacities subsequently no development test was required likewise they really attempted on if the guinea pigs were qualified thus, it was especially viable for the kids. Yet, for handicaps, it was for the most part a one-sided methodology as the babies had just 2 articles to browse and there is a high shot that newborn children just indicated enthusiasm for an item simply because they were egocentric. Dorit and Iris's [23] scholarly capacities were tried as two mother-kid joint-composing exercises were recorded. Here the mother kept in touch with a few letters and afterward, the youngster was advised to copy in two distinct situations where one mother replicated from a page and another mother just composed a couple of words, and for the perusing test, the mother read an entry or section and made a few inquiries identifying with it. Kay and Robert [24] adopted an uncalled-for strategy where an organized profundity talk comprising of 10 questions gave the meeting work process system. With the revelation-arranged nature of this examination, eight of the 10 questions were not set explicitly. Every source was met secretly, by the principal creator with the goal that no other relative knew about them. Vincent and Tricia [25] additionally examined kid cooperation by means of eye stare developments and checked on the off chance of which activities were affected by their grown-up's eye developments. Here they needed to take a gander at a picture of a face as the face looked towards an article again

on another test the face was not taking a gander at any of the two items like this, they took both one-sided, and fair-minded tests where in fair-minded they were not given any grown-ups/developments to follow up on rather they were allowed to do everything. The procedure required no substantial wearable gear thus newborn children were quiet however no such data of what the babies did in the wake of being pulled into an item were given just that they were pulled in.

Proposed Method

To attain the goals of investigating children's mental growth of different ages, this research developed an augmented reality-based mobile application by which this research conducted experiment in a less cluttered real-life play environment where a child and a parent sat facing each other and a table or something to place 4 objects/balls was placed between them. Parents were instructed beforehand on how this experiment will take place and they were thoroughly instructed on how to carry out their tasks. Before the experiments began children were sat on a stool or a higher place to align the eye level of both parent and toddler. There were four tasks to perform, and each took about 10 minutes, taking about 30 minutes in total for each dyad. Both the parents and the toddlers wore worn white clothes and were sitting on white sheets, the experiment was conducted in a less cluttered real-life environment so that the proposed research attained better results with less bias. In this context, children were free to do whatever they pleased.

A. Participants

The participants consisted of 15 children and their parents. This research considered children of three age groups 1.5 to 2 years, 2.5 to 3 years, and 3.5 to 4 years respectively. Each age group consisted of 5 parent-child dyads. There were an additional four infants, but we were not considered in the results as they were distracted did not pay any heed to the instructions given or were not comfortable with the head-mounted cameras. All participants were healthy and of proper mental growth, hence ensuring proper results.

B. Interaction Between Hand and Gaze direction

The experimental set up to evaluate the proposed research was real-life-like and was done in places familiar to the children such as home and playground. This research set up a head mount camera synchronized with the AR mobile application in the infant's head to investigate head movement and considered it eye movement as head and eye movements of children are very much aligned, which this research learned from Chen et al. [13]. This research also set up a camera from the side to record the whole experiment and to keep checking if the experiment was going properly.

C. Hand Detection Classifier

This research developed a hand detection classifier by training and testing from Bambach et al. [28] and Mahmoud Afifi's [29] hand datasets which had about 16k egocentric hand images later on the classifier showed over 94% accuracy. This research used TensorFlow using AR toolkit[11,12,16] to develop hand classifier shown in Figure 1. There are several existing approaches to tracking hands in the computer vision domain [19, 24]. Incidentally, many of these approaches are rule-based, i.e., extracting background based on texture and boundary features, distinguishing between hands and background using color histograms and HOG classifiers, etc and most of these methods are not very robust [27]. For example, these existing methods might get confused if the background is unusual or where sharp changes in lighting conditions cause sharp changes in skin colour or the tracked object becomes occluded. Hence,

this research trained and tested its own classifier using both cluttered and clear hand images making it a very efficient classifier.

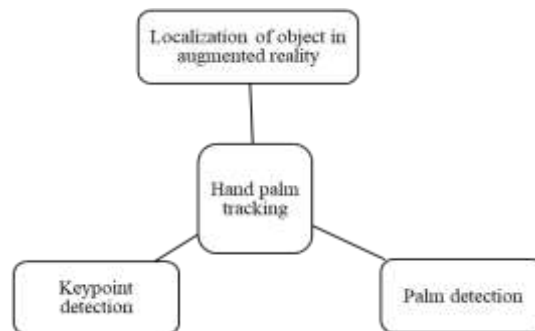


Figure 1: Hand Classifier

D. Pointing at Object Task

Four balls each having a different colour were presented in front of the children. Parents were instructed to take the ball using the choice of words the toddler would be familiar with while pointing at a random ball for a few seconds and then stopping and not giving any hints. Afterward, this research judged if the child was able to take the correct ball or not. We took about 10 trials for each dyad using this method.

E. Same Object and Same Order Task

Like before four balls were given a name to the parent. The given names were familiar to the infant, so it was easy for the infant to memorize. The parent was instructed to speak out each object's name while pointing at the object and right after that parent told the toddler to pick an object by referring to the object by its name. If the toddler picks the wrong object or fails to pick up the correct object, then the parent again speaks out the names while pointing and asks to toddler to pick out that object by referring to its given name keeping the same arrangements keeping them in the same place and order to check how many times a child for a child to be reminded the names to pick out the right object. This process continued for about 5 times or if the toddler picked the right object for each trial. There were 10 trials and took about 10 minutes for each dyad.

F. Same Object but Different Order Task

This is identical to the "Same Object and Same Order Task" but this time each time on each trial whenever a child needed instructions, the arrangement was randomized keeping but keeping each object's associated same name.

G. Pick an object task

The toddler was told to pick any object out of the four presented to him. This took five trials for each child.

H. Data analysis

This research took the videos and used a hand detection classifier to detect hands from the videos in a frame-by-frame manner. The center of the video was considered the center of attraction. The videos were in 20 frames per second having a resolution of 600 x 500.

Experimental Results and Discussion

A. Pointing at Object Task

From Table 1, each age group's mean score can be seen, and it is to be pointed out that the eldest group which ranges from 3.5 to 4 years old did exceedingly well compared to other groups. For the 1.5 to 2 age group, parents had to point at the objects in a very playful manner to grab his/her attention because in most cases the children in that age group got distracted by other things. So, to perform these tasks, parents needed to make sure to have the child's attention towards them, also in most cases, children were more interested in choosing the object they were more interested in or their favourite object/colour. And to some extent, these characteristics were similar for the 2.5- to 3-year-olds but this age group was found to be more attentive. But compared to all these age groups' children, the 3.5 to 4-year-old age group almost reached the peak by showing correct responses in about 10 to 11 cases on average. Then, 3.5 to 4-year-olds were more attentive to tasks compared to other age groups as well.

Table 1: Point at Object Task Correct Responses

Age group	1.5 to 2	2.5 to 3	3.5 to 4
(Years)	(Years)	(Years)	(Years)
Task Name			
Pointing task	3/10	4/10	7/10
Percentage	30%	50%	70%

B. Same Object and Same Order Task

This task turned out to be challenging for the 1.5 to 2-year-old age group and the 2.5 to 3-year-old age group shown in Table 2. The results are not very in favour of the 3.5 to 4-year-old group either, in terms of correct response percentages. But when it comes to the number of instructions needed the 3.5 to 4 age group almost never needed instructions more than once and at max, twice. Where the other age groups especially the 1.5 to 2 years old groups in most cases needed more than 5 instructions hence, they were taken as incorrect responses also it becomes easier for them if the object instructed to pic by the parent is the 3rd or 4th object in the order when saying the names to the toddler.

Table 2: Same Object and Same Order Task Correct Responses and Number of Instructions Needed (Mean)

Age group	1.5 to 2	2.5 to 3	3.5 to 4
(Years)	(Years)	(Years)	(Years)
Task Name			
Same Object and Same Order Task	2/10	3/10	7/10
Correct Response Percentage	20%	30%	70%
Number of times instructions needed	4.5 out of 5	2.5 out of 5	1 out of 5

C. Same Object but Different Order Task

This task turned out to be quite impossible for the 1.5 to 2 years old and the 2.5 to 3 years old age group, but the results given in Table 3 show a 50/50 success rate for the 3.5 to 4 years old age group.

Table 3: Same Object but Different Order Task Correct Responses and Number of Instructions Needed (Mean)

Task Name	Age group 1.5 to 2 (Years)	2.5 to 3 (Years)	3.5 to 4 (Years)
Same Object and Same Order Task	2/10	2/10	4/10
Correct Response Percentage	20%	20%	40%
Number of times instructions needed	4 out of 5	4 out of 5	3 out of 5

D. Pick an Object Task

After all the tasks, the children were told to pick out a random object from the 4 balls. This task gave some interesting insights. This research found that for the 1.2 to 2-year-old age group, there is no bias of which object to pick out and in fact, each time they would pick out a different object. Arrangement or the order the objects were placed did not really matter to them. In most cases, they would pick out the object that was closest to them regardless of how it looked or felt. But in a few trials (11-12 trials) they start to show interest in one or two objects out of the 4 and hence end up picking them. The 2.5 to 3 years old tend to pick the object that they find most attractive and tries to stick to that in each of the 3 out of 5 trials whereas the 3.5 to 4 years age group in most cases would choose the object of their interest at first and/or 2nd trials but after that, they tend to avoid that by choosing any object just next to that object they find interesting. They grow this sense that they cannot or should not pick the same object each time and try to pick a different object but still tend to pick an object close to that object they are attracted to subconsciously.

E. Relations between the tasks

All the given tasks are dependent on age, the number of attention toddlers give, and also the ability to understand the tasks were also a factor in this. Then any other task the pointing at object task was more dependent on the amount of attention a toddler could give in their task. But both “Same Object and Same Order Task” and “Same Object but Different Order Task” were related to each other and the task required mainly understanding and the ability to recall and reminisce. Despite all, task 3 was the most challenging one out of them. But if we partial-out age and performance, the correlation between tasks 2 and 3 remained significant especially among the groups of 1.5 to 2 and 2.5- to 3-year-olds.

The “Pointing at object task” showed superior results compared to any other task in any of the age groups. The pick an Object task gave us a lot of observational results than any other and from our observation that 2.5 to 3-year-old children tend to think more than the other groups. Even though 3.5 to 4-year-olds seem to have a more developed sense of understanding the task assigned to them, the 2.5 to 3-year-olds tend to be more alert of their action and hence take a considerable amount of time in trying to think things through.

The order of the object arrangements really did not have any significance other than the “Same Object but Different Order” and “Same Object and Same Order” tasks, for these two tasks if the child was told to pick an object from the referred 3rd or 4th object, in majority of the cases children picked out the right object. But in the other two cases, the order was not an issue. From these two tasks, this research observed that people 2.5 to 3 years old put much more effort into thinking things through than any of the other age groups, and as a result, they tend to take more time performing the tasks. Also, in cases where the toddlers have or grow no interest in a specific object, the observations seemed similar in all three age groups.

From investigation, this research observed that about 80-90% of the time whenever a toddler is told to pick a specific object and if he/she gets confused about which object to pick he or she keeps staring at their parents while pointing or putting their hands over the object for cues or some sort of assurance that if they are right show in Figure 1. Also, in 50-55% of cases at first, the toddler would pick the wrong object, and right after he/she would realize it and pick the right one on the second try.

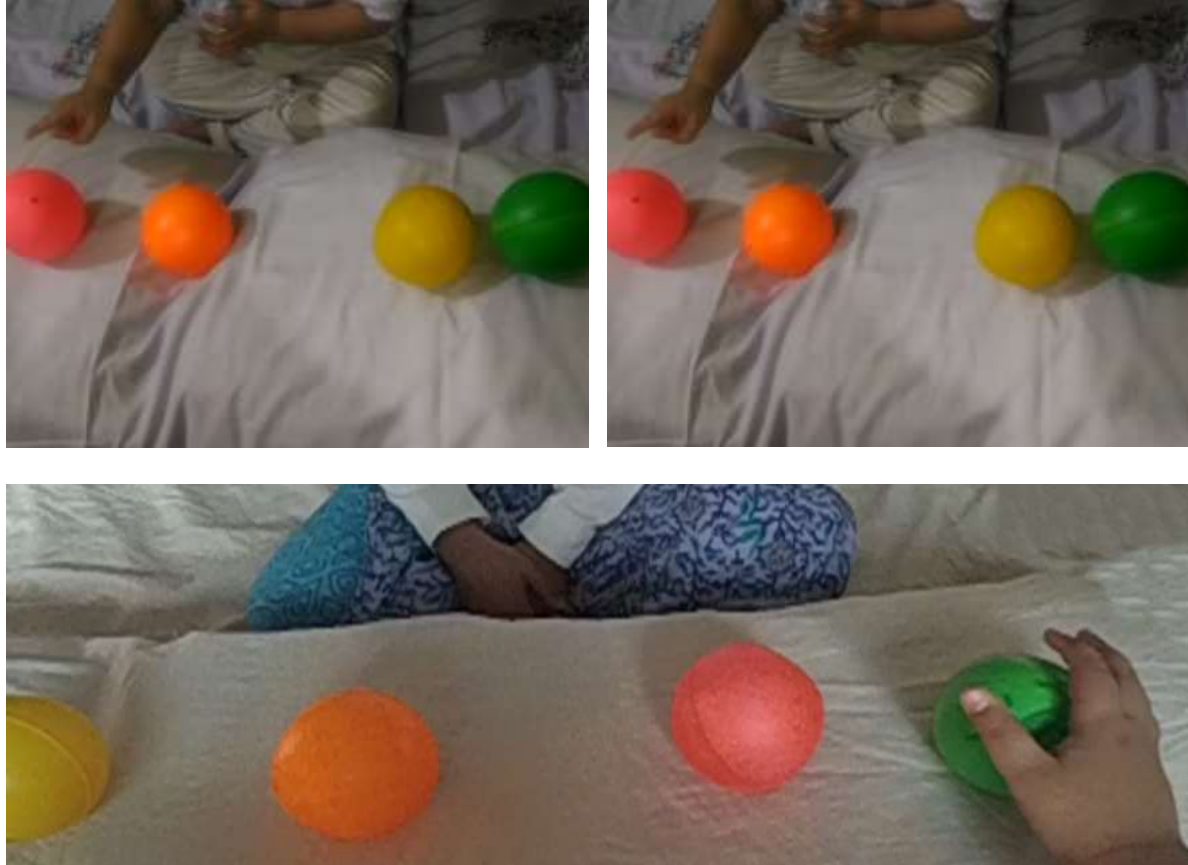


Figure 1: Children Confused About Which Object to Pick

Conclusion

This research investigated the coordination of eye, head, and hand developments amid the execution of a block copying assignment towards children's mental growth for learning styles. The undertaking included obtaining of visual data from the square example, exchanging with outwardly guided hand developments for square pickup and situation. Spectators exploited the repetitive idea of the assignment to produce stable however setting explicit coordination designs. The data sets that were used were mostly the type of videos of the other references. This research builds a similar environment so that results comparison becomes possible with others. This research developed an augmented reality-based mobile application using computer vision to collect grouping of video and identifying data from participating individuals. There are a few techniques to inquire about, among those this research utilized trial research and assessment-based research. Tests inquire about straightforward tests, including free factors, measurable information, and controlling factors. This research followed trial strategies because our exploration is connected to writing, and we accumulated information on visual consideration of children and dissected them which resulted likewise being utilized for theories and the outcomes which is created by the model this research wrinkled that provided a reasonable idea of the aftereffects of the investigation. The items and the individuals the individuals who are taking an interest are factors and the conduct is start controlled in each

factor. A feeling, inclination, and conduct are incorporated into the examinations, so this research likewise requires a conclusion-based research technique. By evaluating the conduct, this research utilized a numerical scale to the sort of conduct to change the conduct into esteem.

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INFOTEX WEB APPLICATION DEVELOPMENT: INFORMATION TECHNOLOGY FINAL YEAR PROJECT MARKING SYSTEM

Mohamad Shahrin L Bari¹

Safinah Nawawi²

Surafah Mos³

¹ Jabatan Teknologi Maklumat dan Komunikasi, Politeknik Kuching Sarawak, Malaysia, (mohamadshahrin@poliku.edu.my)

² Jabatan Teknologi Maklumat dan Komunikasi, Politeknik Kuching Sarawak, Malaysia, (safinah_nawawi@poliku.edu.my)

³ Jabatan Teknologi Maklumat dan Komunikasi, Politeknik Kuching Sarawak, Malaysia, (surafah@poliku.edu.my)

Abstract: *This paper presents the development of an evaluation rubric tailored for the final year project competition at Politeknik Kuching Sarawak, focusing on the innovative program, InfoTex. InfoTex serves as a representative case study in enhancing the assessment framework for student projects. The rubric aims to provide a consistent, objective, and comprehensive framework for assessing diverse projects, encompassing criteria such as technical proficiency, innovation, research quality, and presentation skills. Drawing on recent advancements in rubric-based evaluation and leveraging insights from Infotex's implementation, the study develops a robust tool that enhances fairness and transparency in the assessment process. By incorporating feedback from educators and students involved in InfoTex, the proposed rubric not only standardizes the evaluation process but also fosters continuous improvement in student projects and overall educational outcomes.*

Keywords: *Web Development System, Final Year Project, Marking System, Framework, PHP*

Introduction

The Final Year Project Competition at Jabatan Teknologi Maklumat dan Komunikasi, Politeknik Kuching Sarawak, is a noteworthy event that represents an important achievement in the academic progress of our students. The competition, which revolves around the innovative InfoTex initiative, provides a crucial platform for students to showcase their knowledge, ingenuity, and technical abilities. InfoTex is an innovative program that encourages students to use their knowledge in practical ways, pushing the limits of creativity during a 14-week period. Throughout this rigorous and ever-changing semester, students must conceive, create, and deliver a thorough project that demonstrates their proficiency in information technology and communication. The compressed timeframe of only one semester necessitates not only technical expertise but also outstanding project management and problem-solving abilities. InfoTex functions as a platform for testing and launching, equipping our students with the necessary skills to smoothly transfer from academic settings to the professional realm with self-assurance. The competition showcases a wide range of projects that highlight the unique abilities and passions of the students while also tackling current technical trends and difficulties. The projects showcased at InfoTex exhibit the wide range of expertise and profound ingenuity possessed by our students, encompassing software applications, IoT advancements, data-driven solutions, and multimedia designs. InfoTex is not simply a competition; it is a commemoration of creativity, cooperation, and the unwavering quest for superiority. Politeknik Kuching Sarawak's success serves as proof of its exceptional

educational standards. It also reflects our alumni's promising prospects as they get ready to make significant contributions to the constantly changing field of information technology. The Final Year Project Competition incorporates a meticulous review process to guarantee that each project achieves the elevated standards anticipated by our students. Previously, we carried out project evaluations using a manual technique, which, while efficient, was often time-consuming and prone to human errors. A substantial volume of paperwork burdened the evaluators, resulting in reduced efficiency and occasional obstacles to promptly and accurately assessing student work. This semester, there has been a notable enhancement in the evaluation process due to the implementation of a novel web-based system. We specifically designed this system to optimize and improve the evaluation process, enabling more effective, open, and precise assessments. The online platform allows assessors to examine projects, offer feedback, and allocate grades immediately, guaranteeing a comprehensive and equitable evaluation of all parts of a student's assignment. The deployment of this novel system not only alleviates the administrative strain on assessors, but also offers students more lucid insights into their performance. Students can easily access and comprehend the well-organized feedback. It provides detailed information that enables students to identify their strengths and areas for improvement. Furthermore, the online system facilitates the storing and retrieval of project data, which is extremely beneficial for both students and the department in monitoring progress and keeping records. InfoTex not only demonstrates our students' innovative abilities, but also the department's dedication to using technological innovations in education. The shift from a manual to a web-based evaluation method demonstrates our ongoing commitment to improving the learning experience and equipping our students with the necessary skills for the digital era.

Literature Review

The research focuses on developing a web-based system to detect project duplication among final-year students in Nigerian higher institutions. Students often submit projects that others have already completed, primarily due to the outdated manual, paper-based project management system. The study created a web-based application utilizing HTML, JavaScript, CSS, PHP, and MySQL to identify duplications, thus encouraging originality and enhancing students' technological proficiency. The approach effectively decreased project duplication, demonstrating its efficacy in promoting a more inventive academic atmosphere (Soyemi & Isinkaye, 2017). Universiti Kebangsaan Malaysia dedicates a separate study to creating a supervision management system for monitoring computer science projects during the final year. We determined that the conventional logbook approach was ineffective, leading to delays and diminished project quality. The online system, created using PHP and MySQL, comprises modules for scheduling appointments, monitoring projects, and managing profiles. The technology enhanced the efficacy of supervision by enabling instantaneous monitoring of student progress, thereby facilitating increased communication and ensuring punctual project completion (Abu Bakar, Jailani, Shukur, & Yatim, 2011). The study focuses on developing an interactive evaluation system for Final Year Projects (FYP) at Universiti Kuala Lumpur to overcome the inefficiencies of the manual approach used to record and compile marks. This manual process frequently results in errors and delays. The study implemented an automated system utilizing PHP, which enables assessors to enter student marks instantly, greatly enhancing the evaluation process by minimizing the time and errors typically involved with human grading. According to user feedback, the system successfully improved the evaluation process by making it more dependable and productive (Wan Chik & Rafi'i, 2016). The study focused on developing a framework for an integrated decision support system to solve the issue of inconsistent and subjective project evaluations in students' projects. The project's objective was to develop a system that establishes a uniform evaluation process by including many evaluation criteria in a decision support framework. The online platform offered a standardized

and unbiased method for evaluating, minimizing discrepancies, and enhancing equity in evaluations (Ahmad, F., et al., 2012). In their study, Kar et al. (2017) examined an integrated supervision and evaluation system for final-year projects, focusing on the difficulties posed by fragmented supervision and evaluation procedures. The study devised a modular system that integrates supervision and evaluation functions into a unified platform, enhancing the overall administration of final-year projects. The technology enabled instantaneous data tracking and reporting, thereby simplifying supervisors' tasks in monitoring student development and effectively evaluating projects.

Similarly, Kumar et al. (2023) developed a project management and evaluation system using Node.js, which aims to improve the interaction between students and faculty, particularly in managing and tracking final year projects. This system was particularly valuable during the COVID-19 pandemic, when online platforms became essential for project management. The system facilitates better communication, project tracking, and evaluation through a dedicated online platform, making the process more efficient for both students and faculty. In the context of Information Technology programs, Pang et al. (2015) developed a final year project management system to streamline the project development process for students. The system provides a structured platform for managing project timelines, submissions, and evaluations, addressing the challenges of managing multiple projects simultaneously. This system has proven to be an effective tool in enhancing the overall management of final year projects, ensuring timely completion and consistent evaluation standards. Al-Zoubi et al. (2008) have created a web-based project evaluation management system to improve the manual review procedure for MSc students' final projects. The system replaces traditional paper-based forms with a web-based platform, allowing evaluators and supervisors to complete assessment forms online. This move not only optimizes efficiency and allocates resources more effectively, but also promotes the accessibility and reliability of the review process, thereby bolstering the performance of project evaluations in the College of Arts and Sciences (CAS). The "Online Project Evaluation and Supervision System (oPENs) for Final Year Project Proposal Development Process" developed by Ismail et al. (2017) addresses the inefficiencies in managing final year projects within the Diploma of Electrical Engineering program at Universiti Teknologi MARA (UiTM). The system replaces the traditional manual process with a web-based platform that facilitates the submission, tracking, and evaluation of project proposals. The implementation of oPENs has resulted in a more organized and efficient management process, reducing the reliance on paper documentation and enhancing the overall quality of project supervision. Khamaruddin et al. (2017) conducted research on the use of Moodle, an internet-based course management system, to oversee and assess final year projects at the Faculty of Chemical Engineering at Universiti Teknologi MARA. Khamaruddin et al. (2017) found the traditional paper-based approach to project submissions and evaluations unfeasible, particularly given the growing involvement of students and academic staff. The study created a Moodle-based system to function as a centralized platform for managing project submissions, tracking progress, and doing evaluations. The technology facilitated online submission and evaluation, diminishing the need for physical papers and improving the efficiency of the project management process. Instructors who utilized the system responded favorably to the initial poll, suggesting that Moodle has the potential to efficiently optimize the administration of senior year projects, leading to a more structured and efficient procedure.

Methodology

Web-based development has emerged as a fundamental aspect of contemporary software engineering, enabling the construction of strong, adaptable, and user-centric programs. A commonly employed method for this advancement involves utilizing the LAMP stack, an

acronym for Linux, Apache, MySQL, and PHP. This amalgamation of open-source software offers a robust and adaptable platform for constructing dynamic web applications (David et al., 2023). The CodeIgniter 3 framework, renowned for its lightweight and performance-oriented architecture, enhances the foundation by providing an organized and modular approach to coding, hence simplifying the development process as mentioned in Saniago (2022). People frequently utilize the hybrid agile technique to deliver projects quickly and adapt to changing requirements. This technique synergizes the adaptability of Agile methods with the methodical organization of conventional methodologies, rendering it well-suited for web-based development projects that necessitate incremental advancement and continuous user input. Papadakis and Tsironis (2020) explore the benefits and challenges of combining traditional and agile project management methods, highlighting the rise of hybrid approaches to improve flexibility and project success in dynamic industries. Collectively, these technologies and approaches offer a comprehensive set of tools for creating advanced web applications.

Problem Statement

In the past, we carried out project evaluations using a manual method, which, while somewhat reliable, posed numerous notable difficulties. The method entailed the manual manipulation of significant quantities of documents, which not only overwhelmed the assessors but also created inefficiencies and heightened the probability of human errors. Evaluators had challenges in effectively handling, categorizing, and scrutinizing a substantial volume of documents, resulting in difficulties in upholding a systematic and orderly workflow. This laborious method frequently resulted in delays in the assessment process, as the substantial amount of documentation might overpower even the most conscientious evaluators. Furthermore, the labor-intensive nature of the activity made it difficult to ensure a prompt and precise evaluation of student work. Instances of missing documents, inaccurate data entry, and discrepancies in grading standards were frequent, potentially undermining the integrity and precision of the ratings. These obstacles highlighted the need for a more efficient and dependable automated method to improve the effectiveness and dependability of project evaluations.

Objectives

The main objectives of the web-based project evaluation system are to:

- Enhance Efficiency and Accuracy: Automate data handling to reduce the time and effort required for evaluations, while minimizing human errors.
- Streamline Evaluation Workflow: Provide a centralized platform for organized management, tracking, and assessment of student projects.
- Ensure Consistency and Fairness: Implement a standardized evaluation framework to apply uniform grading criteria, promoting transparency and equity in the assessment process.

System Development

Our web-based project evaluation system utilizes the CodeIgniter 3 framework and the LAMP stack. The procedure consists of multiple essential components. The LAMP stack, comprising Linux as the operating system, Apache as the web server, MySQL as the database, and PHP as the scripting language, forms the fundamental framework for the application. The integration of CodeIgniter 3, a lightweight and modular PHP framework, optimizes the development process as shown in Figure 1.

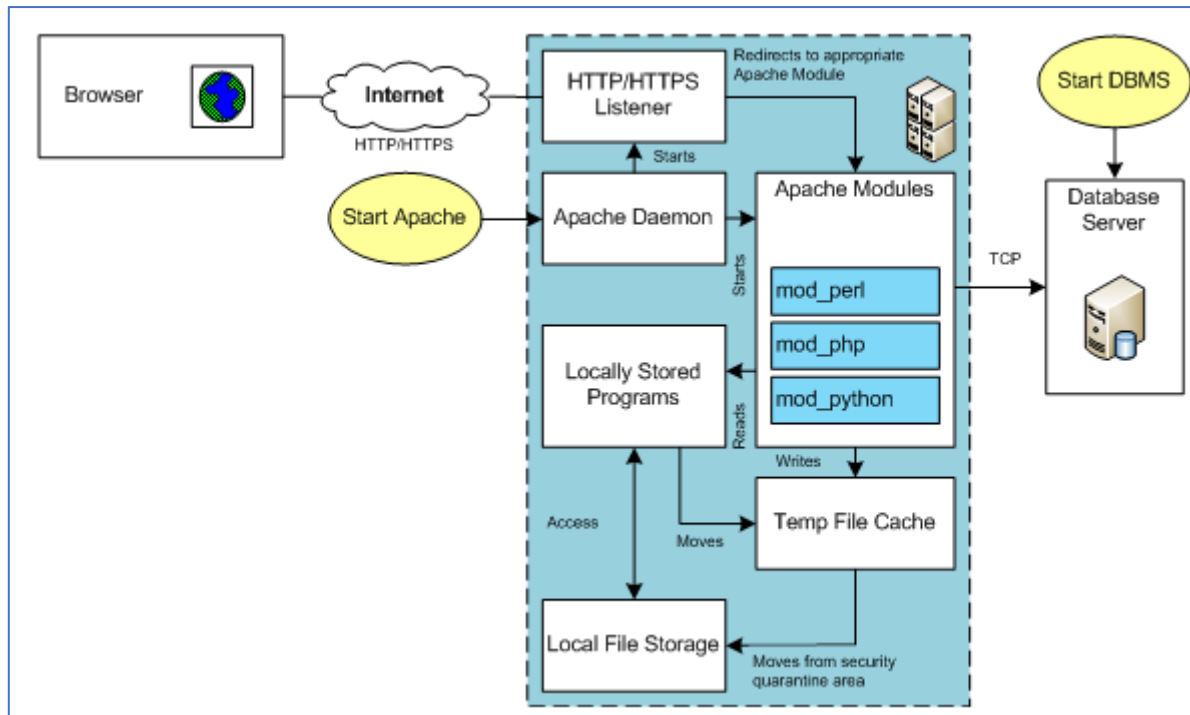


Figure 1: LAMP Architecture

(<https://michaelmclaughlin.info/db1/lesson-9-lamp-deployment/lamp-architecture/>)

The development process commences by establishing the LAMP environment. Linux functions as the foundational operating system, guaranteeing both stability and security. Apache serves as the intermediary between the client and the application, processing HTTP requests. We configure MySQL to manage the database, storing all project-related data such as user information, evaluation criteria, and project submissions. PHP, a programming language in the LAMP stack, utilizes the CodeIgniter 3 framework.

With CodeIgniter 3, the developer establishes the Model-View-Controller (MVC) architecture, which serves as the core of the framework. The model interacts with the MySQL database, managing data retrieval, insertion, and updates. The View component manages the user interface by generating HTML pages that users interact with. The controller acts as an intermediary between the model and the view. It handles user requests, carries out business logic, and updates the view with the necessary data.

The CodeIgniter framework enhances development efficiency by offering libraries, tools, and plugins that minimize the amount of code required for typical activities as depicted in Figure 2. Additionally, it incorporates inherent security measures that protect against prevalent online vulnerabilities, ensuring the application's security during database interactions and user input handling.

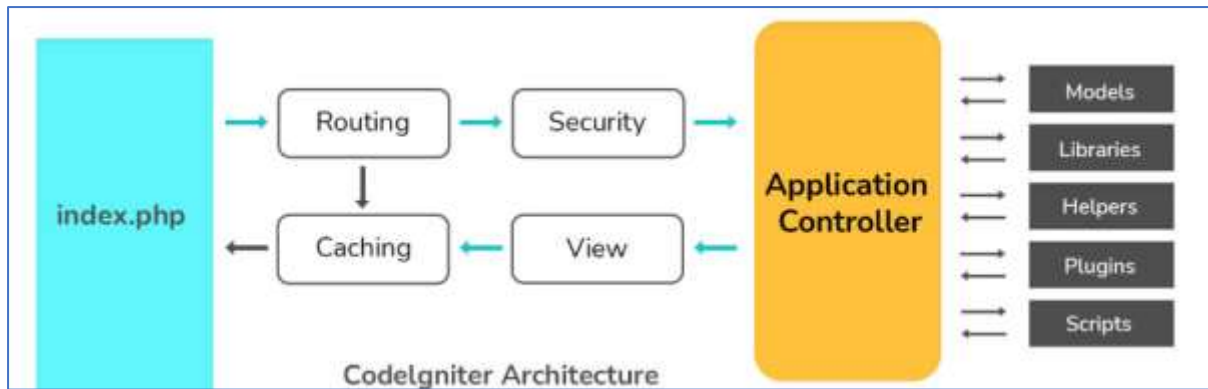


Figure 2: CodeIgniter Architecture

(<https://www.interviewbit.com/codeigniter-interview-questions/>)

The Apache server distributes the program to users after the development phase is complete. It handles requests using PHP and communicates with MySQL to provide dynamic content. During this process, the modular structure of CodeIgniter 3 and the strong environment of the LAMP stack collaborate to produce a web application that is scalable, efficient, and safe.

Result and Discussion

Login Screen

The website's URL is <https://infotex.site/infotex/>. The InfoTex program uses a web platform to showcase students' final year projects. Upon accessing the domain, users encounter a login page that provides access to the platform's features. Figure 3 depicts the user-friendly and straightforward design of the login interface. It showcases clearly labeled sections for entering a username and password. This guarantees that only authorized individuals, including students, staff, and assessors, can access the system.



We thoroughly tested the login screen's functionality and security. We intentionally designed the interface with clearly labeled input fields and an intuitive layout to make it easy for the user to understand and use. The system securely sends users' credentials to the server for authentication. The system uses encryption algorithms to protect sensitive data, including passwords, during transmission. Depending on whether the users are students submitting projects or evaluators analyzing them, the system automatically redirects them to the relevant dashboard after successfully verifying their identity.

Dashboard

The InfoTex platform specifically designs its dashboard to provide users with a concise and structured summary of crucial project information. This interface functions as a centralized platform where users, such as students, supervisors, and evaluators, may quickly access and oversee project-related information, as illustrated in Figure 4.



Figure 3: Dashboard

Project Name

The Project Name section presents the designated title of the project completed in the final year. This is an essential component, as it enables users to rapidly discern and distinguish each project within the system. Typically, the supervisor authorizes the project name that the students choose. The chosen name should accurately reflect the focus and extent of the ongoing work. The explicit display of project titles on the dashboard facilitates the organization and differentiation of many projects, particularly when managing several concurrently.

Supervisor of the Project

The Project Supervisor field designates the academic member who is accountable for supervising the project. This professional is responsible for providing guidance to the students during the development process, offering suggestions, and verifying that the project adheres to academic standards. Displaying the supervisor's name on the dashboard allows for easy recognition of the faculty member associated with each project, easing communication and supervision. It also ensures that students know who to ask for help and who checks their progress.

Rating

The rating field offers an evaluation of the project's quality, either by supervisors or external assessors. Supervisors or external assessors can express the rating either numerically, using a scale from 1 to 10, or descriptively, using terms like "excellent," "good," "fair," or "needs improvement." Predetermined criteria, such as innovation, technical execution, documentation, and presentation, evaluate the project's performance and reflect the rating. By incorporating the rating on the dashboard, both students and supervisors may effectively track the project's evaluation status and gain insights into areas that require enhancement.

Project Leader

The Project Leader field shows the name of the student who has the main responsibility for the project. The project leader oversees the team's activities, ensuring that they meet the established milestones and that the project advances in accordance with the predetermined timeframe. The system enhances clarity regarding roles and duties within the team by prominently displaying the project leader on the dashboard. This facilitates effective communication between supervisors, evaluators, and the designated point of contact. Additionally, it strengthens the sense of responsibility among the project team, as the project leader usually serves as the primary liaison for all project-related tasks.

Application

The Application Menu on the InfoTex platform is designed to offer users quick access to essential project information and relevant actions. This menu provides a streamlined interface where users can view the status of projects, track progress, and take necessary actions as shown in Figure 5.



Figure 4: Application Menu

The following items are key components of the Application Menu:

Project Name

The Project Name field displays the title of the final year project. It serves as the primary identifier for each project within the system, allowing users to easily locate and reference specific projects. This field ensures that users can quickly distinguish between different projects, which is especially useful when managing multiple projects concurrently. The clear display of the project name also facilitates easy navigation throughout the platform.

Status

The Status field provides an overview of the current progress or phase of the project. This could include statuses such as "In Progress," "Completed," "Under Review," or "Pending Approval." The status indicator helps users understand at a glance where the project stands within its lifecycle. It is a crucial feature for both students and supervisors, as it allows them to monitor the project's progress, ensuring that it stays on track and meets all necessary deadlines.

Total Mark

The Total Mark field shows the cumulative score that the project has received based on evaluations. This score reflects the project's performance across various assessment criteria, such as innovation, technical quality, and presentation. Displaying the total mark in the application menu provides immediate feedback to students on how well their project is performing. For supervisors and evaluators, it offers a quick reference point to assess the overall quality of the project relative to others.

Project SV

The Project SV (Supervisor) field indicates the faculty member responsible for overseeing the project. This field highlights the supervisor's role in guiding and assessing the project, ensuring that users are aware of the primary academic contact associated with each project. The inclusion of the supervisor's name in the menu aids in communication, making it easier for students to know whom to approach for feedback and support.

Project Leader

The Project Leader field displays the name of the student who is leading the project. This person is typically responsible for coordinating team efforts, managing deadlines, and ensuring the project meets its objectives. By listing the project leader in the application menu, the system

clarifies the leadership structure of the project, which is essential for accountability and communication. It also helps supervisors and evaluators quickly identify the key student responsible for the project.

Action

The Action field provides users with a set of options or buttons that allow them to perform specific tasks related to the project. These actions could include viewing detailed project information, editing project details, submitting the project for review, or initiating communication with the supervisor. The Action field is crucial for enabling interactive management of the project, giving users the tools, they need to actively engage with and update the project as it progresses.

Setup Menu

The Setup process within the InfoTex platform is a crucial step to ensure that the final year project evaluation system is correctly configured and ready for use. This process consists of two main components: Verify Students and Assign Assessor as shown in Figure 6.



Figure 5: Setup Menu

Verify Students

The Verify Students step involves confirming the eligibility and enrollment of students within the system. This process ensures that only authorized students who are officially registered for the final year project are allowed access to the platform. During verification, the system cross-checks student information, such as enrollment status and project registration details, to confirm their participation. This step is essential to maintain the integrity of the project evaluation process, ensuring that only legitimate students can submit projects and receive evaluations.

Assign Assessor

The Assign Assessor step involves designating the appropriate faculty members or external evaluators who will be responsible for assessing the projects. This assignment is critical for ensuring that each project is reviewed by a qualified individual with relevant expertise. The system allows for assessors to be assigned based on specific criteria, such as their field of specialization or workload, ensuring that the evaluation process is fair and efficient. By systematically assigning assessors, the platform ensures that all projects are reviewed thoroughly and objectively.

Setting

The Setting function within the InfoTex platform includes a crucial feature called Add User, which is designed to manage the access and roles of various participants in the final year project evaluation process. This function is essential for administrators who need to create and manage user accounts, ensuring that the right individuals have the appropriate level of access to the platform as depicted in Figure 7.



Figure 6: Setting

Add User

The Add User function allows administrators to create new accounts for different types of users, such as students, supervisors, evaluators, and other staff members. This feature provides the flexibility to assign specific roles to each user, dictating their permissions and the actions they can perform within the system.

Conclusion

The development and implementation of the InfoTex platform represent a significant advancement in the management and evaluation of final year projects. By leveraging a web-based system that integrates key features such as student verification, assessor assignment, and user management, the platform streamlines the entire project lifecycle, from submission to assessment. The use of a structured and secure online environment not only enhances the efficiency and accuracy of evaluations but also promotes transparency and fairness. Overall, the InfoTex platform stands as a robust solution that addresses the challenges of traditional project management methods, paving the way for a more organized, accessible, and reliable process in academic project evaluations.

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A USABILITY EVALUATION OF ESL TPACK HUB FOR TPACK DEVELOPMENT OF ESL PRE-SERVICE TEACHERS

Noraini Said^{1*}

Nur Suhaidah Sukor²

Elaine Ting Pick Dew³

^{1,2,3}Faculty of Education and Sports Studies, Universiti Malaysia Sabah, Malaysia

*noraini.said@ums.edu.my

Abstract: This article presents a usability evaluation of a portal on a Canva platform, known as ESL TPACK HUB which was developed to support the Technological Pedagogical Content Knowledge (TPACK) development of ESL pre-service teachers. The evaluation involved getting insights from two groups of subjects: four content and instructional design experts, and five ESL pre-service teachers in Sabah. Interviews and feedback forms were adopted as the qualitative data sources to answer the research question. Four main usability criteria were focused on: the portal's visual design, functionality, content, and overall usefulness. The results indicate that the subjects perceive the portal as user-friendly, as they were able to access all five main components: video tutorials on ESL websites, digital applications and innovations for language lessons, lesson plans and a curated list of ESL websites. Additionally, participants found the demonstration videos for apps and websites particularly helpful, including the videos integrating multiple ICT tools in a language lesson. The content of the portal was deemed engaging, comprehensible, and highly pertinent to the TPACK development of pre-service teachers. The participants also agreed that the portal's functions effectively meet users' needs. However, minor technical issues were identified, notably in the loading speed of the videos, which require attention. These findings are critical in informing the iterative design and development phases of the instructional design model for this portal. Addressing the identified issues is essential to ensure the successful implementation of TPACK-supporting applications in teacher education programs.

Keywords: Usability Testing, ESL Pre-Service Teachers, TPACK, Instructional Design

1. Introduction

The professional growth of ESL pre-service and in-service teachers is central to the development of effective teaching strategies in the digital age (Leong & Yunus, 2024). The rising demand for platforms that support educators' professional growth is evident in the abundance of digital resources now available. For example, a Google search on April 30, 2024, yielded over 80 million ESL-related resources and more than 45,000 academic results on Google Scholar, underscoring the growing interest in digital tools that improve ESL teaching and learning. These resources include educational portals, online writing labs, interactive dictionaries, discussion boards, and forums, all of which have been elevated by emerging technologies. They also offer more than just access to information—they enable interaction, collaboration, and sharing, transforming the Internet into a pivotal tool for the professional development of ESL educators and learners alike.

Leveraging on the TPACK model proposed by Mishra and Koehler (2006), an ESL teacher education program at one of the public universities in Malaysia embarked on an initiative to harness digital objects as a direct result of digital competency training through two academic courses: ICT in English Language Teaching and TESL Methodology. The move was deeply

rooted in the instructors' beliefs that experimenting with ICT tools is an essential part of building the ESL pre-service teachers' Technological Pedagogical Content Knowledge (TPACK). Embedded in the course assessments, hundreds of digital multimodal objects such as videos and digital lesson plans were produced. This experimentation was seen as not only enhancing the ESL pre-service teachers' technological fluency but also preparing them for the dynamic needs of modern classrooms. In this study, a web-based portal was developed to showcase the digital objects obtained over 4 academic semesters, known as ESL TPACK Hub (see Figure 1).

ESL TPACK Hub is a dynamic, evolving platform designed to meet the needs of both internal users—such as students and instructors—and external educational stakeholders. Plans include measuring the effectiveness of the hub by formally implementing it into academic courses and training programs for in-service teachers in the near future. Table 1 summarises how the constructs of TPACK are supported in this research.

Table 1: Alignment between TPACK and ESL TPACK Hub

TPACK Construct	Description	How ESL TPACK Hub Supports Each Construct
Content Knowledge (CK)	Teachers' understanding of the subject matter they are teaching (e.g., ESL language skills and components).	The hub provides a wide range of digital resources covering ESL teaching, including videos, lesson plans to enhance the content knowledge of both pre-and in-service teachers.
Pedagogical Knowledge (PK)	Knowledge of teaching methods, strategies, and classroom management.	The hub offers access to pedagogical strategies, lesson plans, and examples of best practices, enabling teachers to experiment and refine their teaching approaches.
Technological Knowledge (TK)	Teachers' ability to use technological tools and platforms effectively.	Teachers are introduced to digital tools (e.g., apps, and websites), allowing them to experiment and develop technological fluency.
Pedagogical Content Knowledge (PCK)	Understanding of how to teach specific content using the most effective pedagogical methods.	The hub showcases lesson plans and strategies demonstrating the intersection of pedagogy and content, such as using digital storytelling for listening skills or gamification for vocabulary.
Technological Pedagogical Knowledge (TPK)	How technology can enhance and transform teaching practices.	The hub provides resources and tools that show how technology can be integrated into lesson delivery, such as collaborative tools (e.g., Google Docs) and interactive teaching methods.
Technological Content Knowledge (TCK)	How technology can specifically enhance the teaching of content.	Teachers learn how to use digital tools, like apps or online platforms, to make content delivery (e.g., grammar, vocabulary) more engaging and interactive.

Technological
Pedagogical
Content Knowledge
(TPACK)

The integration of content,
pedagogy, and technology
in teaching.

The hub fosters a collaborative
learning environment that allows
teachers to experiment with and reflect
on the full integration of technology,
pedagogy, and content in their practice.



Figure 1: ESL TPACK Hub Main Page

Guided by the ADDIE instructional model, the hub was first initiated by an analysis of students' TPACK levels and course objectives. The design phase generated a structured task inventory to guide the platform's creation, while the development phase focused on key social constructivist elements like collaboration, and active learning, which underpin the platform's design. Furthermore, the ESL TPACK Hub leverages the concept of the More Knowledgeable Other (MKO), facilitating collaboration between students, instructors, and external users to enhance learning outcomes. This collaborative environment nurtures the professional development of both pre-service and in-service teachers, promoting innovation in pedagogy and the effective use of technology in ESL education.

ESL TPACK Hub comprises of single-column layout, using Canva template to avoid clutter and enable simple design. The hub contains the following features:

- i. Video tutorials based on 3 categories: ESL Websites, Digital Apps and Digital Innovation (Figure 2)
- ii. Video tutorials of beneficial ESL websites (Figure 3)
- iii. Video tutorials on ESL digital applications (Figure 4)
- iv. Video tutorials on integrating multiple technologies in a language lesson (Figure 5)
- v. Lesson plans featuring the use of ESL online resources (Figure 6)
- vi. A list of appraised ESL web resources (Figure 7)
- vii. Question boxes for each feature to allow interaction

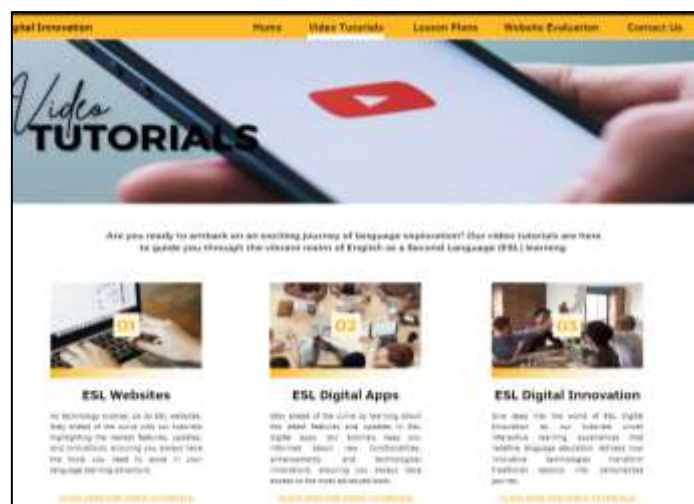


Figure 2: Three Categories of Video Tutorials

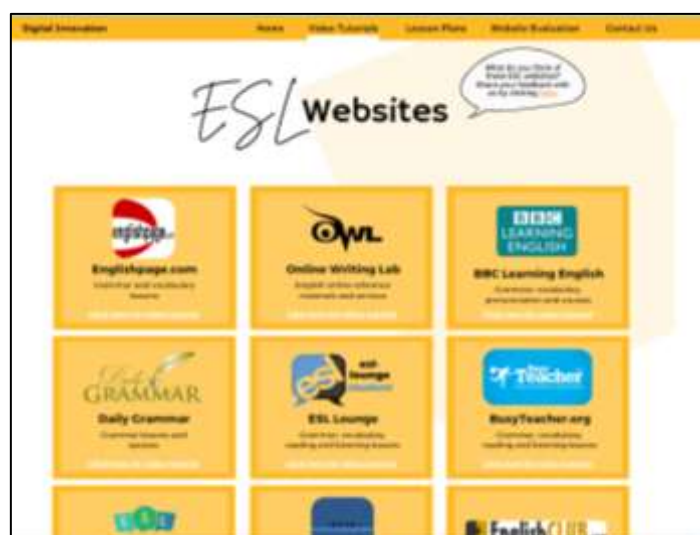


Figure 3: Video Tutorials on ESL Websites



Figure 4: Video Tutorials on ESL Digital Resources



Figure 5: Video Tutorials on Innovative Language Lesson

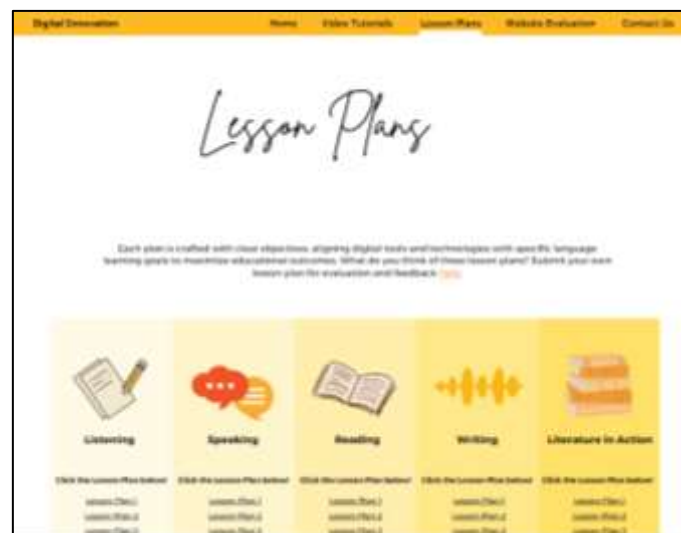


Figure 6: Digital Lesson Plans based on Skills and Levels



Figure 7: List of Appraised ESL Websites

ESL TPACK Hub is developed using Canva, an intuitive graphic design platform as an integral supplementary platform to engender the development of TPACK. In addition to showcasing useful tutorial videos on using free ESL web resources and mobile apps, and integrating them into various language learning skills, ESL TPACK Hub also curates hundreds of ESL web resources appraised based on Son's (2005) 15 evaluation criteria: Purpose, Accuracy, Currency, Authority, Loading speed, Usefulness, Organization, Navigation, Reliability, Authenticity, Interactivity, Feedback, Multimedia, Communication and Integration. More than 300 evaluations were completed by pre-service teachers over 4 academic semesters (2 years). To ensure usability at an early stage of the development process, we conducted a preliminary usability evaluation with five experts and five students. The evaluation described here is the first step of the series of the portal evaluation. The main focus is experts' and students' opinions regarding the portal. The evaluation gives us hints for the further development of the portal and actual portal testing with ESL students. The question of the research is the following: 1. What are the perspectives of ESL instructors and ESL pre-service teachers in their evaluation of ESL TPACK Hub in terms of their visual design, content, functionality and usefulness?

2. Literature Review

According to Branch (2009), there are three phases of usability testing in formative evaluation such as a one-to-one trial, a small group trial and a field trial. The one-to-one trial is conducted with individuals of varying ability levels to remove obvious errors, which is consistent with Kous et. al's principles (2020) in including different types of users. During the process, the developer sits with the individual and obtains feedback mostly qualitative data, obtained to revise the learning resources. In a small group trial, between 8 and 20 individuals are recruited to used to determine the effectiveness of the revised instruction and to obtain feedback on the learning resources in their final form. Both quantitative and qualitative information is obtained from users' feedback. Finally, the field trial is the final stage of formative evaluation to determine whether the instruction can be utilized in the intended context.

Various evaluation criteria have been used across studies for usability testing. Aziz et al. (2020) examined twenty-four usability criteria divided into five categories: content, organization, and readability; navigation and linkages; user interface design; performance and effectiveness; and educational purpose. Aguayo and Ramírez (2020) identified three key elements for usability testing: content, form which accounts for design and appearance, and functionality. In another study, Alhabdan (2021) used functionality and usability evaluation criteria to assess existing language learning websites to create a better ESL website design. Several key principles emerge from these investigations, including ease of navigation, user pleasure, efficiency, and interactivity. For this study, a one-on-one trial was conducted with 5 students and 4 experts on the following criteria:

1. Visual Design: The website's visual design encompasses several elements such as the background and font colors, as well as the use of graphics and styles. The presentation and attractiveness elements may also have an impact on the visual design.
2. Functionality: Testing for mistakes or technical issues, loading speed, and whether all of these functions operate as they should.
3. Content: Evaluating how well the information on the website relates to the goals it serves or the tasks that users are given to complete.
4. Usability: Describing how beneficial the user thinks using this portal will be for their TPACK.

3. Methodology

4 ESL instructors as content and instructional design experts and 5 ESL pre-service teachers consented to participate in this usability test. The student group were between the ages of 21 and 22, and were very comfortable using technology. The experts' group age ranges between 40 and 50, with an average of 15 years of teaching experience. None of the users was familiar with the site to be tested. The usability tests for the students were conducted in a classroom at the faculty with individual access to the desktop. Before they started, each user was provided an overall summary of the study and background of the portal. They were individually 'walked through' the portal by the researchers to get them familiar with the portal. Individual testing, or one-to-one trial was conducted with each of the users. Each session took between 30 and 45 minutes, and the users were free to leave or end the session at any point during the test. The users were given a feedback form each to record any problems or errors that they encountered during the exploration and took important notes for the focus group interview later. The students were then asked to perform various tasks on the portal while being observed by one of the researchers.

As for the experts, they were given the link to the hub and 1 week to explore the hub and return their feedback form. According to Mahmud et. al (2020), the duration of time has no impact on usability testing and can be implemented shorter time frame without imposing an additional cognitive load on subjects. After all the subjects finished the session, semi-structured interviews were done to discuss their experience during the activity and opinions about the portal. 2 separate interviews were done with students and experts. The data were collected using a feedback form and semi-structured interview focusing on the usability aspects such as the visual design, functionality, content, and usefulness of the portal. 6 features of the portal such as video tutorials on three categories, lesson plans, and a list of appraised ESL websites were tested. Users were also asked about each function they tested in terms of usefulness, and visual design. Thematic content analysis was used to capture the emergent themes from the semi-structured interviews and the qualitative feedback form.

4. Results & Discussion

4.1 Visual Design of The Portal

In visual design, subjects were asked to evaluate the design, layout, style, font size, graphics, background, and colours of the ESL TPACK Hub, including each function in the portal. Findings showed that both experts and student groups felt that the visual design overall was very interesting and attractive. The design is very sleek with a single column and no clutter, and the use of the strong colours of orange and black against the white background gives a good contrast. Although subjects had to constantly scroll up and down to see the whole portal due to the various functions featured in ESL TPACK Hub, none of the users saw this as a problem. For instance, the home page features five functions altogether (refer Figure 1) but each function can still be accessed separately by clicking on the respective menu button. Some users wrote ESL TPACK Hub as 'user-friendly' in the visual design construct.

4.2 Functionality of The Portal

All functions of ESL TPACK Hub were successfully tested. The findings are presented in the following table:

Table 2: Subjects' Comments on Functionality

No	Items	Comments
1	Video Tutorials on ESL Web Resources	All 20 videos played. Fully functioning. Loading speed: normal <i>E1: video playback too slow- probably due to internet connection</i> <i>E3: All videos were set to autoplay, though muted. Can consider changing to default: play upon request.</i>
2	Video Tutorials on ESL Digital Apps	All 20 videos played. Fully functioning. Loading speed: normal <i>E1 video playback too slow- probably due to internet connection.</i> <i>E3: All videos were set to autoplay, though muted. Can consider changing to default: play upon request.</i>
3	Videos on Innovative Language Lessons	All 20 videos played. Fully functioning. Loading speed: normal <i>E1 video playback too slow- probably due to internet connection.</i> <i>E3: All videos were set to autoplay, though muted. Can consider changing to default: play upon request.</i>
4	Digital Lesson Plans	20 respective lesson plans were correctly displayed upon clicking
5	Curated ESL Web Resources	2 links were inactive/broken: Link 75, Link 88
6	Question Dialogue Boxes	9 questions were successfully posted and captured

**E1 and E3: refers to Expert 1 and Expert 3*

Table 2 shows that there were no major technical errors encountered by the student group. However, 2 experts highlighted that the videos they played were a bit slow, and all the videos were set to autoplay. Suggestions include embedding the videos into the website itself rather than being redirected to a cloud-sharing platform. Subjects did not suggest additional features to be included in the ESL TPACK Hub. This feedback was very encouraging as researchers could now anticipate fewer problems with the actual users who have never interacted with this portal.

4.3 Content of The Portal

All subjects stated that the content featured in the hub is relevant, especially the themes featured in all the resources which are ESL resources. They stated that all ESL websites, digital applications, and lesson plans are pertinent to ESL professional development- catering to both in-service and pre-service teachers. Experts 2 and 4 especially approved the videos demonstrating how to use specific ESL websites and digital apps as they help to overcome the apprehension or anxiety teachers or users often face when dealing with new technology. In addition, the step-by-step instructions starting from signing up until the successful creation of

output, and contextualizing it into a specific language learning skill given by demonstrators were also appreciated by all the subjects. A total of 60 videos were perceived as relevant. A list of 100 appraised ESL website links was also seen as helpful to teachers. Subjects agreed that the rating provided for each link is appropriate. The 20 digital lesson plans (see Figure 6) organized according to level (form) and language skills (listening, speaking, reading, writing, literature) are perceived as resourceful for pre-service teachers to help them with lesson planning.

4.4 Usefulness of The Portal

The usefulness of ESL TPACK Hub is determined not only by the portal in overall but also by each category that is featured in the portal. In overall, the subjects felt that ESL TPACK Hub is very useful for them to support their TPACK and professional development. They quoted the usefulness of the external resources in the following phrases: *“the resources will help me save time in locating ESL resources for my lesson plan assignments (S2)”*, and *“...wish I had the opportunity of using this portal long time ago, would definitely help me experiment with more digital tools (S5)”*. The subjects also endorsed the useful links available ESL TPACK Hub which allows them to access other ESL websites easily. The usefulness of ESL TPACK Hub was also enhanced by the uniqueness of the information in the portal as admitted by the subjects in their feedback. Such positive feedback for all functions suggests that users view ESL TPACK Hub with high regards in relation to fulfilling their TPACK and professional development needs.

5. Conclusion

This study assessed a TPACK support tool known as ESL TPACK Hub based on the four evaluation criteria: visual design, functionality, content and usefulness from the perspectives of experts and students. The main findings of our preliminary usability evaluation of ESL TPACK Hub were that (1) interesting the visual design (2) sound functionality of the portal with all videos and links successfully played and retrieved with few loading issues were detected; (3) the content of the portal in the form of videos, lesson plans and appraised links were perceived as relevant and (4) usefulness of the portal is confirmed by the users. Further, the portal was seen beneficial to users and their needs were satisfied, which is a very important implication for technology application use in education. We found that although early evaluation is important to ensure the functionality of the portal in order to meet users' needs, there are challenges in the evaluation process which should be taken into consideration. The next step of the project is to go back to the design and development phases, and fix the problems encountered to ensure successful implementation with the target users.

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EXAMINING INSTRUCTORS' PERSPECTIVES ON INNOVATIVE ALTERNATIVE FOR AUTONOMOUS COMMUNICATIVE ENGLISH LANGUAGE LEARNING BEYOND CLASSROOM SETTINGS

Surinder Kaur A/P Satwant Singh¹

Erda Wati Bakar²

Afifah Quraishah Abdul Nasir³

¹Language Centre, Universiti Pertahanan Nasional Malaysia (UPNM), Malaysia, (surinderkaur@upnm.edu.my)

²Language Centre, Universiti Pertahanan Nasional Malaysia (UPNM), Malaysia, (erdawati@upnm.edu.my)

³Language Centre, Universiti Pertahanan Nasional Malaysia (UPNM), Malaysia, (afifah@upnm.edu.my)

Abstract: *The demands of the 21st century higher education environment and the global workplace has triggered a shift in the way English is taught. The Malaysian Ministry of Higher Education has introduced EcoELL (Ecosystem for English Language Learning) to meet this specific call especially towards producing learners who are competent and proficient in all reading, listening, speaking, and writing, with a focus on communicative abilities. The English Language Activities (ELA) is a pioneer project to assist students at higher education to have continuous engagement with the English Language beyond formal classroom. ELA focusses on students' communication and presentation skills by affording them the opportunity to use the English language while completing ELA tasks in an informal and non-threatening setting. The preparation of ELA is guided and informed primarily by the principles of CEFR, that gives emphasis to communicative language tasks and placement of language learners as social agents. This study explores English language instructors' outlook towards ELA implementation and their perceived impressions towards i) the benefits of ELA implementation, as well as ii) the challenges faced by instructors of its implementation at the National Defence University of Malaysia. By employing quantitative design, the study collected data from 23 English language instructors at the Language Centre through a questionnaire that was adapted from Lucas and Vicente (2022). The findings yielded positive responses as most instructors shared encouraging reactions towards the effectiveness of ELA in promoting effective autonomous communicative use of the English language outside classroom settings, along with several constructive feedback and suggestions from the instructors themselves to better regulate the management and implementation of ELA. Further implications of the study were also discussed.*

Keywords: *Autonomy, autonomous learning; English Language Activities (ELA); teachers' perceptions*

Introduction

In recent years, the global landscape of higher education has witnessed an increasing emphasis on English language proficiency as a crucial skill for academic success and employability. However, over the years, students at higher education do not reflect satisfactory proficiency in the language. The use of English language at higher education is generally conducted in classrooms and bound by the requirements of formal learning. Due to this, the Malaysian Ministry of Education has come up with an implementable plan known as The Ecosystem for English Language Learning (EcoELL) to support proficiency teaching in classroom with opportunities to continue using English language beyond classroom setting for students at higher education. The selection of activities and tasks for English Language Activities (ELA) are based on the Common European Framework of Reference for Languages (CEFR) language

specifications and communicative language activities. ELA, which foster self-regulated and autonomous learning, offer students with the affordances to use English language outside classroom informally while being facilitated by language instructors. Through these beyond-the-classroom language activities, students get to experience a holistic English language learning environment supported by digital platforms, thus enabling them to be English language competent and employment-ready graduates.

ELA is triggered by a pressing challenge encountered by selected higher education institutions that only allow limited contact hours and academic credit in learning English proficiency courses. For example, there are universities that offer English proficiency courses only during the first year of an academic programme, which leaves significant gap for learners to engage with English language, ergo, halted the effort to upskill their mastery in English language during the remaining years of studies. This drawback needs to be addressed urgently as students at higher education are expected to be proficient in English Language for it is a 'compulsory' skill required by industry players. English Language Activities (ELA) is a pioneer project to assist students at higher education to have continuous engagement with the English Language outside formal classroom. ELA focusses on students' communication and presentation skills by affording them with the opportunity to use English language while completing ELA tasks in an informal and non-threatening setting. Learning English language at higher education should go beyond proficiency and include the development of relevant attributes and competences such as communication skills and other soft skills to make students more employable and contributing citizens to society and the nation (Zuraidah Mohd Don, 2019). The preparation of ELA is guided and informed primarily by the principles of CEFR that give emphasis to communicative language tasks and placement of language learners as social agents. By participating in the language activities of ELA, all learners are empowered with the opportunities to become autonomous and self-regulated language learners as well as encouraging them to be self-initiated in the use of appropriate technology for better delivery of the outcome of each language tasks.

ELA is an independent and self-regulated language activities with no formal classroom instructions provided for learners. Instructors play the role as facilitator in monitoring learners' participation and completion of ELA tasks. Instructors are the role players in making learning enjoyable, shaping students' attitudes and personalities, as well as enabling and guiding learning that takes place outside of classrooms (Almahasees et al., 2021), ergo, their attitudes and experiences can greatly impact the effectiveness of ELA. By examining different viewpoints, the research can offer vital understanding into possible perceived obstacles and benefits of ELA implementation. It is instrumental to gain further insight regarding instructors' viewpoints on the efficacy and practicability of ELA. It is well established that teachers' perceptions of benefits or challenges differ and what some may consider to be a benefit, others may perceive to be a challenge (Lucas & Vicente, 2022). The way in which instructors understand the significance of ELA to complement formal learning of the English language, particularly the benefits of ELA and difficulties in facilitating its implementation will influence their acceptance of ELA and their attitude towards the implementation of ELA. Thus, this study generally aims to examine instructors' perceptions while facilitating ELA. The following research objectives are applied to navigate this study: (1) to explore English language instructors' outlook towards ELA and their perceived impressions towards the benefits of ELA, and (2) to assess the challenges and obstacles faced by instructors while observing the role as facilitator for ELA at the National Defence University of Malaysia.

Literature Review

Autonomous Language Learning

Learner autonomy is defined as the learner taking the responsibility of their own learning, as a situation in which the learner undertakes all the decisions about learning. Learner autonomy may occur in different settings and that a fully autonomous student is able to make and carry out all decisions and to take responsibility (Benson and Voller, 1997; Nunan, 1997). Furthermore, autonomous learners apart from able to take up responsibility, they are also able to acquire sources that enable them to learn by themselves (Holec, 1994). According to Demirel and Mirici (2002), learner autonomy does not imply that the learner will have complete control over all educational situations. Instead, the teacher should implement practices that cater to the learner's desires and needs during both in-class and non-class activities. Vygotsky (1991) views learning as a matter of receiving assistance and places importance on the social and interactive aspects of the learning process. In accordance with this paradigm, the teacher's responsibility is to establish an independent atmosphere and maintain it, enabling pupils to develop greater autonomy. Holec (2011) asserts that teachers should consistently monitor and analyse all the pedagogical aspects of their students. This method proposes that in the autonomous learning paradigm, teachers and students assume shared roles, with the teacher serving as a learning specialist and the student as an authority on their own learning. Aydoğdu (2009) defines learning as the self-directed study of the learner, without the need for a teacher. In this context, "independence" refers to the learner's ability to autonomously derive advantages from a predetermined curriculum. A learner may be labelled as autonomous when he possesses the ability to strategise, assess his own personal growth and able to oversee the entire learning process (Demirtas, 2010; Mehdiyev, 2020; Khan, Ali & Alourani, 2022). Autonomous learning encompasses the individual's capacity to strategise and set goals for the learning process, successfully accomplish these goals, and effectively oversee and control the entire learning journey.

Technology Enhanced Language Learning (TELL)

The enormous potential of technology has radically changed the landscape of language learning. TELL is a shift from CALL (Computer-assisted language learning) in which technology is no longer a supporting pedagogical tool to assist language learning, instead it is regarded as a dimension that is normalised in the environment in which language exists and is used. Technology enhanced language learning refers to the use of related technological tools or means in any language learning activity for the aim to improve "efficiency, motivation, and learning style flexibility" (Zhou & Wei, 2018, p. 472). TELL is an answer to the calling for the need to innovate pedagogical and strategic instructions to facilitate learners to learn language effectively through digital realms (Nunan, 2000; Oxford & Lin, 2011; Zhou & Wei, 2018).

TELL supports the constructs of communicative language teaching and learning theory, Connectivism where communication and interaction are the keys within the paradigm of English language teaching. Learners interact not only with a diversity of ideas and opinions but also with technological tools where abundance of knowledge is placed (Walker & White, 2013). Many studies have been conducted that corroborated the positive impacts of digital technologies in language learning (Chun et al., 2016; Baydas & Goktas, 2016; Bui, 2022; Hockly & Dudeney, 2018; Kessler, 2017). Technology plays pivotal roles in shaping the manner of interaction that involves "individual volition, social conventions, situational context, and material constraints" (Chun et. al., 2016; p. 65). Furthermore, technology supports the wide range of learning ecology; both in and out-of-classrooms, physical and virtual, thus making it as a great medium for the development of language proficiency skills (Benson, 2006; Lai & Gu, 2011; Rüschoff, 2022). With technology adaptation into learning spaces, learners are given

the flexibility to create their personal learning setting that caters to their learning schedules, learning environments, progress goals and asserting their preferences (Zou et. al.,2018). The growth of technology transforms conventional instruction from rigid to flexible and from teacher-centered to learner-centered (Bergmann & Sams, 2012). TELL also supports “active collaborative interaction” in which learners are actively engaged to practice languages and be involved in learning activities with their peers via digital platforms (Wargadinata et al., 2020). Technologies were primarily employed to facilitate peer-to-peer and teacher-student communication, as well as peer collaboration. Peer-to-peer communication prioritised idea-sharing, problem-solving, and experience-sharing both in and outside of class (Mitnik et al., 2009). Peer collaboration using digital platforms involves a shared and negotiated decision-making process and shared accountability (Storch, 2021). In addition, digital technologies also bring profound implications by being the mediator for students to practice using English language outside classroom as well as supporting their social practices through language learning processes (Kessler, 2017; Sauro & Chapelle, 2017). Learners’ high acceptance on the value of technology and its effective impact in facilitating their language learning have provided opportunities for instructors to maximise the use of technology in their instructions. Technology is an essential element that can encourage learners’ engagement for knowledge has become accessible and borderless. Learners can access resources easily and learning becomes a motivating process as it is not confined by time and space (Ahmadi, 2018; Hashim et al., 2023; Lai & Gu, 2011; Shadiev & Yang, 2020). The integration of technology in language learning instructions contributes to one of the crucial and necessary strategies of language learning skills; self-regulation in which it involves the process of learning, time, thoughts, emotions, behaviours, and environment management from learners (Zhou & Wei, 2018). TELL is becoming more profoundly relevant in the era of post-pandemic, thus it is imperative for instructors and researchers to reconsider language learning strategies and learning environments that are informed by technological advancements.

Implementation of English Language Activities (ELA) for Higher Education

The execution of ELA is carefully thought and planned after reviewing and comparing several best practices of language learning beyond the classroom. ELA is the manifestation on the use of language beyond classroom as an extended space for learning and recognition of learners as social agents who are competent to regulate their learning with sufficient guidance from facilitators as proposed by Reinders and Benson (2017). ELA embodies the approach of Sociocultural theory (Vygotsky, 1998) that asserted the importance of social interactions and collaboration in a learning process as well as the approach of incidental learning through various language tasks with the overall aim to improve learners’ proficiency and confidence in using the language. The perimeters of ELA consist of dimensions of formality, informality, pedagogy, and locus of control (see Figure 1). The integration of these four dimensions requires involvement mainly from learners and supported by facilitators. At the formality level, all learners at tertiary level are required to complete credited English language proficiency courses. These credited courses are to be conducted in classrooms and assessed either summatively or formatively to measure the attainment of learning outcomes. Due to limited hours of formal engagement with the English language during formal learning, it is essential to complement the process of language learning with informal activities to be completed beyond classrooms. The nature of informal learning itself is an effective means to reduce learners’ anxiety level when using English. Learners are placed in groups with their peers, and they are given several language tasks to be completed within a flexible amount of time. In terms of pedagogy, each group is facilitated by a facilitator to offer guidance and support for learners while completing the assigned language tasks. Overall, ELA is self-directed and self-regulated by learners themselves. Self-regulatory strategies are argued to be a functional approach to

improve motivation and self-learning (Kormos & Csizér, 2014). In addition, ELA also empowers learners with the autonomy to reconstruct their learning setting by shifting from conventional classrooms to online platforms and to use any suitable online tools to enrich and support the completion of their language tasks.

ELA marks a significant contribution to the body of language related to the scholarship of CEFR as well as answering the calling of the Education Ministry's national agenda, which aspires for graduates to be proficient and confident when communicating in English language. Each of ELA language tasks is specifically scrutinised and pitched according to CEFR *Can-Do* descriptors for *Overall Oral Production and Interaction* from levels A2- B2 and beyond. The design of ELA complements learners' language usage in which they are required to participate in social situations and draw from their language competencies in variety of settings and situations to accomplish the aim of the designated language task. Despite ELA is regarded as an out-of-class engagement site with no award of formal academic credit, it carries high sustainable value. By participating in ELA language tasks, learners are given the autonomy and responsibilities for their learning as well as improving interpersonal and collaborative skills by helping each other through peer-learning. Moving on to the dimension of pedagogy, no formal lessons and assessments are delivered for ELA. However, as a validation and recognition for their effort, each student who manages to complete a minimum of three ELA language tasks will be awarded with a certificate of achievement to acknowledge their commitment and excellence in fulfilling all the ELA tasks.

Methodology

Research Design

The study employed a descriptive analysis design using the quantitative method through a survey. The questionnaire was adopted from Lucas & Vincente (2023)'s survey on "*Teachers' readiness for Online Teaching & Learning (OTL) around the world*". The questionnaire was divided into 4 sections; namely the demographic details of respondents, the overall perceived benefits of the self-developed autonomous activity, the perceived challenges faced by instructors in terms of its delivery and execution as well as the suggested recommendations by instructors for further improvement of the implemented activities. The original instrument from which the developed questionnaire's items were adopted had yielded an average total value of 0.846 (*Cronbach-Alpha Value*) for the differences in average mean scores between each item, indicating a range of "good to excellent" internal consistency value, making it highly valid and reliable as a primary adopted instrument for this study (Lucas & Vincente, 2023). The items were adapted and contextualised in terms of its references and suitability to the current research.

Sampling & Research Procedure

The survey was distributed online, via Google forms to 23 instructors who resumed the roles of facilitators. These facilitators were part of the delivery and execution of the activities. The distribution of the survey was done at the end of the completion of three ELA's supervised by each facilitator via purposive sampling involving only the English unit teaching staff who were directly involved with the implementation of ELA. The study returned 14 ($n=14$) responses out of the total of 23 facilitators, representing more than half of the intended number of respondents (60.8%). Leavy (2022), states that while using purposive sampling, the researcher has the freedom to choose a sample size that have the best suitable characteristics representing the population identified for a specific study, hence this liberty allows them to gain more in-depth and quality information about their participants or respondents. In addition, it is further explained that neither statistical no specific calculation method is needed in trying to determine

an effective number for sample size in studies of such nature. Therefore, the total number of 14 responses received through the survey is considered valid in terms of representing majority of the participants out of the total population of the study.

The responses were then analysed via descriptive analysis for the first three sections, followed by a thematic analysis using generated themes as codes for the open-ended responses in the final section. All responses were analysed via percentage-based value for the items using a five-point Likert scale (*scale of (1) = Least agreeable to (5) = Most agreeable*). The items in section 1 mainly investigated participants' background including details such as their age range, gender, years of teaching experience and education levels. All items in sections two, three and four were organised into five key areas which investigates the perceived benefits of ELA and its impact on students as well as the challenges they faced in implementing the activities. These five (5) areas include **self-management, work-life balance, teaching & learning activities, teacher-student interaction and technological advances**. All five areas were adopted from the original instrument modelled by the present study. For section 4, the open-ended responses were also analysed according to the above-mentioned areas, through which they were later manually coded and categorised.

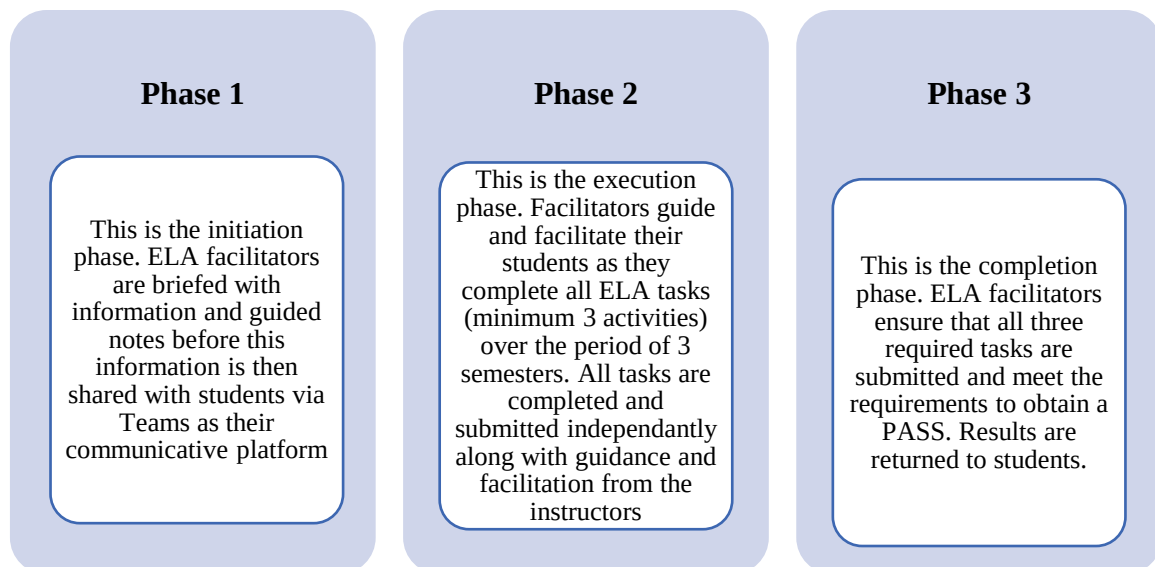


Figure 1.0 Three Phases Representing the Delivery and Facilitation Process of ELA

The figure above shows the three phases involved in the process of delivering information on ELA, facilitating and guiding students through the process as well as the final part whereby facilitators ensured that the minimum number of ELA's were submitted for students to achieve the requirements for a PASS. Hence, the distribution of the survey for this study was done at the end of Phase 3 once all ELA submissions were completed.

Results

The findings from the survey are divided into four main sections. The following are the overall results obtained based on the feedback received from the respondents.

Section A: Demographic details

Overall, the results showed that majority of respondents belonged to the 30-45 age range group with 71% (10 respondents) and the remaining 29% (4 respondents) from the 45-60 age range,

having obtained either a master's or a PhD degree (93%). A total of 10 females and 4 males responded with a majority (50%) having had 10-15 years of experience in teaching.



Figure 2.0: Findings of Respondents Overall Years of Teaching Experience

Section B: Facilitator's Perceived Benefits of ELA

The following results represent the overall findings based on respondents' perceived benefits according to five areas as indicated below.

a. Self-Management



Figure 3.0: Self-Management Benefits of ELA

For *self-management*, Item 3 indicated the highest score (64.3%), followed by Item 2 with a total of 57.1% as most agreeable. The findings revealed that flexibility as well as ease in using the available platform to communicate with their students was highly beneficial to the facilitators. The facilitators also found the ability to store, manage and access students' submitted work made ELA effective and manageable.

b. Teaching & Learning Activities



Figure 4.0: Teaching & Learning Benefits of ELA

As for teaching and learning activities, majority of the facilitators benefitted from the convenience they experienced in terms of viewing and assessing students' submitted work. Although 3 respondents indicated issues with the platform in relation to technicalities such as uploading guided notes and having extra workload, the rest of the facilitators (64.3%) found ELA providing them the extra time needed for other workload as there was minimal time spent on preparing, sharing and delivering the prepared notes.

c. Work-Life Balance

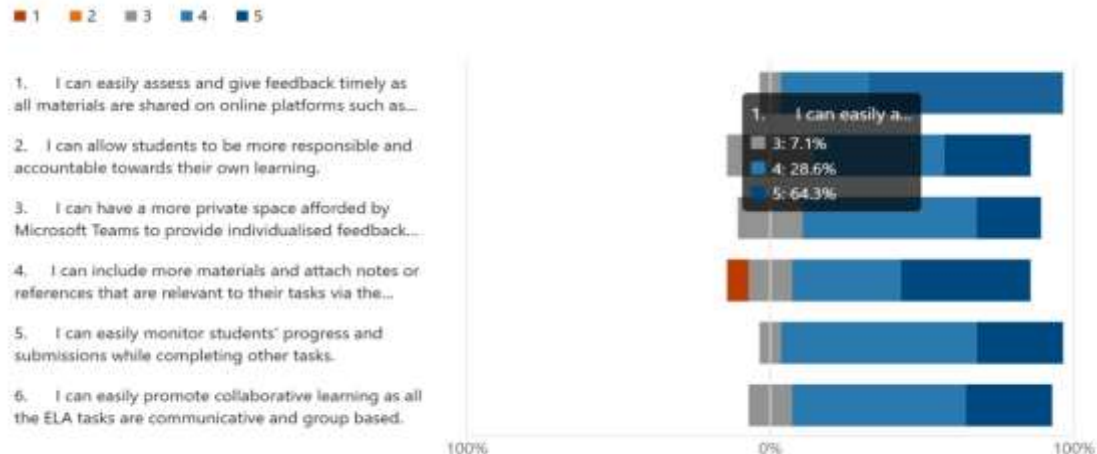


Figure 5.0: Work-Life Balance Benefits of ELA

Work-life balance revealed that facilitators enjoyed being able to provide timely and individualised feedback on students' work (64.3%). Most respondents agreed to items 1, 5 & 6 indicating that the facilitators were able to effectively access students' work and progress at their convenience and that they preferred the idea of promoting collaborative learning via communicative group tasks. This was beneficial as it was an extension to what most facilitators struggled to achieve, especially with the lack of contact hours experienced during the allocated class hours.

d. Teacher-Student Interaction



Figure 6.0: Teacher-Student Interaction Benefits of ELA

Out of the five areas discussed, the aspect of teacher-student interaction appeared the least beneficial as many facilitators had selected the least agreeable options specifically for items 4, 5, 6 & 7. These items also indicated communication as a pertinent issue which hindered them from having more active engagement and discussions with students online, as opposed to having them in a face-to-face classroom. However, the facilitators also indicated that they had found ELA beneficial as it reduced learner anxiety which further encouraged learners to interact and communicate actively with one another with comfort. Most importantly, they had opted for item 3 which supports the effectiveness of ELA in terms of inculcating a facilitative role which further encourages students to experience learner autonomy at its' best (50%).

Technological Affordances



Figure 7.0: Technological Affordances Benefits of ELA

Overall, out of the five key areas, the facilitators indicated that the ELA's were mostly beneficial in terms of technological advances especially in managing their teaching and learning activities as it utilised an online platform for interaction. All the respondents expressed relief that there was permanent storage of materials and references which could be assessed anytime (100%), and that the proposed activities highly encouraged digital literacy among students as they had to learn about video editing (100%). Items 2 & 3 were also opted by facilitators as most beneficial as it revealed that ELA had indeed promoted inclusivity as shared materials, references and guided notes could be remotely accessible without having the need to meet and have physical classes.

Section C & D: Perceived Challenges in Implementing ELA and Suggestions for Recommendation.



In this section, facilitators revealed to have found ELA challenging in terms of communicating and forwarding instructions to their students as there was lack of student-teacher communication and interaction via the platform used (9 responses), followed by experiencing issues with communicating and engaging actively with students using the online platforms such as *Teams* and *WhatsApp* (6 responses). In addition, the third highest ranked challenge faced with ELA was their inability to monitor students' time management and work pace as all tasks were completed independently and submitted online (5 responses). In addition to these challenges, the open-ended responses had also yielded some issues faced by facilitators along with several recommendations for future improvement of the programme. The following table describes this information in detail.

Table 1.0: Open-Ended Responses for Challenges in Implementing ELA and Future Recommendation

Generated Themes for Coding	Challenges in Implementing ELA (Feedback via Open-ended responses)	Recommended Suggestions for Improvement
Self-Management Work-Life Balance Teaching & Learning Activities	• None • Other work commitments • Technical issues with platform • Contacting or locating students via Teams	• None • None • (7%) Too many tasks/ assignments • Reduce the number of tasks • Assign suitable leaders for assigned groups • Provide better guided notes/one-time facilitation • Impose penalties for late submissions
Teacher-Student Interaction	• Lack of student commitment • Lack of communication with students • Student issues and involvement • Student motivation	• (79%) Improve Cooperation from students. • Introduce reward system • Give away prizes • Give students merit for completion
Technological Affordances	• None	• (14%) Improve current platform use • Avoid technical issues such as problems in adding students via Teams • Use simpler platforms that ease student-teacher communication

Discussion of Findings

General Objective 1: *To explore English language instructors' outlook towards ELA and their perceived impressions towards the benefits of ELA.*

Responses from sections B clearly suggest that facilitators had a strong positive outlook towards the activities conducted mainly due to three reasons which include the flexibility of conducting the activities via an online learning platform, ease of managing the activities as there was less involvement throughout the activities in terms of "a teacher" and more towards

a facilitator as well as in terms providing instantaneous feedback and the ability to monitor students' submissions and progress. These findings support Demirel & Mirici's take on autonomous learning (2002) which explains that learner autonomy does not imply lack of control or losing control over your learners, instead it only fosters independency among learners in gathering resources and materials as well as collaborating with others to excel in their learning. ELA facilitators therefore can successfully maximise and accelerate this via the autonomous activities conducted.

The accessibility in terms of materials, guided notes and submissions done via the available Teams platform supports the idea of technological acceptance and integration into learning. Zhou & Wei (2018) claim that it is critical for technological innovation to be integrated and merged into learning as this contributes towards crucial language learning strategies such as self-regulation skills that assist learners in managing their own learning, time, thoughts, behaviours and thoughts. This enables learners to take control over aspects that affect their learning better as they can oversee their own learning. This also provides more time and space for instructors to focus on other aspects of teaching and learning, as most often autonomous learning encourages better time and tasks management space for who can now function as facilitators (Kormos & Csizer, 2014). Another key benefit of ELA highlighted by instructors were the ability to foster collaborative learning among learners. These peer-to-peer collaborations and interactions promoted positive problem solving, experience-sharing and willingness to communicate among learners. The facilitators particularly highlighted the strength of ELA in addressing student anxiety and motivation to otherwise speak confidently especially in face-to-face classrooms. Supporting this view, Storch (2021) highlights that in addition to facilitating learning, technology also mediates autonomous learning by providing a platform whereby learners can communicate and contribute without feeling anxious about being judged and being afraid of making errors while communicating. Hence, through ELA, facilitators can provide tasks and guide learners without constantly asserting excellence or overall performance. Instead, they can focus on learners' overall progress and provide constant constructive feedback in a more personalised manner using the available platform. In summary, the instructors provided promising positive outlook and found ELA beneficial mainly in terms of **self-management, encouraging work-life balance** as well as in support of **technological advances** and its' impact on learning.

General Objective 2: *To assess the challenges and obstacles faced by instructors while playing the role as facilitator for ELA at UPM.*

Like any other novel and innovative approach introduced, ELA is not one to be dismissed of challenges in terms of its' implementation. Holec (2011) imperatively suggest that for autonomous learning to take place and to be effective, it is crucial for both teachers and learners to assume shared roles with the instructors serving as a specialist or the guide, whilst the learners taking charge of their own learning. In line with this, one of the biggest challenges faced by instructors was mainly the execution and maintenance of this specific teacher-learner relationship. Most instructors found it challenging to communicate with their students as there was limited meetings and lack of motivation among students in completing tasks. Understandably, this is a challenge that presents itself in autonomous learning activities as students are constantly used to being fed with information instead of being encouraged towards a more productive independent form of learning (Holec, 2011). To overcome this, the recommended suggestion was to introduce a form of reward or merit system which could boost overall learner participation as well as encourage an increase in overall participation among learners.

Another challenge faced by facilitators was distributing the ELA learning materials such as tasks and guided notes effectively. Technological acceptance, although high among learners in today's generation can still be a challenge with lack of monitoring and progress. As suggested by Aydogdu (2009) & Holec (2011) constant monitoring, preparation and review is necessary for autonomous learning to take place. For ELA, facilitators further suggested for constant improvement on the current platform used, to reduce the number of shared notes and to seek for alternative approaches in delivering the tasks to the students as well as to develop a more interactive medium that can further enhance the effectiveness of the execution of ELA.

Overall, in terms of challenges faced by the facilitators, teacher-student interactions and learning materials are the main challenges. For these, the facilitators suggested reward system to boost student participation, and improvement of the current platform and seek alternative approaches in the delivery of the tasks.

Conclusion

Based on the research findings, the overall outlook of ELA is encouragingly positive and constructive. Facilitators in general have unanimously agreed upon the numerous advantages and benefits that students can gain from the programme. Like any other novel initiated programme, ELA comes with certain impairments which also highlights on the limitation of this study. Since the study is limited to one cohort which pioneered the programme, it would be recommended to compare the second cohort's overall ELA performance to its' first, to gain better insights and understanding towards the overall success of the programme. It can be concluded that ELA stands effective as an alternative autonomous communicative form of language learning which aligns with the 21st century learning. Moreover, the embedded CEFR framework in the formulation of ELA encourage learners to build on their strengths as well as boosts their motivation and enthusiasm to practice using English language with their peers beyond formal classrooms. With several amendments made in terms of its planning, delivery and implementation, it is hoped that this form of language learning can create a shift in the current existing tertiary English language curriculum in Malaysia.

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DRIVER DISTRACTION ASSOCIATED WITH MOBILE PHONE TACTILE TASKS: A DRIVING SIMULATOR-BASED STUDY

Mohd Firdaus Mohd Siam^{1*}

Ahmad Azad Ab. Rashid¹

Nurulhana Borhan¹

Mohd Khairul Alhapi Ibrahim¹

Azhar Hamzah¹

¹Malaysian Institute of Road Safety Research (MIROS), 43000 Kajang, Selangor, Malaysia

*mfirdaus@miros.gov.my

Abstract: *The mobile phone is an extremely beneficial tool for humanity, capable of performing a multitude of functions beyond the mere transmission and reception of telephone communications. Regrettably, it has the capacity to cause significant distractions for drivers in numerous ways. The aim of the study is to measure the distraction in terms of participants' response time for different tactile tasks and driving scenarios. In this research, 54 participants executed several secondary tasks (i.e., tactile tasks) while simultaneously engaging in the DRT throughout a simulated driving environment. For the comparison of driving scenarios, three scenarios were used: free flow (40 km/h) with medium traffic volume, free flow (40 km/h) without traffic and traffic jams. For different tactile tasks, apart from the 2-character number, other tactile tasks such as 5, 9, 14, and 20 number of characters were also assessed. The study findings indicated that participants responded to lesser stimuli when dealing with more difficult tactile tasks. Besides, the results found that drivers were more distracted when dealing with more demanding tasks of using mobile phones (i.e., tactile tasks) as compared to baseline. In addition, participants attended the worst in terms of stimuli and higher response time in the traffic jam scenario as compared to other scenarios. Besides, the study discovered that the novice drivers' group was identified to respond at a significantly faster rate than the experienced drivers' group. In terms of gender, male drivers were generally faster in terms of response time than female drivers, with no significant differences.*

Keywords: *Distracted Driving; Driving Simulator; Mobile Phone; Tactile Tasks; Road Safety.*

Introduction

In 2023, there were 6,473 fatalities attributed to road accidents [1]. This alarming figure results in an average of 17 fatalities per day. Road traffic injuries are the eighth most common cause of mortality worldwide, and over one million individuals are murdered annually as a result of road accidents [2]. Human errors are the primary contributing factor to approximately 90% of road traffic accidents [3]. Driver distraction is a grievous and increasing hazard to road safety. Driver distraction is the act of performing any task that diverts the driver's attention from their primary task, which is driving [4]. Driver distraction can impede driver performance by preventing drivers from dedicating sufficient attention to the primary task in hazardous situations, as they are preoccupied with additional tasks that may impede their ability to operate a vehicle safely [5]. Driver preoccupation is acknowledged as a contributing factor in at least 25% of vehicle accidents in numerous publications [6,7,8]. This number may rise in the future as a result of the widespread use of mobile phones while operating a vehicle, which has the potential to distract drivers.

The risk of accident involvement is increased by driving distraction, including the use of mobile phones while driving, as demonstrated by extensive research conducted worldwide [9,10,11]. Other studies have demonstrated that a driver's accident risk is increased by 400–900% by as little as 1 hour of cell phone use while driving per month [12,13,14]. Cell phone use while operating a vehicle has been documented to be more disruptive than alcohol intoxication [15]. Drivers' performance was adversely affected by the use of mobile phones while operating a vehicle, according to certain investigations. These studies also concluded that the performance of hands-free and hand-held mobile phones is comparable to that of normal driving, which does not involve the use of mobile phones [16,17].

The amount of research conducted on the topic of driver distraction, specifically in relation to mobile phone usage in Malaysia, remains insufficient. MIROS conducted a very limited experimental study using a driving simulator to measure the response time of several secondary tasks, including texting usage while driving, without specifying the character numbers. The study concluded that the texting response time significantly differed from the baseline task by 97% [18]. Additionally, a self-reported survey regarding mobile phone utilisation while driving in the Klang Valley discovered that 43.4% of drivers in the region utilised their mobile phones while operating their vehicles, 61.9% while at a red light, and 53.6% during traffic congestion [19]. In Malaysia, no specific accident data was reported in relation to the type of defect associated with driver preoccupation. Careless driving, dangerous driving, dangerous turning, dangerous overtaking, driving too close, careless at entrance or exit, and negligent signalling are all nearly related but disputable, with a combined percentage of 74.81% [20]. In 2015, Malaysia had an estimated 176.5 million mobile phone subscribers, with a ratio of 5.8 mobile phones per Malaysian. Furthermore, in the same year, an estimated 25,856 million Short Message Services (SMS) were transmitted [21]. It is anticipated that the utilisation of mobile phones while driving in the Malaysian context will be impacted by the aforementioned figures and the advancement of smartphones. MIROS conducted the study and published the paper that elucidates the methodology, data analysis, and research findings, recognising the critical issues of mobile phone utilisation as a source of distraction. The objective of the study was to measure the distraction in terms of the response time of participants in various driving scenarios and mobile phone tactile tasks.

Materials and Methods

This study made use of a mixed method experiment and convenience stratified sampling. The investigation included fifty-four participants, twenty-seven of whom were male and twenty-seven of whom were female. There is no specific knowledge or expertise regarding the study among the participants, who are all right-handed drivers. The mean age of the participants is 31.47 years, with a range of 18 to 57 years. The participants participated in the study on a voluntary basis, having read and signed a consent form that provided information regarding the study's purpose and procedures. The average driving distance per year is 20,478.27 km, and the average driving experience is 10.42 years. All participants are licensed drivers. Attendees were chosen from the MIROS staff and the general public as well. Participants must possess the ability to operate an automatic gearbox. The investigation involved two categories of participants: novice and experienced drivers. Novice drivers are individuals between the ages of 18 and 24 who have less than four years of driving experience. Experienced drivers are defined as those who have accumulated over ten years of driving experience and are between the ages of thirty and fifty-nine [22].

The MIROS Fixed-base Driving Simulator Cabin (CabinDS) was employed in this research, which utilized a platform from the second generation of the Perodua Myvi 1.3L. Simulation

software, a steering wheel, pedals, gearbox, a complete vehicle compartment, an LCD projector and screen, a computer, a video camera, and a sound system comprise the simulator's primary components. The CabinDS system is depicted in Figure 1.



Figure 1: The consolidated CabinDS system

This research established three distinct driving scenarios: free flow at 40 km/h with medium traffic volume, free flow at 40 km/h without traffic, and a traffic jam. Figure 2 depicts the specified driving circumstances.

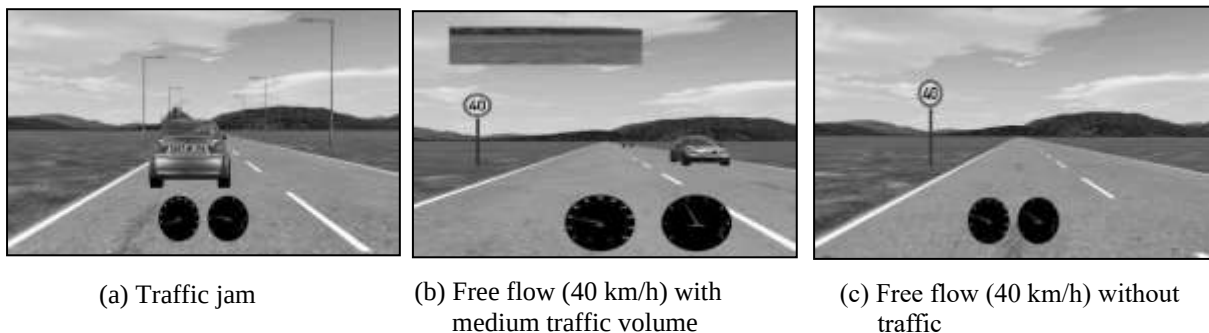


Figure 2: Depiction of the Simulated Scenarios

The Detection Response Task (DRT) was implemented in a dynamic setting, and driving was conducted in a simulated traffic condition. DRT is one of the methods used to assess driver distraction [23]. The driving task and the secondary tasks were executed concurrently in accordance with the road conditions by the participants. The DRT software was responsible for controlling the presentation of stimuli for the DRT. In this research, tactile DRT was implemented. The DRT presented the stimulus at temporal intervals that were uniformly distributed between three and five seconds, with a random distribution. By striking a microswitch that was affixed to the right index finger of the participant on the steering wheel, they responded. A response was indicated by the mechanical feedback provided by the microswitch.

The tactile task was replicated for doing anything that involve keyed-in of characters in the mobile phone such as texting activities, destination entry, etc. A mobile phone was secured in the driving simulator windscreen using a suction holder for the tactile task. Notes Application was installed in the mobile phone so that participants required to key-in the specific character numbers repeatedly as much as possible within two minutes duration according to the specified character numbers. The words were provided on a sheet of paper secured to the dashboard. The details of words that associated to character numbers are shown in Table 1.

Table 1: List of Character Numbers and Words

Number of Characters	Words
2	kg
5	taman
9	teknologi
14	jalan semenyih
20	lorong kajang raya 2

The data collection procedures necessitated approximately one and a half hours for each participant. Prior to conducting the procedures, participants were provided with specific instructions. The informed consent and personal detail forms were also required to be completed by the participants. Participants were provided with a safety briefing prior to the commencement of the data collection. Subsequently, simulator sickness screening was administered to participants prior to the experiment. The objective of the assessment was to verify that the participants were physically and mentally capable of operating the driving simulator. Subsequently, they were requested to conduct training and familiarisation sessions for the DRT device, driving simulator, and secondary task. During this training session, participants were not assigned a time limit; however, the session finished when they were satisfied with their ability to complete the tasks. Participants were required to complete all tasks during the actual data collection session and were permitted to terminate the experiment without any form of coercion. Following the completion of the actual data collection, participants were also subjected to post-simulator sickness screening. Participants were interviewed regarding their driving experiences subsequent to the conclusion of all assignments. Subsequently, participants were expressed gratitude and awarded incentives for their participation.

Results and Discussion

Figure 3 contains percentages of stimuli participants responded to in all driving scenarios across different number of characters during tactile tasks. The baseline, of course, have the highest number of stimuli participants attended. As the number of characters increases, the response percentages went decrease. There is also evident of possible interaction of traffic scenarios as traffic jam condition contained the lowest number of stimuli participants reacted to in all character conditions.

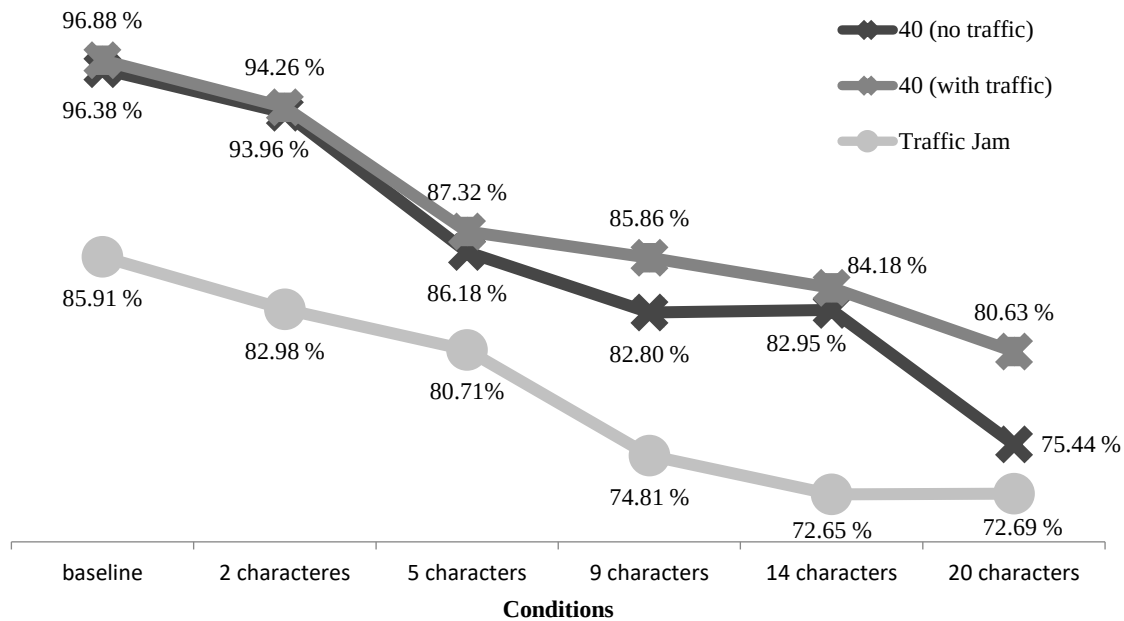


Figure 3: Percentage of Stimuli Responded for Each Character Based on Driving Scenarios

The same abovementioned mixed factorial repeated-measures ANOVA analysis on the ARTs revealed its mean difference with respect to various characters, and driving scenarios, and any potential interaction. Figure 4 contains the means of ARTs across conditions and driving scenarios. The analysis revealed significant main effect of number of characters during tactile tasks on ARTs $F(3.83, 198.94) = 58.54, p < .001$ (Greenhouse-Geisser corrected). Simple contrasts further revealed that ARTs for all other characters are significantly higher than the baseline, $F_{baseline \text{ vs. } 2}(1, 52) = 75.37$; $F_{baseline \text{ vs. } 5}(1, 52) = 77.41$; $F_{baseline \text{ vs. } 9}(1, 52) = 92.95$; $F_{baseline \text{ vs. } 14}(1, 52) = 135.39$; and $F_{baseline \text{ vs. } 20}(1, 52) = 161.55$; all pairs had $p < .001$.

The main effect of traffic scenarios were also significant, $F(2, 104) = 157.52, p < .001$. Further, contrasted with traffic jam, the ARTs for the other 40 km/h traffic scenarios are significant, $F(1, 52) = 254.03, p < .001$; and $F(1, 52) = 152.57, p < .001$; for respectively without traffic and medium traffic conditions. The interaction between traffic scenarios and character conditions are marginally significant, $F(7.59, 394.70) = 2.03, p = .05$;

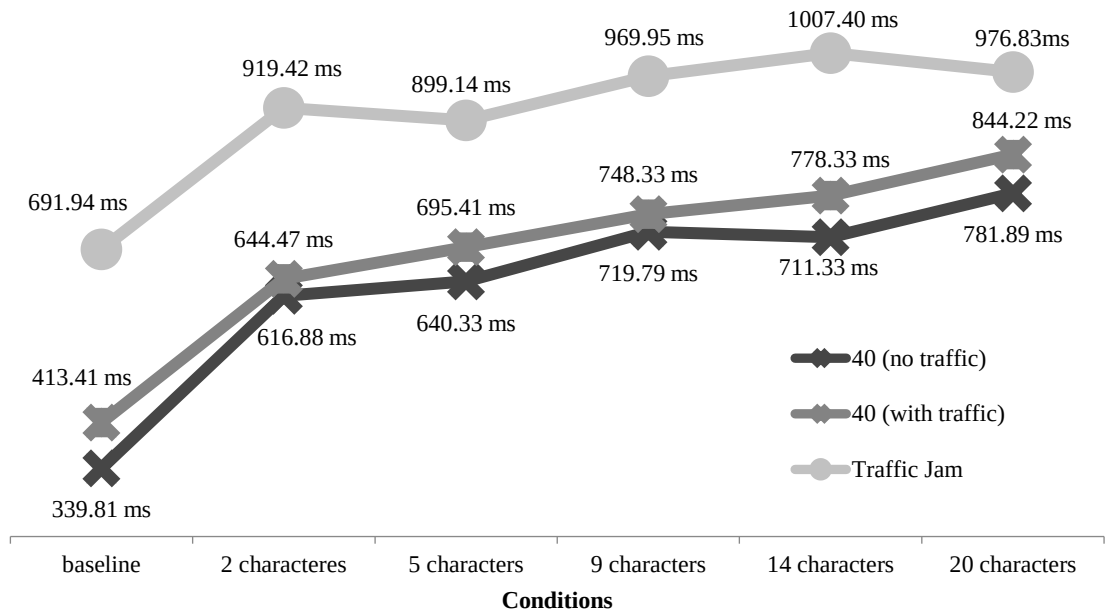


Figure 4: Response Time (Milliseconds) For Each Character Based on Driving Scenarios

The analysis continued with investigation involving between-subject variables – gender and age group. The age group was defined as novice (less than 4 years driving experience and age between 18-24 years) and experience (more than 10 years driving experience and age between 30-59 years).

Further, the analysis using response time during character tactile tasks revealed a non-significant main effect of gender on ARTs, $F(1, 51) = .61, p = .44$; but a significant results of age group, $F(1, 51) = 6.17, p = .02$. There were no interaction effects of response time during tactile tasks between gender and number of characters ($F(3.76, 191.71) = .68, p = .60$), between gender and traffic scenarios ($F(2, 102) = 2.55, p = .08$); as well as between age group and traffic scenarios ($F(2, 102) = .02, p = .98$). The only interaction observed was between age group and number of character conditions, $F(4.11, 209.36) = 4.96, p = .001$. Table 2 contains detailed means for every condition.

Table 4: Summary of Response Time Means Based on Gender and Age Group For Number Of Characters Conditions.

Scenario	Character Number	Response Time, <i>M</i> (<i>SD</i>) milliseconds			
		Male (<i>N</i> = 27)	Female (<i>N</i> = 27)	Novice (<i>N</i> = 28)	Experience (<i>N</i> = 26)
40 km/h (no traffic)	Baseline	320.86 (141.62)	359.49 (140.59)	334.31 (154.52)	345.97 (127.29)
	2 Character	596.91 (312.88)	637.60 (343.64)	537.76 (296.26)	705.49 (340.22)
	5 Character	597.49 (323.94)	684.82 (316.98)	540.66 (237.3)	751.95 (366.93)
	9 Character	685.99 (322.46)	754.89 (363.87)	604.37 (286.49)	849.06 (357.63)
	14 Character	736.25 (355.98)	685.46 (199.2)	626.71 (219.57)	806.11 (328.77)
	20 Character	718.89 (314.71)	847.31 (296.56)	685.28 (256.01)	890.09 (333.46)
	Character				
40 km/h (with traffic)	Baseline	412.21 (202.78)	414.66 (190.94)	388.57 (193.22)	441.22 (197.47)
	2 Character	649.86 (346.54)	638.87 (292.50)	584.96 (331.82)	711.11 (294.37)
	5 Character	686.02 (403.77)	705.16 (249.88)	618.98 (347.91)	781.01 (302.06)
	9 Character	714.51 (355.37)	783.45 (317.34)	655.9 (290.17)	851.85 (358.45)
	14 Character	758.43 (351.63)	798.99 (365.02)	663.9 (289.64)	906.48 (383.26)
	20 Character	835.92 (400.05)	852.85 (285.79)	714.18 (291.89)	989.87 (347.77)
	Character				
Traffic Jam	Baseline	628.37 (286.57)	757.96 (344.56)	691.91 (312.26)	691.98 (334.98)
	2 Character	865.79 (394.28)	975.11 (338.04)	837.44 (383.73)	1011.23 (334.31)
	5 Character	819.54 (356.43)	981.81 (336.22)	807.1 (317.48)	1002.23 (368.2)
	9 Character	942.01 (427.83)	998.95 (328.00)	875.69 (322.09)	1075.51 (416.49)
	14 Character	996.32 (399.59)	1018.90 (336.16)	891.12 (343.45)	1137.63 (353.32)
	20 Character	930.51 (348.31)	1024.94 (251.01)	881.57 (278.48)	1083.52 (303.81)
	Character				

As mentioned in the literature review, drivers can get distracted by using mobile phone in several ways while driving. This study used DRT to measure the effects of driving demand and engagement in secondary tasks on driver attention. The secondary task involved tactile task whereby inputting up to 20 characters. This task to replicate any task that involve keyed-in of characters using mobile phone. One interesting finding is that the number of characters needed to be keyed-in affects the level of distraction measured among the participants. Drivers are more distracted with the increase in efforts to handle the tactile task as compared to baseline. This finding confirms the association between the task demand and the level of distraction found by previous study [24]. Furthermore, other study revealed that participants' driving behaviour was impaired by concurrent text message tasks [25].

Another significant discovery was that the reaction time of drivers to stimuli was elevated as a result of their engagement in the secondary task (tactile task) while travelling in challenging driving scenarios, suggesting a significant increase in distraction. The most prevalent form of distraction among drivers was observed in traffic jams, as opposed to free-flowing traffic scenarios. In simpler terms, the degree of distraction caused by mobile phone use is exacerbated by demanding driving scenarios. Even though a prior study did not establish a correlation

between the frequency of distracted driving behaviours and the volume of traffic [26], our findings may suggest that the risk of distracted driving is potentially elevated in certain traffic conditions. When the secondary tasks are more intricate, this risk can be even greater, as evidenced by the significant interaction effects on participants' response times.

The response times of novice and experienced drivers were compared in this study, and an intriguing discovery was made. The novice group responded to the stimuli at a substantially quicker rate than the group with more experience. Mainly because previous research had established that a higher level of experience is associated with a greater degree of adaptation to increasingly complex driving environments, this discovery was unexpected [27]. This may be due to the fact that the impact of experience on driving performance is not always equivalent to the level of distraction. For instance, the novice group may not necessarily exhibit superior driving performance due to their quicker response to stimuli, and vice versa. It is intriguing that prior research has determined that experience is not a factor that can resolve the safety concerns associated with distracted driving caused by dual tasking. This is primarily due to the complexity of the primary task at hand, such as driving the vehicle in motion [28].

Conclusion

In summary, the study's objectives were achieved, which involved the measurement of distraction in terms of participants' response time for various tactile tasks and driving scenarios using a driving simulator. The results of this study suggest that drivers were more distracted by the more demanding tasks of using a mobile phone (i.e., tactile task) than they were at the baseline. In terms of stimuli and response times, the traffic congestion scenario was the most challenging of the three driving scenarios that participants attended. Additionally, the novice group was found to respond at a significantly quicker rate than the experience group. This research demonstrates that the use of a mobile phone for tactile task while operating a vehicle is classified as a distracted activity that may increase the likelihood of getting into a road crash.

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STIGMATIZING CONTENT ON SOCIAL MEDIA AND ATTITUDE OF UNIVERSITY STUDENTS: ANALYSIS OF MENTAL HEALTH STIGMA

Taufiqnur Selamat¹
Azlina Abu Bakar^{2*}
Mohd Muslim Md Zalli³
Mohd Syaubari Othman⁴

¹Faculty of Human Development, Sultan Idris Education University (UPSI), Malaysia, taufiqnur@uitm.edu.my

^{2*}Faculty of Human Development, Sultan Idris Education University (UPSI), Malaysia,

azlina.ab@fpm.upsi.edu.my

³Faculty of Human Development, Sultan Idris Education University (UPSI), Malaysia,

muslim@fpm.upsi.edu.my

⁴Faculty of Human Development, Sultan Idris Education University (UPSI), Malaysia,

syaubari@fpm.upsi.edu.my

Abstract: *Stigma in mental illness happens when someone has an unfair attitude or belief about a person with mental health challenges that causes social isolation, social discrediting and reduced likelihood of staying with treatment. The objective of this study is to see the influence of attitude factors and the effect of social media on stigma towards mental patients among public university students. A total of 350 students around the Klang Valley were involved in this study through simple random sampling. The questionnaires used are Stigma and Self-Stigma Scales (SASS), Community Attitude Towards Mental Illness (CAMI) scale and Effects of Social Media Use on Perception on Mental Illness (ESMUPMI). The findings of the study show that the majority of students show a high level of stigma towards mental patients (65%), medium (24%) and low (11%). This study also found that the majority (84%) of students agreed that social media was their main source of information about mental problems; believe that social media sharing about mental illness is accurate (71%) and believe that social media is influential in changing someone's opinion or perception of this issue. In addition, the findings also show that attitudes and social media affect stigma against mental patients ($\beta=0.276$ & $\beta=0.157$, $p<0.01$) and the R^2 value is 0.206. Therefore, all hypotheses were accepted. On top of that, the government and institutions need to take steps to control the issue of stigma against mental patients in the community considering that mental illness has become the second highest disease in Malaysia since 2020.*

Keywords: Stigma, Mental Illness, Attitude, Social Media, Education

Introduction

Nowadays, mental health problems have become the second highest health problem affecting Malaysians after heart disease (National Security Council, 2023). Some people label the mentally ill as crazy, dangerous and to be avoided. Mental health is an individual's ability to control emotions that are closely related to his thoughts, feelings and actions when facing various situations. Mental health is closely related to stress, delirium and impaired functioning, breaking social norms and dysfunction (Kring et.al., 2018).

In addition, Mohd Faizul et.al (2018) in their writing have stated that one in three Malaysians have experienced mental health problems with the highest percentage being young people and statistics also show that there are an increase in the number of new reported cases of mental illness. Studies abroad have found that one in four people worldwide experience a mental

disorder at some point in their lives, almost two-thirds of those individuals never receive treatment.

Literature Review

Stigma against the mentally ill is a major barrier to self-wellness among the mentally ill (Fox et.al, 2018). The stigma of mental illness has been a widely studied research topic in various disciplines, including psychology, sociology, public health and medicine. Beginning with the publication of an essay by Erving Goffman (1963) entitled *Stigma: Notes on the Management of Spoiled Identity*, research on stigma continues to grow each year, with the majority of stigma research occurring in the past decade.

Goffman was the first to define stigma as an attribute that connects a person with undesirable characteristics (stereotypes). Recent literature adds the perspective of individuals who carry stigmatized attitudes. Therefore, researchers often distinguish between public and personal stigma, both consisting of elements of stereotypes, prejudice and discrimination. Public stigma refers to the general population agreeing with stereotypes and reacting with discrimination against people with mental illness. Past studies distinguish two types of public stigma: (a) perception of public stigma (also called stereotype awareness) refers to one's perception of other people's attitudes and behavior towards depression, and (b) personal stigma (also called internal stigma or personal approval) refers to self-attitudes towards depression. Accepting society's stereotypes and applying them to oneself in relation to depressive symptoms is described as self-stigma (or self-approval). Different conceptualizations of self-stigma have been used in various studies (Gopfert et.al, 2019).

One million or 4.6 percent of Malaysians over the age of 15 suffer from depression, according to the 2023 National Health and Morbidity Survey (NHMS) data released on 16 May 2024. The number of people suffering from depression doubled from 2019 to 2023. The NHMS also revealed a one in six children aged five to 15 have a mental health problem, and the burden of mental health problems has reportedly doubled since 2019 (Mohd Iskandar, 2024).

Students are also not exempt from exposure to mental illness. Norjuhaida's study (2018) found that students who experience emotional stress are in great need of social support. When stigma occurs, treatment will be the last alternative for patients to seek help from relevant mental health professionals (Robinson & Henderson, 2018). This is because mentally ill people are seen as 'alien beings' to society (Wahl et.al, 2012). Accordingly, seeking help from professionals regarding mental illness will be the last resort for patients because they do not want society to distance themselves from them. Data from the Mental Illness Awareness & Support Association (MIASA) shows that the ratio of psychiatrists to patients in Malaysia is 1 ratio in 200,000 (Malaysia Psychiatric Association, 2020). The data shows how big the ratio gap is between mental patients and specialist nurses and if the number of patients increases, Malaysia will experience a critical shortage of nurses.

This study was conducted on students at Public Institutes of Higher Education around the Klang Valley. According to a report on 10 July 2024, around 3,000 individuals came to seek treatment for mental disorders at Health Clinics in Selangor, especially in the Klang Valley since 2020 until now. This data has been reported by the Exco of Public Health and Nature (Norzamira, 2024). This is the data of patients who seek treatment, what about patients who do not seek treatment due to concerns about stigma. In addition, the Minister of Health reported that the Federal Territories of Kuala Lumpur and Putrajaya recorded the highest depression and anxiety disorders in 2023. Data from the total number of screenings also showed that the Federal

Territories recorded 70 percent of depression and anxiety problems, followed by Johor 44 percent; Labuan 33 percent and Sabah 23 percent, while Kelantan recorded the lowest percentage of cases with one percent, followed by Terengganu three percent and Kedah six percent (Suzalina, 2023). The data from the Ministry of Health mentioned above also shows that students of Public Institutions of Higher Education who suffer from mental illness in the Klang Valley area are relatively high and among the reasons stated are extreme stress conditions and isolation from the support network of family and friends as well as stigma in society.

In addition, university students in Malaysia were found to spend an average of six hours a day browsing social media (Norlia et.al, 2017). In addition, the 2018 Communications and Multimedia Commission (SKMM) internet user survey found that the average time young people use the internet is 8 hours a day. Muhamad Muhsin Ahmad Zahri, a psychiatrist at the University of Malaya stated that as a result of stigma and labeling patients as crazy, patients do not want to seek treatment (Mariah, 2016). In addition, research to determine knowledge and attitudes towards people with mental illness is lacking.

Awareness of mental illness is important among university students because learning at university is the most stressful time and is a major transition time in students' lives due to social pressure and academic pressure (Gruttadaro, 2016). Social media and the attitude of university students have been found to have an impact on the social distance of people suffering from mental illness because it affects the perception of people with mental illnesses (Kosyluk et. al, 2020; Bakar et. al, 2022). Although there is coverage of mental illness, it tends to be negative (Aleshinloye et.al, 2019). For example thinking about killing yourself, harming yourself, and being aloof or passive. Therefore, it is appropriate for researchers to study the stigma against people with mental problems. The problem of stigma against mental patients is the reason why patients do not want to seek treatment from specialists (Selamat, et.al, 2023).

Stigma theory was proposed by Erving Goffman. According to Goffman (1963), stigma is any form of physical and social characteristic that reduces a person's social identity, disqualifies that person from being accepted by others. Stigma makes someone different from others like being worse, dangerous or weak. According to him, stigma is a trait that worsens a person's image. Goffman's 1963 stigma theory explains that there are three types of stigma. First, abominations of the body which is abomination to the body. Body abomination stigma is associated with the physical abnormality of an individual.

Second, blemishes of individual character which are individual character defects where stigma is related to individual character damage that is considered weak, dangerous or inappropriate. Goffman gives examples of this type of stigma such as a person suffering from mental disorders, suicide attempts, addiction, alcoholism, homosexuality, etc. The third is tribal stigma which is tribal stigma. Therefore, stigma against mental patients is categorized in the second type of stigma which is individual character defects (blemishes of individual character). Considering a mentally ill person is weak, crazy and lacks faith is a common stigma in society.

The objectives of this study are:

1. To identify the level of stigma against mental patients among university students.
2. To identify the effect of social media on the perception of mental patients according to the domain of perception regarding the depiction of mental illness on social media, the use of social media and views on mental patients among university students.

3. To identify whether attitude and social media are predictive factors for stigma against mental patients among university students.

Methodology

Respondent

This study involved a total of 350 university student respondents from the Klang Valley, Selangor representing 31.5% males and 68.5% females through a simple random sampling method. Respondents were given a brief description of the research project and the informed consent process was performed. Researchers have chosen all four public universities in the Klang Valley as study locations, namely Universiti Malaya, Universiti Kebangsaan Malaysia, Universiti Putra Malaysia and Universiti Teknologi Mara (main campus).

Instrument

The instrument that measures stigma consists of 36 items and is categorized into 6 sections namely Stigma to Others, Emotional Stigma, Anticipated Stigma by Others, Self Stigma, Avoidant Coping Strategies and Help Seeking Intention. The original instrument is from a study by Docksey et.al (2022) and has been translated into Bahasa Malaysia through back to back translation through five Likert scales.

Attitudes towards mental patients are measured through the instrument Attitude on People with Mental Illness (AMI) with 17 items was built by Wahl et al. (2012) and has three sub-constructs: Virtue, stereotypes and constraints, and five Likert scales. This instrument was developed to measure attitudes towards people with mental illness. In this study, attitude measurement refers to the domains: Virtue, stereotypes and limitations. Benevolence refers to positive attitudes towards people with mental illness such as learning about mental illness, helping them not to make jokes about mental illness and respect. Stereotyping refers to the judgment of others who are different from oneself. Limitation refers to the limits of acceptance of individuals with mental illness.

The Effects of Social Media Use on the Perception on Mental Illness is an instrument developed by Fisher (2019) that measures the effects of social media on the perception of mental illness. This instrument measures sub-constructs such as students' perception of mental illness on social media, use of social media and views on mental patients through social media with a total of 20 items and five Likert scales. All three instruments have undergone a back-to-back translation process.

Results

This article covers from the basics of descriptive and inferential statistics, from hypothesis building to sampling and statistical analysis including descriptive and regression. A classical assumption test is performed before testing the hypothesis. Classic hypothesis tests in this study include normality tests and multicollinearity tests. Analysis was performed using the Statistical Package for Social Sciences (SPSS) version 26.

Table 1 displays the reliability test of the three instruments. The analysis found that all three instruments got a high Cronbach Alpha value which shows that the instrument works well with the respondents. A Cronbach Alpha value of 0.7 or higher indicates acceptable internal consistency (Byrne, 2010; Bakar et. al, 2022). Therefore, the findings of the study show that the reliability of the instrument is very high, with a Cronbach Alpha value exceeding the 0.7 index.

Table 1: Reliability Analysis

Instrument	Variable	Cronbach Alpha
Stigma and Self-Stigma Scales	Stigma	0.86
Attitude about Mental Illness	Attitude	0.77
Social Media on Perception of Mental Illness	Social Media	0.92

The findings of the study show that the majority of the sample practices stigma towards mental patients with a high level (65%), a medium level (24%) and a low level of only 11%.

Table 2: Data Analysis According to The Level of Stigma

Level of stigma towards mentally ill	(%)
Low	11.0
Moderate	24.0
High	65.0
Total	100

This study also found that the majority of the sample agreed that social media gave a negative picture of mental health (89%), the use of social media in finding information about mental health (84%) and that social media influenced the sample's perception of mental patients (88%).

Table 3: The Impact of Social Media on Perceptions of The Mentally Ill

The Impact of Social Media on Perceptions of the Mentally Ill	(%)
Negative images of mental illness on social media.	89.0
The use of social media.	84.0
Media affects the perception of mental patients	88.0

In addition, this study also found that the majority (84%) of public university students who were respondents agreed that social media was their main source of news about mental problems. In addition, they also believe that sharing social media about mental illness is accurate (71%) and influential in changing someone's opinion or perception of this issue. Therefore, the majority of students in this study use social media as a reference for mental problems.

Table 4: Attitudes and Social Media as Predictor on Stigma for Mental Patients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.150	.158		12.829	.000
Attitude	0.203	.033	.276	6.191	.000
Social Media	0.112	.034	.157	3.252	.001
R	.325 ^a			Sum of Squares	22.353
R Square	0.206			df	2
Adjusted R Square	0.202			Mean Square	11.176
Std. Error of the Estimate	.67026			F	24.877
Durbin-Watson	1.743			Sig.	.000 ^b

- a. Dependent Variable: Stigma
b. Predictors: (Constant), Social Media, Attitude

Anova ^a						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.433	2	11.176	24.677	.000 ^b
	Residual	178.684	420	.449		
	Total	211.038	422			

a. Dependent Variable: Stigma

b. Predictors: (Constant), Social Media, Attitude

Table 4 describes the results of the multiple regression analysis. R^2 is the coefficient of determination. It measures the extent to which the forecaster considers the variability in the results, between 0 and 1. Accordingly, table 4 shows the stigma model that explains as much as 20.6% ($R^2 = 0.206$). It shows that the predictor factor for stigma accounts for 20.6% of the variance change for stigma. The findings of the study in statistical analysis also show that the item for attitude and influence of social media ($b=0.276$; $b=0.157$; $p<0.01$) is the significant predictors of stigma. From the beta aspect, for every 1 percent change in the social distancing item, attitude change, and social media factors are 20.6% and 15.7%. It shows that attitude factors and the impact of social media are predictors of stigma against mental patients among public university students. Therefore, the hypothesis is accepted at the 99% confidence level.

In summary, the findings of the study are:

1. Almost 89% of high and moderate stigma against the mentally ill among public university students.
2. The majority of students agree that information from social media has a significant impact on their perception of mental patients.
3. Attitudes and social media are predictors of stigma towards mentally ill among public university students.

Discussion

Jombo & Idung (2018) stated that views on mental illness have influenced people with mental health problems not to seek psychiatric treatment. Puspitasari et al. (2020) found that 51.29% of university students in Indonesia have a negative attitude towards people with mental health problems, despite having good knowledge about mental health. However, some studies have found that students will change their negative attitudes towards mentally ill individuals if they have experience with patients. Student attitudes improve after being exposed to psychiatric welfare (Alsahali, 2021). Medical students' attitudes were initially neutral and became more positive after clinical experience.

Researchers can conclude from the literature review that such attitudes can result from knowledge about mental illness, interactions with people with mental health conditions, experiences with people with mental health conditions, beliefs and religious factors. However, most previous studies have found that the attitude factor is the factor that most influences the social isolation of mentally ill patients among university students. In addition, social media tends to give a negative image of the mentally ill. It has led to distance of the mentally ill (Selamat et.al, 2023).

Furthermore, more than 150 articles on mental health use a negative tone and 18.5% are linked to violence (DuPont-Reyes et al., 2020) and more from mental patients than physical patients (22.5 %: 19.7%). Social media, on the other hand, gives a negative image of the mentally ill and it has a significant relationship with the stigma against the mentally ill in the community. This study found that the majority of public university students agree that social media is their main source of news about mental health issues. In addition, they believe that sharing social media about mental illness is accurate and influential in changing someone's opinion or perception of this issue. In that regard, Selamat, et .al (2023) also stated that social media can have a great influence on the perception of students related to mental patients whether positive or negative.

In addition, social media coverage of mental illness is increasing. It is proven by Chen and Lawrie (2017) who found a 20% increase in mental illness coverage from 8,614 to 10,000. Additionally, it has a significant impact on the reporting of suicide portrayals in the media. It is evident in the article by Schäfer and Quiring (2015) that in Germany, 87% of the published articles describe cases of individuals with mental health problems negatively by providing a closer description of the family background that increases suicide attempts in society. This means that social media plays an important role as a medium that can be used to reduce stigma and discrimination against the mentally ill.

Accordingly, the researcher would like to suggest the government to review Section 309 of the Penal Code in 2020 so as not to punish individuals who attempt suicide because they are not criminals, but rather suffer from mental illness and they need help.

Conclusion

This study gives implications about the role of public university students' attitudes and the role of social media on the issue of stigma against the mentally ill. Awareness needs to exist in society, especially the educated group where, whether they realize it or not, they are greatly influenced by what is displayed on social media, including negative things. This study also greatly contributes to public health issues in the post-pandemic era of COVID-19 as there is a significant increase in cases of mental problems among Malaysians. This study also helps to raise awareness about the importance of mental patients who need to be given help and support by all of us.

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ASSESSING UNIVERSITY STUDENTS' ACCEPTANCE OF SERVICE-LEARNING MALAYSIA – UNIVERSITY FOR SOCIETY (SULAM) IN ENGLISH FOR EMPLOYMENT COURSE: A KIRKPATRICK'S 4-LEVEL TRAINING MODEL APPROACH

Kwan Yien Yee¹

¹Centre for the Promotion of Knowledge and Language Learning, University of Malaysia Sabah (UMS), Malaysia, (kwanyienyee@ums.edu.my)

Abstract: *Service-Learning Malaysia – University for Society (SULAM) is an initiative introduced by the Malaysian Ministry of Higher Education that integrates course learning outcomes with community service, which involves students interacting with the community by applying the knowledge and skills they learn in the classroom. Implementing SULAM in English for Employment (EE) course aims to reinforce university students' English language skills towards the purpose of promoting effective oral and written communication for the workplace. This research applies Level 1 and 2 of the Kirkpatrick's 4-level Training Evaluation Model to assess students' acceptance of SULAM in the EE course and to evaluate to what extent the students acquire the intended knowledge and skills based on their participation in the SULAM programme. The findings of the questionnaire revealed that students highly accepted the use of SULAM in the course and their overall experience of SULAM is positive. The self-reflection logs and pre and post-tests showed that SULAM allows students to apply the knowledge obtained from class by contributing to the community. Besides, SULAM also helped most of the students improve employability skills such as résumé, cover letter, proposal writing, presentation skills, etc. In conclusion, SULAM demonstrates potential in enhancing university students' English language proficiency and preparing them for employment through community engagement.*

Keywords: *Employability Skills, English Language Learning, Kirkpatrick's 4-Level Training Mode, Service Learning, SULAM*

Introduction

In contemporary higher education, the integration of service learning into academic curricula has gained significant traction as an innovative pedagogical strategy. Service learning combines academic instruction with community service, allowing students to apply classroom knowledge to real-world problems while fostering civic engagement (Eyler & Giles, 1999; Muhammad Zarunnaïm, 2024). This approach has been shown to enhance students' academic outcomes, personal development, and social responsibility (Astin & Sax, 1998). In Malaysia, the Ministry of Higher Education has introduced the Service Learning Malaysia – University for Society (SULAM) initiative to integrate community service with academic learning, aiming to enrich students' educational experiences and professional skills (Department of Higher Education Malaysia, 2019).

The SULAM programme is designed to bridge the gap between theoretical learning and practical application by involving students in community service projects related to their academic courses. The English for Employment (EE) course integrates SULAM to enhance students' English language proficiency and prepare them for future employment. It is specifically designed to prepare students for the professional workforce by developing their

English language skills in contexts relevant to their future careers. Integrating service learning into this course offers students the chance to apply their language skills in real-world settings, thereby enhancing their learning experience and professional readiness.

Statement of Problem

The MEF salary surveys conducted from 2010 to 2016 revealed that graduates are deficient in employability skills and language proficiency (Malaysian Employers Federation, 2016; Cheong et al., 2015; Nadarajah, 2021). Prior studies have highlighted the positive effects of service learning on students' academic performance and professional skills (Bringle & Hatcher, 1996; Eyler, Giles, Stenson, & Gray, 2001). However, specific evaluations within the Malaysian context and their alignment with Kirkpatrick's model are limited. The need for comprehensive evaluations to assess students' acceptance of this integration is crucial for understanding its effectiveness and making necessary improvements (Kolb, 2014). Kirkpatrick's 4-Level Training Evaluation Model (1996) offers a systematic approach to assessing programmes by evaluating four key dimensions: reaction, learning, behaviour, and results. This research focuses on the first two levels—students' reactions to the SULAM programme and the extent of their learning outcomes—to assess the acceptance and effectiveness of implementing SULAM in the EE course (Kirkpatrick & Kirkpatrick, 2006).

Research Objectives:

- i. To evaluate university students' acceptance of the SULAM programme in the English for Employment course, focusing on their reactions and overall satisfaction with the programme (Level 1 of Kirkpatrick's model).
- ii. To assess the extent to which students acquire the intended knowledge and skills through their participation in the SULAM programme (Level 2 of Kirkpatrick's model).

Research Questions

- i. How do university students perceive and accept the implementation of SULAM programme in the English for Employment course?
- ii. To what extent do students acquire the intended knowledge and skills as a result of the SULAM programme?

Literature Review

Service learning has emerged as a transformative educational strategy, integrating academic learning with community service to foster experiential learning and civic responsibility (Eyler & Giles, 1999). The Malaysian initiative, Service Learning Malaysia – University for Society (SULAM), embodies this pedagogical approach by combining course outcomes with community engagement. This literature review explores the conceptual framework of service learning, its implementation in language courses, and the evaluation of such programs using Kirkpatrick's 4-Level Training Evaluation Model.

Service Learning as an Educational Strategy

Service learning is a pedagogical approach that links academic instruction with community service, aiming to enhance students' learning experiences while addressing community needs (Barbara Jacoby and Associates, 1996; Currie-Mueller & Littlefield, 2018). Eyler and Giles (1999) describe service learning as a method that combines learning goals with community service, resulting in increased student engagement and academic achievement. Research indicates that service learning enhances students' critical thinking, problem-solving skills, and social responsibility (Astin & Sax, 1998; Eyler, Giles, Stenson, & Gray, 2001; Campbell & Oswald, 2018; Yaodum et al., 2023).

Integration of Service Learning in Language Courses

Incorporating service learning into language courses offers unique opportunities for students to apply language skills in real-world contexts. This approach has been particularly effective in enhancing students' communication skills and cultural competence (Chen et al., 2012). For instance, integrating service learning into English courses can reinforce language skills by providing practical contexts for writing, speaking, and presenting (Bringle & Hatcher, 1996). Research highlights the benefits of this integration, including improved language proficiency and increased confidence in using English in professional settings (Eyler & Giles, 1999).

Kirkpatrick's 4-Level Training Evaluation Model

Kirkpatrick's 4-Level Training Evaluation Model (1996) provides a framework for assessing training programs through four levels: reaction, learning, behaviour, and results. This model is widely used to evaluate educational and training interventions (Kirkpatrick & Kirkpatrick, 2006). Level 1 assesses participants' reactions to the program, focusing on their satisfaction and engagement. Level 2 evaluates the extent of learning, including knowledge and skills acquired. Levels 3 and 4 assess behavioural changes and overall impact, respectively (Kirkpatrick, 1996). This research focuses on Levels 1 and 2 to assess students' acceptance and learning outcomes associated with SULAM. In the context of assessing university students' acceptance of the SULAM program in the English for Employment course, applying Levels 3 (Behavior) and 4 (Results) of Kirkpatrick's Evaluation Model is often challenging due to the complexity of tracking long-term behavioural changes and quantifying the programme's impact on employment outcomes. These levels require extensive and often longitudinal data collection to evaluate how students apply their learning in real-world settings and how these applications translate into measurable improvements in their career prospects. Such evaluations demand significant resources, time, and robust mechanisms to isolate the programme's effects from other influencing factors, making them less feasible within the constraints of this study's focus.

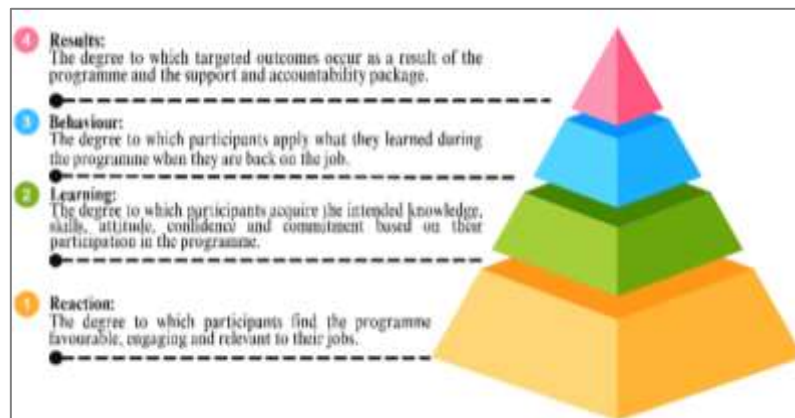


Figure 1: Overview of Kirkpatrick's Four-level Training Evaluation Model

Source: Kirkpatrick, 1996

Empirical Evidence on Service Learning and Language Skills

Empirical studies demonstrate that service learning positively impacts students' language skills and employability. For example, students engaged in service learning projects often show improvements in their writing and speaking abilities, as these projects require practical application of language skills (Eyler et al., 2001; Harkavy & Hartley, 2010). Additionally, service learning contributes to students' professional development by enhancing skills such as résumé writing, proposal development, and presentation abilities (Barbara Jacoby and

Associates, 1996). These findings underscore the potential of service learning to bridge the gap between academic learning and professional practice.

SULAM Programme in Malaysia

The SULAM initiative is a national effort to integrate service learning into higher education in Malaysia, the SULAM concept was rebranded by the Ministry of Higher Education in 2017. This programme aligns with global trends towards experiential learning and aims to enhance students' academic and professional outcomes through community service (Department of Higher Education Malaysia, 2019). The success of the SULAM programme at UniMAP was achieved through the active participation of a service-learning ecosystem that included students, lecturers, faculties, communities, agencies, and industries (Hanum et al., 2021). Meanwhile, service learning has substantial implications and advantages for both UTM students and the community, fostering the development of soft skills that benefit their careers. Preliminary evaluations suggest that SULAM has positively impacted students' engagement and skill development (Mohd. Syafiq & Mahani, 2017; Hanum et al., 2021). However, detailed assessments using established evaluation models like Kirkpatrick's are necessary to fully understand the programme's effectiveness and areas for enhancement.

Methodology

This study employs a mixed-methods approach, integrating quantitative and qualitative data collection methods to evaluate the acceptance and the extent to which students acquire the intended knowledge and skills through their participation in the Service Learning Malaysia – University for Society (SULAM) initiative in the English for Employment (EE) course. The research focuses on Kirkpatrick's 4-Level Training Evaluation Model, specifically Levels 1 (Reaction) and 2 (Learning), to assess students' acceptance of SULAM and their acquisition of knowledge and skills (Kirkpatrick, 1996; Kirkpatrick & Kirkpatrick, 2006).

Participants

The study involved all university students from the EE course who participated in the SULAM programme since year 2023. The selection of participants was purposeful and based on their involvement in the SULAM initiative, ensuring they had direct experiences to reflect upon. The respondents consist of 8 male and 9 female students who took the English for Employment course in year 2023 and 2024.

Instruments

i. Questionnaire

A structured questionnaire is designed to assess students' acceptance and reactions to the SULAM programme, including their overall satisfaction and perceived relevance of the service learning activities. The questionnaire includes both closed and open-ended questions to capture quantitative ratings and qualitative feedback. The items are developed based on the principles of Kirkpatrick's Level 1 and 2 evaluation and are validated through Cronbach's Alpha reliability analysis (Table 1, Appendix A), a pilot study with a small group of students and checked by two English language teachers to ensure reliability and validity (Sekaran & Bougie, 2016).

ii. Pre- and Post-Tests

Pre-tests and post-tests are administered to evaluate students' reading and writing abilities for business settings including composing emails, meeting documents, notices, interviews, proposals and other employability competencies before and after participation in the SULAM programme. The test components 60 multiple choice

questions about résumé, cover letter, project proposal writing, email, interview and meeting to measure improvements in these areas (Brown, 2005). The tests are designed to align with the learning objectives of the EE course and are assessed using a standardized rubric to ensure consistency and objectivity.

iii. Self-reflection Logs

Students were asked to maintain self-reflection logs at three key stages: before, during and after the SULAM programme execution. Students need to reflect on their thoughts, feelings, and experiences related to their engagement in the SULAM programme and its impact on their academic and professional development (Drewery & Lollar, 2024). By reflecting on their service experiences, students will deepen their understanding of the course material and discipline, enhance their comprehension of the service experience, develop self-assessment skills as lifelong learners, and cultivate an appreciation for a broader education (Abu-Zahra, 2002; Nurul Haida et al., 2022). The analysis of self-reflection logs followed a thematic approach to identify recurring themes and patterns. This allows the students to provide detailed responses about their experiences and the perceived value of the service learning activities.

Findings and Discussion

The analysis is based on students' feedback from questionnaires, self-reflection logs, and pre- and post-tests, focusing on students' acceptance of the SULAM programme, application of knowledge, and improvement in employability skills.

Level 1: Reaction

RQ1: How do university students perceive and accept the implementation of SULAM programme in the English for Employment course?

The questionnaire focused on several criteria including programme content, relevance of activities, facilitation and support, the learning environment, programme integration and overall satisfaction/acceptance.

All the respondents (Table 2, Appendix A) found the content of the SULAM programme, relevant and well-aligned with their course objectives. The relevance of activities was another area of strong positive feedback. 94.1% of students agreed that the activities are extremely relevant to the course objectives (Table 3, Appendix A). Activities such as writing cover letter, résumé, and delivering presentations were seen as directly applicable to real-world scenarios. This supports the notion that engaging students in relevant and practical activities can significantly enhance their learning outcomes and career readiness.

The learning environment received mixed feedbacks, with 41.2% students responded unsupportive, 29.4% being neutral and 29.4% supportive learning environment for the integration of SULAM into the English for Employment course. Adding to this, students reporting unsupportive facilitation in their self-reflection logs. Students expressed dissatisfaction with the lack of logistics support such as transportation during the programme. Other than that, students felt that insufficient financial resources were allocated to the SULAM programme, which impact their ability to fully engage with some of the planned activities (Kirkpatrick, 1996). This corroborated by research done by Wan Nur Arina et al. (2024), which mentioned despite the significant growth in the number of SULAM courses, academic programmes, and participating universities, the budget has not been proportionally increased to match this expansion. Financial constraint was noted as a significant barrier to the successful

implementation of certain aspects of the SULAM programme (Hanum et al., 2021). Despite challenges with facilitation and financial support, some students felt that the programme fostered a supportive and engaging atmosphere conducive to learning. The positive learning environment was attributed to the institution's facilities such as smart classroom, technical support, collaboration with organising partners and the integration of practical experiences with classroom instruction (Jones, 2021). This supports the idea that a well-designed learning environment can enhance students' overall educational experience (Meuers, 2024). Furthermore, instructor support was notably positive. 100% of the students reported receiving good support from their instructor. They appreciated the guidance, feedback, and encouragement provided, which helped them navigate both the academic and service learning components of the SULAM programme. This support was crucial in mitigating some of the negative impacts of the facilitation and financial issues.

Meanwhile, 100% of the students felt satisfy with their overall experience in integrating SULAM into the English for Employment course (Table 6, Appendix A). This satisfaction with the SULAM content underscores its role in achieving educational goals and meeting students' expectations (Currie-Mueller & Littlefield, 2018; Xavier & Jones, 2021; Williams, 2022). They valued the opportunity to connect classroom theories with practical community work, enhancing their motivation and commitment to the course (Eyler & Giles, 1999; Thomson et al., 2010; Yaodum et al., 2023). Last but not least, the questionnaire revealed a high level of acceptance among students regarding the SULAM programme's implementation in the EE course. 100% of the respondents strongly accept (Table 7, Appendix A) the implementation of SULAM programme in the English for Employment course. The SULAM initiative was a valuable addition to the course curriculum. This positive reaction aligns with previous research indicating that students often have favourable perceptions of service-learning programmes when integrated into academic courses (Drewery & Lollar, 2024).

Level 2: Learning

RQ2: To what extent students acquire the intended knowledge and skills as a result of the SULAM programme?

Questionnaire

Second part of the questionnaire is based on the learning (Level 2) of Kirkpatrick's evaluation model. It focused on knowledge enhancement, acquisition, skill development, understanding of employment contexts, application of knowledge and learning.

The findings revealed that SULAM programme significantly contributed to students' knowledge enhancement. 100% students (Table 7, Appendix A) responded an increase in their understanding of key English language concepts related to professional communication, such as formal writing (cover letter, résumé, proposal, email), meeting and presentation skills. In terms of knowledge acquisition, 100% students (Table 8, Appendix A) indicated that their participation in the SULAM programme resulted in a substantial gain in new knowledge related to their course objectives. Students specifically noted improvements in areas such as business writing, résumé preparation, and effective communication strategies while having meetings with collaborative partners of the programme. This finding supports the notion that service-learning programmes can facilitate the acquisition of relevant and applicable knowledge (Ma, 2016; Norlaile et al., 2018). The practical nature of the programme ensured that students were able to learn and internalize new concepts effectively.

The development of skills was another area where the SULAM programme showed notable success. The questionnaire data showed significant improvements in key employability skills, including written communication, public speaking, and project management. 100% of the students (Table 9, Appendix A) responded that the SULAM programme contribute to their development of skills relevant to employment. These improvements were attributed to the various community service projects that required students to practice and refine these skills in real-world contexts. Next, students demonstrated a better understanding of the employment context as a result of their participation in the SULAM programme. 70.6% of the students (Table 10, Appendix A) responded that SULAM programme greatly increase their understanding of employment contexts, where English is used. They felt more knowledgeable about professional expectations and workplace norms after engaging in SULAM activities (Wichinsky & Turturro, 2011). This enhanced understanding was facilitated by real-world exposure to professional environments and interactions with community partners (Meuers, 2024). The programme effectively bridged the gap between academic learning and practical employment contexts, helping students better prepare for future careers as a result of their SULAM experience (Bowen, 2007). The ability to apply knowledge gained from the EE course was significantly enhanced through the SULAM programme. Approximately 53% of students reported that they felt very confident and 29.4% felt extremely confident to apply knowledge from their coursework to practical tasks while conducting the SULAM programme. The hands-on nature of the programme allowed students to transfer and implement classroom-learned concepts in real-world scenarios (Kung & Liu, 2018), reinforcing their understanding and practical application of knowledge.

Finally, the application of learning was evident in the positive feedback from about 88% of students who felt very confident in applying what they've learned from the SULAM programme to real-world or professional settings. Their involvement in the SULAM programme allowed them to effectively use their newly acquired skills and knowledge in real-life situations. This practical application was facilitated by the integration of service-learning that aligned with course objectives and provided opportunities for meaningful application of learning (Cohen & Kinsey, 1994). The programme demonstrated its effectiveness in translating academic in-class learning into practical outcomes, enhancing students' readiness for professional challenges. These findings are supported by evidence showing that service-learning can significantly enhance students' career readiness and employability through exposure to real world social issues (Paul, Haslinda & Ong, 2022).

Pre- and Post-tests

The pre- and post-test results demonstrate that the SULAM programme significantly improved students' abilities in reading and writing abilities for business settings. The pre-test mean score averaged at 69.4%, while the post-test mean score showed a notable increase to 87.4% (Figure 2), demonstrating an enhancement in students' knowledge and skills. The difference of 18% in mean score indicated that improvements in résumé writing, cover letter composition, project proposal writing, email communication, and interview/meeting documentations are statistically significant and show a substantial positive effect on students' knowledge and skills learned from the EE course, underscoring the effectiveness of the SULAM programme in enhancing employability competencies (Gregorová, Heinzová & Chovancová, 2016).

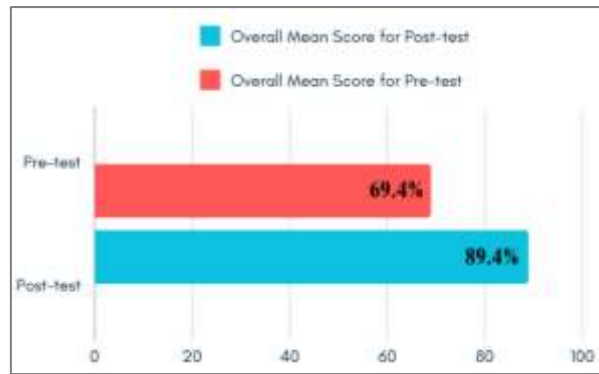


Figure 2: Overall Mean Score for Pre-test and Post-test

****Source: Appendix B.**

Self-reflection Logs

The analysis of the self-reflection logs, structured around Kirkpatrick's Level 2 of the training evaluation model, reveals significant insights into the learning outcomes achieved by students participating in the SULAM programme. This thematic analysis is organized into key areas of learning and skill development as perceived by the students, highlighting how their experiences during the programme contributed to their academic and professional growth.

i. Enhanced Understanding of Professional Communication

A prominent theme emerging from the self-reflection logs is the substantial enhancement of communication skills. Students reported a marked improvement in their abilities to compose various professional documents, including résumés, cover letters, and project proposals. Most of them acknowledged that the SULAM programme allowed them to apply knowledge in practical settings, thereby reinforcing their understanding and skills in business communication (Brown, 2005). The opportunity to engage in real-world tasks enabled students to refine their writing, meeting and presentation abilities, aligning with Kirkpatrick's Level 2 focus on learning outcomes and skill acquisition (Kirkpatrick, 1994). Students noted that their experiences in the SULAM programme facilitated a deeper understanding of how to apply English language and skills in real-world employment contexts. They found that working on SULAM programme provided a practical context for using business communication skills, which enhanced their comprehension of the relevance and application of their coursework (Kolb, 1984). This practical application was perceived as a crucial element in bridging the gap between academic learning and real-world scenarios, thereby fulfilling the learning objectives of the English for Employment course.

ii. Increased Confidence and Competency

Students' reflective logs indicate a significant boost in students' confidence regarding their professional competencies. Many students expressed increased assurance in their ability to handle professional communication tasks, such as drafting emails and meeting with non-government organisation such as Social Security Organisation (SOCO). This newfound confidence was attributed to the hands-on experience and feedback received during the SULAM programme (Schön, 1983). The practical application of skills in a supportive learning environment contributed to this increased confidence (Muhammad Zarunnaim, 2024), demonstrating a positive outcome in terms of skill development and personal growth (Gibbs, 1988; Campbell & Oswald, 2018). Students also reflected growth in their overall competency related to employability skills. The SULAM programme's integration of service learning in the EE course allowed students to

enhance their skills through practical engagement. They noted improvements in their ability to produce higher quality written documents and communicate effectively in professional settings. This growth in competency is indicative of the programme's success in achieving its learning objectives and preparing students for future employment (Dewey, 1938). Majority of the students felt that the SULAM component made the course more engaging and relevant. This finding is consistent with studies that highlight the benefits of experiential learning in increasing student engagement and motivation (Thomson et al., 2010; Kong, 2021). Students also perceived instructor support as fundamental to their success in the SULAM programme (Norfaezah et al. 2020). Students reported that instructors who provided clear instructions, timely feedback, and emotional encouragement played a pivotal role in their ability to effectively engage with the programme's requirements. According to the students, this support was instrumental in helping them overcome challenges and build confidence in their abilities, thus facilitating a more effective learning experience (Brown, 2005; Yaodum et al., 2023; Muhammad Zarunnaim, 2024). The consistent and constructive feedback from instructors helped students identify areas for improvement and guided them in applying their learning in practical contexts, thus enhancing their overall competency. For instance, students who received frequent and specific feedback on their résumés and cover letters felt better prepared to refine these documents and apply them in future job applications.

iii. Enhanced Understanding of Community Needs

Another significant theme from the self-reflection logs is the enhanced awareness of community needs and challenges. Students recognized that their involvement in community service provided them with a better understanding of the social and economic issues faced by different communities. This awareness was seen as an important aspect of their overall learning experience, contributing to their personal development and empathy (Boud, Keogh, & Walker, 1985). The integration of service learning into the academic curriculum not only improved their professional skills but also broadened their perspective on community issues (Moon, 2004; Yaodum et al., 2023). Students reflected on how the SULAM programme successfully integrated academic learning with social responsibility. They appreciated the opportunity to apply their knowledge in a way that benefited both their academic development and the community. This integration was perceived as a valuable aspect of the programme, reinforcing the idea that education can be both academically enriching and socially impactful (Tuckman, 2005). The service-learning activities helped students connect their academic skills with real-world applications, enhancing their understanding of how to contribute meaningfully to society (Kvale, 2007).

Conclusion

In conclusion, the implementation of SULAM in the EE course demonstrated a positive impact on both student reactions and learning outcomes. The initiative not only received strong support from students but also effectively contributed to the development of key English language skills and employability competencies. It is highly effective in enhancing students' learning experiences and employability skills within the English for Employment course. The positive feedback from students indicates strong acceptance and satisfaction with the programme's content (Campbell & Oswald, 2018) and its real-world relevance.

Despite its benefits, service learning in language education faces several challenges, including logistical and financial limitations. By addressing challenges and implementing effective

practices, educators can maximize the benefits of service learning in language education and prepare students for success in an interconnected and diverse world. Future implementations of similar programmes may benefit from addressing these challenges to further enhance the effectiveness and impact of service-learning initiatives. The integration of service-learning into the English for Employment course has proven to be a successful strategy in preparing students for professional challenges and enhancing their employability skills. Overall, the SULAM initiative not only met but exceeded its educational objectives, highlighting the value of integrating service-learning with academic coursework to enhance student learning and career readiness.

Recommendations for Future Research

Longitudinal Studies to Assess Long-Term Impact

Future research should include longitudinal studies to evaluate the long-term effects of the SULAM programme on students' employability and professional development. While this study highlights immediate improvements in employability competencies, examining how these skills translate into career success over time would provide deeper insights (Blanchard & Thacker, 2013; Kirkpatrick, 1994). Longitudinal studies could track graduates who participated in SULAM to evaluate their career progression, job satisfaction, and how effectively they apply the skills learned during the programme in their professional roles (Blanchard & Thacker, 2013; Kirkpatrick, 1994). This approach would provide insights into the enduring impact of service-learning experiences on professional development and help determine the long-term value of integrating service learning with academic learning. Long-term tracking can reveal whether the benefits of the SULAM programme persist as students enter the workforce and navigate their careers.

Investigate the Relationship Between Student Attitudes and Learning Outcomes

Investigating how students' attitudes toward community service and the SULAM programme influence their learning outcomes could provide valuable insights into the motivational aspects of service learning (Deci & Ryan, 1985, Bandura, 1997). Understanding these relationships can help in designing programmes that better align with student interests and foster a more positive learning experience.

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Appendix A

**Table 1: Cronbach's Alpha Reliability Analysis
Case Processing Summary**

		N	%
Cases	Valid	17	100.0
	Excluded ^a	0	.0
	Total	17	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.950	.948	12

**Table 2: Frequency and Percentage Distribution for Part 1: Item No. 1
How relevant and engaging was the contents of the SULAM programme to the English
for Employment course?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Relevant	1	5.9	5.9	5.9
	Extremely Relevant	16	94.1	94.1	100.0
	Total	17	100.0	100.0	

**Table 3: Frequency and Percentage Distribution for Part 1: Item No. 2
How relevant did you find the SULAM activities to the course objectives of English for
Employment?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Relevant	1	5.9	5.9	5.9
	Extremely Relevant	16	94.1	94.1	100.0
	Total	17	100.0	100.0	

**Table 4: Frequency and Percentage Distribution for Part 1: Item No. 3
How effective was the course instructor in supporting your participation in the
SULAM programme within the course?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely Effective	17	100.0	100.0	100.0
	Total	17	100.0	100.0	

**Table 5: Frequency and Percentage Distribution for Part 1: Item No. 4
How supportive was the learning environment for the integration of SULAM into your
English for Employment course?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unsupportive	7	41.2	41.2	41.2
	Neutral	5	29.4	29.4	70.6
	Supportive	5	29.4	29.4	100.0
	Total	17	100.0	100.0	

Table 6: Frequency and Percentage Distribution for Part 1: Item No. 5

How satisfied are you with your overall experience in integrating the SULAM programme into the English for Employment course?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Satisfied	1	5.9	5.9	5.9
	Very Satisfied	16	94.1	94.1	100.0
	Total	17	100.0	100.0	

Table 7: Frequency and Percentage Distribution for Part 1: Item No. 6

To what extent do you accept the implementation of SULAM programme in the English for Employment course?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly acceptable	17	100.0	100.0	100.0
	Total	17	100.0	100.0	

Table 8: Frequency and Percentage Distribution for Part 2: Item No. 1

To what extent did the SULAM programme help you enhance your understanding of applying English in real-world employment contexts?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A Great Deal	17	100.0	100.0	100.0
	Total	17	100.0	100.0	

Table 9: Frequency and Percentage Distribution for Part 2: Item No. 2

To what extent did you gain new knowledge about service learning and its impact through the SULAM programme?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A Lot	1	5.9	5.9	5.9
	A Great Deal	16	94.1	94.1	100.0
	Total	17	100.0	100.0	

Table 10: Frequency and Percentage Distribution for Part 2: Item No. 3

How much did the SULAM programme contribute to your development of skills relevant to employment through the English for Employment course?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A Great Deal	17	100.0	100.0	100.0
	Total	17	100.0	100.0	

Table 11: Frequency and Percentage Distribution for Part 2: Item No. 4

How well did the SULAM programme increase your understanding of employment contexts where English is used?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Well	5	29.4	29.4	29.4
	Extremely Well	12	70.6	70.6	100.0
	Total	17	100.0	100.0	

Table 12: Frequency and Percentage Distribution for Part 2: Item No. 5
How confident are you in applying the skills learned from the English for Employment course in the SULAM programme?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderately Confident	3	17.7	17.7	17.7
	Very Confident	9	52.9	52.9	70.6
	Extremely Confident	5	29.4	29.4	100.0
	Total	17	100.0	100.0	

Table 13: Frequency and Percentage Distribution for Part 2: Item No. 6
How confident are you in applying what you learned from the SULAM programme to real-world or professional settings?

		Frequency	Percent	Valid Percent	Cumulative
Valid	Moderately	2	11.8	11.8	11.8
	Very Confident	10	58.8	58.8	70.6
	Extremely	5	29.4	29.4	100.0
	Total	17	100.0	100.0	

Appendix B
Table 14: Pre-test and Post-test Results

ID	Pre-test		Post-test		Difference(s) (%)
	Over 60	Over 100%	Over 60	Over 100%	
R1	46	76.7	55	91.7	15
R2	47	78.3	55	91.7	13.4
R3	44	73.3	51	85	11.7
R4	34	56.7	46	76.7	20
R5	40	66.7	53	88.3	21.6
R6	43	71.7	53	88.3	16.6
R7	38	63.3	50	83.3	20
R8	29	48.3	43	71.7	23.4
R9	40	66.7	52	86.7	20
R10	39	65	52	86.7	21.7
R11	41	68.3	54	90	21.7
R12	40	66.7	55	91.7	25
R13	42	70	54	90	20
R14	48	80	56	93.3	13.3
R15	44	73.3	55	91.7	18.4
R16	47	78.3	53	88.3	10
R17	46	76.7	54	90	13.3
Mean Score	-	69.4	-	87.4	18

*R = Respondent

THE ROLE OF DIGITAL FINANCIAL LITERACY AMONGST MALAYSIAN: A PROPOSED FRAMEWORK

Ani Asma Asli¹

Wan Nurashikin Mahmood²

Siti Syamira Mohd Ramli³

¹Faculty of Management, Multimedia University, Cyberjaya, Malaysia (ani.asmaa@mmu.edu.my)

²Fakulti Pengurusan Perniagaan, Universiti Teknologi MARA Pahang, Malaysia (wnurashikin@uitm.edu.my)

³Fakulti Pengurusan Perniagaan, Universiti Teknologi MARA Pahang, Malaysia (sitsyamira@uitm.edu.my)

Abstract: *This paper, which is conceptual in nature, discusses the moderating effects of the relationship between several factors that may affect the intention towards indebtedness among Malaysian. The proposed variables under examination are attitude towards indebtedness, perceived behavioural control and subjective norms while digital financial literacy serve as a moderator variable. If validated, the work would be used as a reference to the government, policy makers, regulators practitioners and other stakeholder curbing the adverse of digital financial illiteracy in Malaysia towards achieving SDG goals.*

Keywords: *Indebtedness; Digital Financial Literacy; Financial Literacy; Malaysian Household; SDG;*

Introduction

As digitalization transforms economies worldwide, the role of financial literacy has expanded to include the proficiency of digital financial tools and platforms. In Malaysia, the rapid adoption of e-wallets, mobile banking, online investments, and other fintech applications has introduced new opportunities for consumers to manage their finances. In the studies by Dluhopolskyi et al. (2023), COVID-19 pandemic also has caused the acceleration of digitization and the consideration of digital financial inclusion as a means to minimize negative economic consequences and increase the resilience of households and SMEs. However, this shift also highlights the growing importance of digital financial literacy, which equips individuals with the skills and knowledge to navigate these technologies effectively and responsibly. In today's digital age, digital financial literacy as the ability to understand and make informed financial decisions using digital tools and platforms such as e-wallets, mobile banking, online investments, and fintech applications has become equally important. With most financial services and products now available in digital formats, and the current government emphasizing cashless transactions and electronic platforms, the need for digital financial literacy has never been greater. (Prasad et al., 2018)

For Malaysian households, this literacy is increasingly vital. The government's push toward a cashless society, coupled with the growing availability of digital financial products, necessitates that households understand how to manage their finances effectively. A study by Yang et al. (2023) emphasizes the critical role of financial literacy in enhancing access to online financial information, promoting digital trust, and reducing risk aversion, ultimately leading to greater engagement with digital finance. This access enables more individuals to participate in the economy, make informed decisions, and build financial resilience.

While prior literature on digital finance has primarily focused on the positive consequences of technological advancements, such as financial inclusion, there is another side to consider. When inadequately regulated, these new technologies may increase the risk of financial distress among households. According to Low et al. (2023), the growth of digital financial services (DFS) has exposed consumers to risks such as fraud, unauthorized data usage, phishing, and discriminatory practices. The rise of e-commerce platforms has also led to issues like mis-selling and scams, which threaten consumer interests. Additionally, the introduction of microcredit through platforms like Shopee Pay Later and Grab Pay Later raises concerns about behavioral issues, including excessive borrowing and poor investment habits that could lead to significant financial problems for users. Indeed, end of 2023 stood of Malaysia's household debt at RM1.53 trillion, with the household debt-to-GDP ratio standing at 84.2%.

As digital finance evolves, populations with lower financial literacy gain access to complex financial products and services that carry risks not yet understood by the market. One such risk is high indebtedness, defined as the total amount owed to borrowers for various purposes, including housing, personal use, securities, motor vehicles, and credit cards. The growing importance of digital financial literacy among Malaysian households not only impacts personal financial well-being but also aligns with several Sustainable Development Goals (SDGs). By equipping individuals with the knowledge to use digital financial tools, such literacy fosters financial inclusion and supports poverty reduction by providing essential skills for better financial management. Furthermore, it contributes to sustainable economic growth by enhancing individuals' ability to engage with the digital economy, supporting entrepreneurship, and improving household financial health. As Malaysia advances toward a digital economy, strengthening digital financial literacy can play a pivotal role in achieving these global goals.

Current paper proposed attitude towards indebtedness, subjective norm and perceived behavioural control as independent variables to determine their relationship with the intention towards indebtedness among Malaysian household together with moderator variable of digital financial literacy. This paper has four sections. The first is the introduction, followed by a review of the literature in the second section. The third sections of this paper cover the proposed framework and research methodology. The conclusion and discussions of the paper is provided in the final section.

Literature Review

Theory of Planned Behaviour (TPB)

The theory of Planned Behaviour (TPB) developed by Ajzen (1991) as in Figure 1, is a useful framework for understanding behavioural intentions and actions related to indebtedness among the public. According to TPB, behaviour is driven by three key factors: attitude toward the behaviour, subjective norms, and perceived behavioural control. The theory of Planned Behaviour (TPB) has been widely used to predict human behaviour related to indebtedness and spending habits. Recent studies have contributed to this body of knowledge. For example, Ajzen (2020) revisited TPB, demonstrating its relevance in understanding financial behaviours like credit card misuse and loan default. In addition, Ali et al. (2020) explored the role of subjective norms and perceived behavioural control in predicting youth debt behaviour, highlighting the influence of peer pressure. Supported study by Wang et al. (2021) applied TPB to assess consumer spending habits during economic downturns, finding that financial anxiety strengthens the relationship between attitude and behaviour. In another study, Batool and Anwar (2023) examined the link between TPB constructs and excessive spending behaviour, with a focus on online shopping. Likewise, Hassan et al. (2023) analysed the effect of financial

literacy on the intention to avoid debt, showing how perceived control mediates this relationship. Numerous studies, including those by Zamri et al. (2023), Rashid and Nor (2022), Aziz and Mokhtar (2021) have explored the intention towards indebtedness for Malaysian government servants. Many past studies showed that TPB has made significant contributions to understanding monetary management and indebtedness among the public. For example, in a study by Kidwell and Turrisi (2004), the TPB was used to assess how attitudes and perceived control influence responsible credit card usage among college students, demonstrating the model's relevance in financial decision-making contexts. Xiao and Wu (2008) extended TPB by showing that financial education could improve attitudes and perceived controls, reducing among youth. Similarly, past studies from Fernandes et al. (2014) and Dew and Xiao (2011) highlight the utility of TPB in understanding and addressing public debt behaviour.

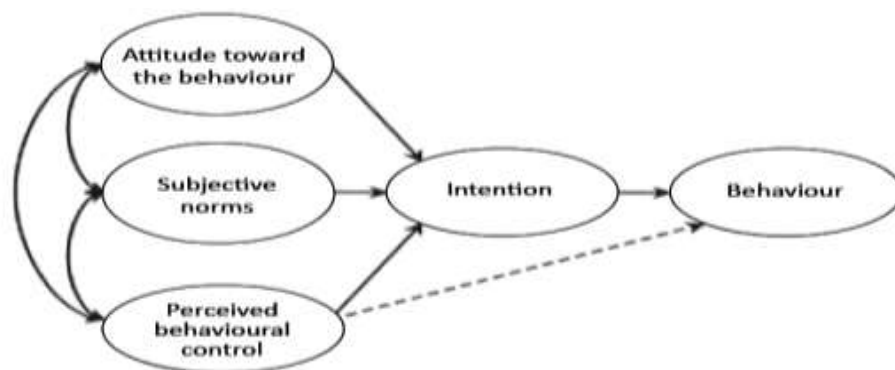


Figure 1. Theory of Planned Behaviour

Determinants Under Proposed Framework

The first important determinant is the attitude toward indebtedness, which regarded the person's opinion of how good or bad the behaviour was (Denan et al. 2015). Attitude has a positive effect on intention to undertake the behaviour. It plays a significant role in figuring out whether someone may want to gain something from having debt. A recent study, for instance, conducted by Majeed et al. (2022), found that public sector employees exhibit stronger attitudes against indebtedness compared to their private sector counterparts, primarily due to differing organizational cultures. Liu et al. (2023) highlighted the role of financial literacy as a moderating variable affecting attitudes toward indebtedness, emphasizing that higher financial knowledge leads to more positive attitudes in both government and private sectors. In a comparative study, Tan and Low (2024) reported that private-sector employees are more influenced by peer opinions, impacting their indebtedness attitudes more than those in the public sector. Bakar et al. (2022) suggested that economic factors, such as job security, significantly shape attitudes towards debt, with public sector employees feeling more secure and thus less inclined toward borrowing. Conversely, Chen and Li (2023) argued that economic uncertainty in the private sector enhances perceived behavioural control over financial decisions, thereby fostering positive attitudes toward controlled indebtedness.

The second determinant is the subjective norm, which is indicated the influence of one's peers to act in a certain way. The determinant has served as the topic of extensive research within human behaviour, notably in understanding the role of social circumstances on individual intention. Past studies on indebtedness have demonstrated the critical influence of subjective norms in determining an individual's propensity to incur debt. For instance, in a study by Wang et al. (2023) findings suggest that perceived norms within organizational contexts significantly impact employee's attitudes toward borrowing and repayment behaviours. In the realm of

public sector employees, a study by Mendez et al. (2023) showed that social norms play a crucial role in influencing public servant's debt management practices, particularly to government policies. Furthermore, Lee and Chen (2023) revealed the effects of social influences on debt attitudes among private sector workers, revealing a strong correlation between peer behaviour and individual financial choices. Finally, Norvilitis and Merwin (2006) investigated the role of subjective norms in college students' credit card use, finding that perceived social pressure to spend influenced the students' decision-making, indicating a broader applicability of TPB across various contexts, including the public sector. This suggests that the impact of subjective norms on intention towards indebtedness may vary based on individual factors.

Perceived behavioral control within the framework of the TPB refers to an individual's belief in their ability to execute the behavior required to manage their financial debt effectively. Prior studies have shown that PBC significantly influences an individual's intentions to engage in debt management practices, such as budgeting and timely repayments (Dew, 2011; Xiao et al., 2014). In a study by Poppy et al. (2018), financial decision-making was explored among public sector employees, revealing that higher perceived behaviour control led to lower levels of indebtedness. Similarly, Shah et al. (2019) examined private sector employees and found that strong financial self-efficacy, a facet of perceived behavioural control, was associated with reduced credit card debt. In contrary, Thompson et al. (2020) highlighted that public sector workers who felt less in control of their financial situations exhibited higher levels of stress and indebtedness, suggesting a direct link between perceived behavioral control and financial distress. In addition, Lee and Choi (2022) found that both public and private sector employees who received financial education reported increased perceived behavioral control, resulting better debt management strategies.

Methodology

The study will employ an exploratory approach by means for conducting hypothesis testing. The TPB framework will be adapted to examine the factors that affect intention towards indebtedness.

This paper proposed a theoretical framework (Figure 2) which depicts the relationship between attitude towards indebtedness, subjective norm, and perceived behavioral control (independent variables) and the intention towards indebtedness among Malaysian household (dependent variable). Similarly, the diagram also depicts the moderating effects of digital financial literacy on the relationship between independent variables and dependent variable.

This paper employed theory of planned behaviour (TPB) as the underlying theories to understand the Malaysian households' intention towards indebtedness in Malaysia. This is in line with the recommendation of (Asli et al., 2021; Azma et al., 2019; Amran et al., 2019; Ajzen et al., 1991) that TPB are made open for inclusion of any predictor variable that can explain human behaviour (Vallerand et al., 1992). This paper will adopt a quantitative approach to study the relationship, and the survey method of data collection will be adopted using a structured questionnaire since the nature of this study is cross-sectional. Figure 1 presents a proposed theoretical framework based on the aforementioned principles.

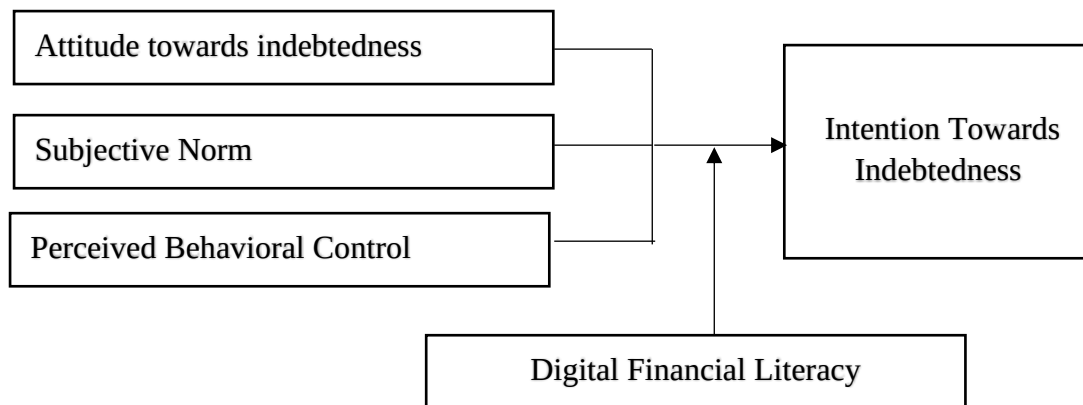


Figure 2. Proposed Research Framework

This study's survey will be carried throughout Malaysia. The sampling frame consists of Malaysian household comprises of Malaysian government servants and the private employees representing the household population. Malaysia had been declared as among the highest in bankruptcy cases. This population ideal for studying the way of life in these enclaves and their behavior towards indebtedness. Veritably as they have stable monthly incomes with the required financial knowledge made them chosen. The Government of Malaysian (2024) estimates that there are currently 9.1 million household nationwide. Similar to this, if the population is greater than 1,000,000, Krejcie and Morgan (1970) advised selecting 384 as the largest sample. The potential respondents will be selected through the combination of stratified and simple random sampling. A structured questionnaire, comprised of five sections, will be used. The five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) will be used for the all variables (attitude towards indebtedness, subjective norm, perceived behavioural control, digital financial literacy and intention towards indebtedness). The researcher will use questionnaires to administer the data collection to the intended respondents. The study used the hand distribution approach to gather data due to the study's timeless response and high returns rate.

Conclusion

Indebtedness is one of Malaysia's most critical challenges. Although many government employees prefer to avoid discussing the issue, it remains a significant concern for policymakers, researchers, and the public. Consequently, there is an urgent need to implement a wide range of programmes designed to mitigate financial ruin, in tandem with advancements in technology. The current research will make an empirical effort later to fill a void in our understanding of the behavioural characteristics that predict the intention towards indebtedness along with the digital evolvement. This paper has proposed the relationship between attitude towards indebtedness, subjective norm, perceived behavioural control, and intention towards indebtedness among Malaysian household. Similarly, the moderating effects of digital financial literacy on the relationship mentioned above will be examined. If the proposed hypotheses are validated, the finding may assist the government, policy makers, regulators and practitioners in Malaysia for one of the remedies to the indebtedness experienced by the Malaysian due to the high level of financial illiteracy and digital illiteracy.

The findings will offer empirical evidence and justify the previously conducted studies on the relationship between attitude towards indebtedness, subjective norm, perceived behavioural control, and intention towards indebtedness among Malaysian household. The study will also

provide a new dimension to the existing literature on the moderating effect of digital financial literacy on the relationship among variables. This is in line with the recommendation of TPB are made open for inclusion of any predictor variable that can explain human. Similarly, the framework when validated may add to the existing literature on the practical application of the TPB as they serve as the underlying theories for this paper.

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IMPAK PENGGUNAAN TIKTOK DAN PERUBAHAN SOSIAL REMAJA DI MALAYSIA

Suhaila Ngadiron¹
Sharifah Sofiah Syed Zainudin²

¹Faculty of Modern Language and Communication, Universiti Putra Malaysia (UPM), Malaysia,
(suhayla85@gmail.com)

²Faculty of Modern Language and Communication, Universiti Putra Malaysia (UUM), Malaysia,
(sharifahsofiah@upm.edu.my)

Abstrak: Penggunaan aplikasi TikTok kini digunakan secara meluas di Malaysia. Dengan mengetengahkan konsep hiburan yang mudah diterapkan kepada golongan ramai khususnya remaja, TikTok telah menjadi salah satu media sosial yang semakin popular di Malaysia. Mempunyai bahan "aliran tanpa henti", remaja cenderung menghabiskan banyak masa dan terdedah kepada ketagih menonton video di TikTok. Malah, didapati ramai remaja berumur cenderung menghabiskan masa di rumah hanya untuk melayari TikTok pada setiap hari. Penggunaan TikTok secara berlebihan sehingga menyebabkan ketagihan terutamanya dalam kalangan remaja begitu membimbangkan. Penggunaan secara meluas dan tanpa kawalan ini bukan sahaja memberi kesan positif tetapi juga turut memberi kesan negatif seperti masalah mental dan tingkah laku, serta penurunan motivasi akademik jika pengguna telah ketagih. Oleh itu, objektif utama kajian ini adalah untuk mengenalpasti impak penggunaan TikTok dan perubahan sosial remaja di Malaysia. Kajian kuantitatif akan dijalankan ke atas 100 sampel yang terdiri daripada remaja yang berada di salah sebuah institusi pendidikan di Lembah Klang. Pemilihan responden bagi kajian ini dilakukan secara persampelan rawak mudah. Kajian ini amat penting untuk mengenalpasti dengan lebih mendalam impak penggunaan TikTok terhadap perubahan sosial dalam kalangan remaja. Hasil kajian mendapati terdapat pelbagai kesan terhadap perubahan sosial remaja seperti kurang keyakinan diri, pembaziran masa dan tekanan akibat terdedah dengan kandungan TikTok yang tidak bermoral. Melalui kajian ini, diharap pihak berkuasa dapat membuat dasar dan polisi yang bersesuaian bagi membendung masalah impak ketagihan TikTok serta perubahan sosial dalam kalangan remaja di Malaysia.

Kata Kunci: Penggunaan TikTok, Media Sosial, Remaja, Ketagihan, Dan Perubahan Sosial

Pengenalan

Media sosial merupakan salah satu medium yang memainkan peranan penting dalam kehidupan masyarakat masa kini, kerana jumlah pengguna media sosial semakin meningkat dari masa ke masa (Ab Halim & Muslaini, 2018). Pada era globalisasi ini, media sosial menjadi daya tarikan penting dalam kalangan masyarakat terutamanya para remaja. Realitinya, apa saja yang dicipta mengikut arus kemodenan tentu ada kesan dan pengaruh kepada penggunaanya. Disamping mempunyai pelbagai impak positif, penggunaannya juga boleh mendatangkan impak negatif sekiranya berlaku penyalahgunaan terhadap media sosial. Kajian terdahulu mendapati bahawa penggunaan media sosial bertujuan untuk berkongsi maklumat, bersosial, mengisi masa lapang, tujuan akademik, keusahawanan, berdakwah, dan hiburan (Abbas Naqvi et al., 2020; Ahmed, 2019; Atiqah et al., 2020; Yusop & Sumari, 2013; Hamat & Hassan, 2019; Shamsiah et al., 2020).

Fenomena ini boleh dilihat melalui jaringan sosial yang paling popular dan menjadi trend terkini adalah aplikasi TikTok. Aplikasi TikTok menjadi pilihan bagi sesiapa yang mahu mencari hiburan atau inspirasi melalui video pendek yang berfokus kepada kreativiti dan ekspresi diri, bahkan ia sudah menjadi fenomena di Malaysia terutamanya dalam kalangan remaja. TikTok begitu popular dalam kalangan remaja adalah kerana reka bentuknya. TikTok membolehkan pengguna mencipta dan berkongsi video pendek, yang telah menarik minat berjuta-juta remaja di seluruh dunia. Penggunaan aplikasi ini memberikan peluang kepada penggunanya untuk mengekspresi diri dan berinteraksi bersama pengikut di laman sosial tersebut. Malah media sosial ini telah menjadi bahagian asas dalam kehidupan remaja (Chen et al., 2016).

Melalui data yang dihimpunkan oleh Statista (2023) setakat penghujung Januari 2023, ia memperlihatkan Malaysia mempunyai seramai 19.3 juta pengguna aktif pada platform TikTok. Hal ini sekaligus meletakkan Malaysia sebagai antara 20 negara dengan angka pengguna TikTok yang tinggi di dunia. Hasil kajian oleh Zhou (2019) dan Lajnef (2023) telah menunjukkan bahawa ciri-ciri unik pengaruh TikTok adalah saling berkaitan dan mempengaruhi perubahan sosial dalam kalangan remaja.

Sorotan Literatur

Perubahan sosial adalah istilah umum yang digunakan untuk menggambarkan perubahan dalam proses sosial. Perubahan ini termasuklah perubahan dalam bentuk, tanggungjawab, atau corak hubungan sosial dalam masyarakat. Nizariah et al., (2021) memberikan maksud perubahan sosial yang merujuk kepada perubahan dalam tingkah laku, sikap, dan interaksi remaja yang dipengaruhi oleh media sosial. Hal ini termasuk perubahan dalam cara berkomunikasi, membentuk hubungan dengan masyarakat, bagaimana remaja melihat diri mereka sendiri dan orang lain, serta penglibatan diri mereka dalam komuniti.

Kesan penggunaan TikTok terhadap perubahan sosial adalah berbeza-beza dari satu negeri ke negeri lain atau dari satu tempat ke tempat yang lain (Kinza et al., 2021). Perbezaan ini mungkin disebabkan oleh variasi dalam demografi sosial, sumber daya, dan akses kepada internet. Tidak diragukan lagi, setiap platform media sosial merupakan salah satu cara komunikasi yang jelas dan telus, tetapi pada masa yang sukar untuk menentukan sama ada ia memberi kesan yang positif atau negatif terhadap perubahan sosial (Mangi et al., 2018). Oleh itu, perbezaan pengguna aplikasi TikTok adalah bergantung kepada setiap individu. Penyalahgunaan atau terlalu banyak menggunakan aplikasi TikTok akan menyebabkan ketagihan yang bererti seorang individu akan menggunakan lebih banyak masa di TikTok, meninggalkan kerja, mengganggu waktu tidur ataupun masa makan. Rutin harian juga terjejas dan menyebabkan ketagihan terhadap telefon bimbit tanpa disedari (Andrew et al., 2020).

Salah satu fenomena ketagihan dalam menggunakan TikTok adalah keengganan berkomunikasi secara bersemuka (Andrew et al., 2020). Kejadian ini disebabkan oleh isu ketidakupayaan berkomunikasi secara lisan, dan digantikan dengan berkomunikasi secara bertulis dan mereka akan cenderung mengekalkan hubungan dengan cara komunikasi ini. Gaya hidup seperti ini akan memberi impak kepada cara berkomunikasi yang tidak berkesan jika sikap ini tular dalam kalangan remaja kerana TikTok memberi impak besar terhadap cara remaja berkomunikasi dan menyatakan diri (Omar & Dequan, 2020).

Menurut Syahrudin et al., (2023) TikTok memiliki dampak yang sangat besar terhadap tingkah laku seseorang. Platform TikTok telah banyak mengubah paradigma, prinsip dan pola

pemikiran khususnya generasi muda. Tingkah laku yang dulunya masih menjunjung tinggi budaya sopan santun dan adab kini telah banyak berubah dan menjadi suatu kebiasaan yang dianggap sah. Tanpa disedari tingkah laku tersebut ada di sekitar bahkan mungkin telah menjadi sebahagian daripada kehidupan kini terutamanya remaja (Mohd Hamizi, 2023). Hal ini selari dengan kajian meta-analisis yang telah dijalankan oleh Vannucci et al., (2020) yang meneliti hubungan antara penggunaan TikTok dengan tingkah laku remaja. Hasil analisis tersebut menunjukkan bahawa terdapat hubungan yang signifikan antara penggunaan TikTok yang berlebihan dengan peningkatan tingkah laku berisiko seperti penggunaan bahan terlarang dan tingkah laku seksual berisiko.

Kesan yang paling biasa dikaitkan dengan penggunaan TikTok dalam kalangan remaja termasuk mengalami gejala kemurungan (Ivie et al., 2020; Kelly et al., 2018; Banyai et al., 2017; Woods et al., 2016), kebimbangan (Woods et al., 2016), keyakinan diri yang rendah (Banyai et al., 2017; Woods et al., 2016), pengasingan sosial, kepuasan hidup yang rendah (Boer et al., 2020), kualiti tidur yang rendah (Buda et al., 2021; Woods et al., 2016), gangguan pemakanan (Wilksch et al., 2019), dan ketidakpuasan terhadap imej badan (Kircaburun et al., 2020). Selain itu, penggunaan yang bermasalah juga dikaitkan dengan tingkah laku yang tidak sihat seperti tahap aktiviti fizikal yang lebih rendah (Wartberg, 2020) dan ketidakmampuan untuk mengurus tanggungjawab harian, manakala penggunaan TikTok yang berlebihan telah dikaitkan dengan permulaan tingkah laku berisiko (contohnya, penggunaan bahan terlarang dan tingkah laku seksual berisiko (Vannucci et al., 2020). Hubungan ini menggambarkan bagaimana penggunaan TikTok yang berlebihan mempunyai risiko untuk pelbagai kesan negatif terhadap remaja. Oleh itu, pentingnya pemantauan dan pengawalan penggunaan TikTok dalam kalangan remaja ini.

Metodologi Kajian

Kaedah kuantitatif telah dijalankan bagi mengenalpasti impak penggunaan TikTok dengan perubahan sosial remaja di salah sebuah institusi pendidikan di Lembah Klang. Kajian mengenai penggunaan TikTok oleh remaja di sekitar Lembah Klang menjadi perhatian kerana pembangunan dari segi fizikal di Lembah Klang secara langsung mempengaruhi budaya remaja dalam mengakses maklumat melalui media sosial. Normah Mustaffa et al., (2013) dalam kajiannya menunjukkan sebahagian besar remaja yang tinggal di kawasan Lembah Klang menggunakan internet untuk tujuan sosial seperti tujuan hiburan dan mendapatkan maklumat. Selain itu, remaja khususnya yang tinggal di Lembah Klang banyak bergantung kepada internet untuk memahami persekitaran sosial, untuk berinteraksi dan juga memenuhi keperluan sosial berbanding keperluan sendiri.

Kajian ini telah dijalankan dengan menggunakan borang soal selidik melalui platform *Google Form* dan terdapat seramai 100 responden yang mengisi borang soal selidik tersebut. Setiap soalan menggunakan skala likert lima tahap iaitu skala 1: sangat tidak setuju, skala 2: tidak setuju, skala 3: tidak pasti, skala 4: setuju dan skala 5: sangat tidak setuju. Melalui skala Likert ini, responden perlu menandakan jawapan tentang sesuatu pernyataan berdasarkan nilai skala yang dinyatakan, Data yang diperolehi kemudiannya dianalisis menggunakan perisian *Statistical Package for the Social Sciences (SPSS)* versi 27.

Dapatan Kajian

Berdasarkan Jadual 1, nilai min tertinggi adalah 3.86 melalui item 'TikTok menyebabkan saya tidak produktif dan mengganggu aktiviti kehidupan seharian saya' dan 'Saya perlu memantau alat aplikasi TikTok saya dengan kerap' dan sisihan piawai masing-masing iaitu 1.02. Daripada keputusan ini menunjukkan bahawa remaja kerap memantau aplikasi TikTok mereka dan ini

secara tidak langsung menjadikan mereka tidak produktif dan mengganggu aktiviti harian mereka. Dapatan ini selari dengan Blackwell et al., (2017) yang menyatakan bahawa remaja yang mengalami masalah ketagihan TikTok cenderung menghabiskan masa yang panjang untuk melayari TikTok, mengabaikan peranan dan tanggungjawab utama, mengelak daripada aktiviti sosial di dunia realiti serta berasa gelisah dan cemas jika tidak dapat mengakses media sosial dalam sehari. Selain itu, Blackwell et al., (2017) turut mendapati bahawa penggunaan TikTok yang berlebihan juga boleh meningkatkan rasa cemas atau takut. Hal ini kerana mereka akan merasa ketinggalan kerana tidak terlibat dalam pengalaman-pengalaman menarik yang sedang dialami oleh orang lain. Perasaan ini timbul apabila seseorang melihat kemas kini atau hantaran di TikTok yang menggambarkan aktiviti-aktiviti menarik yang dilakukan oleh orang lain, seperti pesta, percutian, atau acara sosial. Antara perasaan yang timbul adalah kebimbangan dan tekanan serta penurunan kepuasan hidup. Oleh itu, mereka akan kerap mengakses akaun TikTok mereka kerana keinginan tersebut.

Penggunaan media sosial dalam kalangan remaja sering dikaitkan dengan pelbagai kesan terhadap tingkah laku sosial dan kesihatan psikologi. Kajian oleh Méndez-Díaz (2022) mendapati bahawa 95% remaja memiliki akses kepada telefon pintar, dan hampir separuh daripadanya mengatakan mereka hampir selalu berada dalam talian. Implikasi daripada tingkah laku ketagihan ini juga memberi masalah kepada kesihatan fizikal remaja seperti keletihan mata, sakit kepala, insomnia, perubahan berat badan, keletihan yang serius dan ketegangan otot. Jika gejala ini berterusan dalam tempoh masa yang lama, masalah ketagihan ini boleh mengundang kepada penyakit-penyakit fizikal yang lain.

Jadual 1: Impak Penggunaan TikTok terhadap Perubahan Sosial Remaja

No.	Item	Min	Sisihan Piawai
1.	TikTok telah memberi kesan negatif kepada pelajaran saya.	3.65	1.14
2.	TikTok menyebabkan saya tidak produktif dan mengganggu aktiviti kehidupan seharian saya.	3.86	1.02
3.	TikTok telah menjadikan saya kurang bergaul.	3.59	1.19
4.	TikTok telah menjadikan saya seorang yang tidak aktif secara fizikal.	3.55	1.20
5.	TikTok telah menjadikan saya seorang yang kurang fokus dari segi mental.	3.68	1.08
6.	TikTok membolehkan saya meluahkan pandangan secara bebas tanpa perlu bersosial.	3.50	1.12
7.	Saya akan mengikuti gaya berkomunikasi dan fesyen dipengaruhi TikTok.	3.37	1.06
8.	Pengaruh TikTok telah mengubah cara saya berfikir dan berkelakuan.	3.16	1.12
9.	Saya berasa yakin dan hebat selepas mengikuti trend yang diperkenalkan oleh pengaruh TikTok yang terkenal.	3.54	1.18
10.	Komen oleh orang lain di TikTok telah mengubah cara saya berkelakuan.	3.59	1.19
11.	Saya perlu memantau alat aplikasi TikTok saya dengan kerap.	3.86	1.02
12.	Saya akan mendapat manfaat dalam kehidupan saya dengan penggunaan aplikasi TikTok.	3.23	1.14
Purata Min dan Sisihan Piawai		3.55	1.12

Kesimpulan

Dapatan kajian secara keseluruhannya menunjukkan bahawa remaja sangat bergantung kepada TikTok dalam kehidupan seharian mereka dengan pelbagai tujuan dan perkara. Ia bertepatan dengan Teori Kebergantungan Media iaitu yang mengandaikan bahawa seseorang individu bergantung kepada media sosial untuk memenuhi keperluan dan mencapai matlamatnya tetapi tidak bergantung kepada banyak atau pelbagai sosial media (Muhammad Adnan et al., 2019). Dalam konteks kajian ini, remaja bergantung kepada TikTok sebagai sumber utama. Mereka ingin mendapatkan keperluan seperti hiburan, informasi, berita, permainan, pendidikan dan lain-lain. Kemudahan dan rangkaian internet yang kian menyeluruh membolehkan mereka menggunakan TikTok secara bebas dan bergantung kepadanya dalam tempoh waktu yang panjang dalam sehari, malah adakalanya sehingga tiada had waktu.

Melalui dapatan kajian ini dapat dilihat bahawa remaja perlulah bijak menggunakan media sosial agar tidak mudah terpengaruh dengan pelbagai kandungan di media sosial terutama sekali kandungan yang berunsur negatif. Kesimpulannya, melalui dapatan kajian ini dapat menyedarkan para remaja bahawa media sosial banyak memberikan impak negatif berbanding impak positif. Oleh itu para remaja haruslah bijak dalam menggunakan media sosial untuk ke arah kebaikan.

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PEMERKASAAN EKONOMI ASNAF MELALUI LATIHAN KEMAHIRAN JAHITAN: PROJEK JAHITAN BAJU SEKOLAH AGAMA NEGERI JOHOR

Rasyidah Sulong^{1*}
Khatijah Md. Saad²
Nafsiah Sairi³

^{1,2,3}Jabatan Rekabentuk dan Komunikasi Visual, Politeknik Ibrahim Sultan (PIS), Malaysia,

*rasyidah@pis.edu.my

Abstrak: Golongan asnaf dilihat sebagai satu kelompok bukan produktif yang perlu ditransformasikan menjadi kelompok yang produktif. Rentetan itu Majlis Agama Islam Negeri Johor (MAINJ) telah melancarkan Projek Jahitan Baju Sekolah Agama Negeri Johor sebagai satu gagasan memperkukuhkan kemahiran untuk membantu para asnaf memperbaiki dan menaiktaraf kehidupan dan ekonomi mereka. Oleh itu kertas kajian ini bertujuan untuk melihat bagaimana projek ini dilaksanakan dan mengenalpasti kemahiran jahitan yang telah diberikan agar dapat menjana pendapatan setelah program ini berakhir. Kajian dilakukan berasaskan kaedah kualitatif melalui analisa dokumen dan pemerhatian dari awal hingga akhir pelaksanaan projek. Dapatan kajian mendapati program ini dilaksanakan dengan gabungan tiga komponen utama iaitu MAINJ, tenaga pengajar kemahiran dan asnaf. MAINJ menyediakan peserta latihan di kalangan asnaf, tempat latihan beserta peralatan dan peruntukan kewangan yang diperlukan. Manakala tenaga pengajar kemahiran adalah dari Politeknik Ibrahim Sultan. Penekanan kemahiran jahitan bermula dari penghasilan pola, penghasilan sampel hingga penghasilan produk akhir. Projek ini memberi impak yang positif dikalangan asnaf bagi membantu menjana pendapatan aktif dan membuka peluang kerjaya dalam pelbagai bidang berasaskan kemahiran jahitan. Malah produk pakaian sekolah agama yang dihasilkan setanding jenama terkenal dalam industri yang mendapat permintaan tinggi dari pelbagai pihak. Kesimpulannya Projek Jahitan Baju Sekolah Agama Negeri Johor oleh para asnaf dengan bimbingan kepakaran dari Politeknik Ibrahim Sultan anjuran MAINJ ini menunjukkan hasil yang baik dan perlu diteruskan dalam usaha membantu golongan asnaf memperbaiki kualiti kehidupan mereka melalui keusahawanan secara tidak langsung. Penemuan ini diharapkan dapat menjadi model bagi program-program pembangunan asnaf yang lain pada masa hadapan.

Kata Kunci: Asnaf, Kemahiran, Keusahawanan, Jahitan, MAINJ

Pengenalan

Dalam usaha memperkasakan ekonomi golongan asnaf, institusi zakat memainkan peranan yang signifikan dalam memastikan kesejahteraan ummah dan ekonomi. Zakat adalah salah satu daripada lima rukun Islam yang merupakan kewajipan bagi umat Islam yang mampu dari segi kewangan untuk menyumbangkan sebahagian daripada harta mereka kepada golongan yang memerlukan. Tujuan utama zakat adalah untuk membersihkan harta, membantu golongan yang kurang bernasib baik, dan mengurangkan jurang antara golongan kaya dan miskin dalam masyarakat. Zakat terbahagi kepada dua jenis utama iaitu zakat fitrah dan zakat harta. Zakat fitrah adalah zakat yang dikeluarkan pada bulan Ramadan sehingga sebelum solat Hari Raya Aidilfitri. Ia adalah kewajipan setiap individu Muslim dan biasanya dalam bentuk makanan asasi atau nilai wang yang setara. Manakala zakat harta dikeluarkan berdasarkan jumlah harta kekayaan tertentu, seperti emas, perak, wang simpanan, hasil pertanian, perniagaan, ternakan,

dan lain-lain, yang telah mencapai nisab (jumlah minimum) dan haul (tempoh setahun). Zakat bukan sahaja digambarkan sebagai ibadah individu, tetapi juga sebagai instrumen sosial dan satu sistem ekonomi untuk menjaga kesejahteraan umat manusia khususnya umat Islam (Mohd Adib & Shuhairimi (2016).

Istilah zakat disebut sebanyak 58 kali dalam Al-Quran, dengan 32 kali disebut secara bersendirian dan 26 kali disebut secara beriringan, menunjukkan keseimbangan pembangunan di dunia dan akhirat. Rukun Islam juga memberi penekanan kepada pembangunan sosio-ekonomi, dengan tujuan utama membantu golongan kurang berkemampuan berdasarkan konsep maslahah (al-Qardhawi 1973; Nabih Amin 1996). Di Malaysia, Majlis Agama Islam Negeri (MAIN) diberi tanggungjawab mengagihkannya dana zakat yang telah dikumpulkan. Walaupun pengurusan dan pentadbiran zakat yang berbeza bagi setiap negeri di Malaysia, namun tujuannya tetap sama, iaitu memastikan tahap pengurusan zakat mencapai matlamat sebagaimana yang ditetapkan dalam Islam. MAIN juga memainkan peranan penting dalam pembangunan usahawan kecil kerana dengan zakat yang ada akan diagihkan kepada golongan asnaf yang telah dikenalpasti bagi memastikan golongan ini tidak lagi dibelenggu dengan kemiskinan melalui program pembangunan usahawan asnaf. Contohnya Majlis Agama Islam Negeri Johor (MAINJ) telah melaksanakan program pembangunan asnaf sejak tahun 2008, dengan tujuan meningkatkan kualiti hidup dan memberi matlamat yang jelas kepada golongan asnaf. Penubuhan MAINJ pada tahun 1925 dengan tugas menasihati Sultan dan kerabat-kerabatnya. Pada tahun 2003, bidang kuasa MAINJ diperluaskan mengikut Seksyen 4(1) Pentadbiran Agama Islam (Negeri Johor) 2003, yang menyatakan bahawa "Mereka hendaklah ada suatu badan bernama 'Majlis Agama Islam Negeri Johor' untuk membantu dan menasihati Duli Yang Maha Mulia Sultan dalam perkara-perkara yang berhubung dengan agama Islam".

Asnaf di sini dirujuk sebagai golongan yang berhak menerima zakat sepertimana firman Allah SWT dalam Surah At Taubah (9:60) yang bermaksud "Sesungguhnya sedekah-sedekah (zakat) itu hanyalah untuk orang-orang fakir dan orang-orang miskin, dan amil-amil yang menguruskannya, dan orang-orang mualaf yang dijinakkan hatinya, dan untuk hamba-hamba yang berhak memerdekakan dirinya, dan orang-orang berhutang, dan untuk (dibelanjakan pada jalan Allah), dan orang-orang musafir (yang keputusan dalam perjalanan). Ketetapan hukum yang demikian itu ialah sebagai satu ketetapan (yang datangnyanya) dari Allah. Dan ingatlah Allah Maha Mengetahui, lagi Maha Bijaksana". Pernyataan masalah dalam konteks global dan tempatan, golongan asnaf sering berdepan dengan pelbagai masalah dan cabaran sosioekonomi yang menghalang mereka daripada mencapai kehidupan yang sejahtera dan berdikari. Menurut Ahmad Firdause Md Fadzil & Mohd Rafi Yaacob (2017), permasalahan dan cabaran sosioekonomi dikalangan asnaf adalah merujuk kepada sikap asnaf, kekurangan modal perniagaan, tahap pendidikan dan tahap hidup yang rendah, serta keadaan hidup yang tidak menentu.

Nurul Azma, Norashidah, Azizah dan Raziah (2022) berpandangan bahawa golongan asnaf berhadapan dengan cabaran yang lebih besar dalam memenuhi keperluan asas seperti makanan, tempat tinggal dan pakaian. Oleh itu, pendidikan dilihat jauh dari jangkauan keperluan mereka sedangkan pendidikan merupakan antara elemen penting yang menjadi ukuran kualiti hidup manusia. Malah Islam juga sangat menekankan pendidikan dan kepentingan menuntut ilmu melalui wahyu pertama yang diturunkan. Walaupun zakat dan bantuan kewangan sering disalurkan kepada mereka, keberkesanan bantuan ini dalam jangka masa panjang sering dipersoalkan. Oleh sebab itu Patmawati (2005) berpendapat, bagi memastikan golongan ini berdikari untuk terus berusaha keluar dari kelompok kemiskinan, bantuan berbentuk modal dan latihan kemahiran tertentu mengikut kecenderungan golongan asnaf ini boleh dilaksanakan.

Bagi tujuan ini skim bantuan zakat juga boleh digunakan untuk golongan asnaf ini terlibat aktif dalam aspek keusahawanan dan ekonomi untuk mengurangkan kadar kemiskinan kepada taraf kehidupan yang lebih berkualiti, selesa dan harmoni (Zarina, 2012). Bantuan kewangan sahaja tidak mencukupi untuk mengubah keadaan hidup mereka secara berkesinambungan. Tanpa pendidikan dan kemahiran yang relevan serta peluang pekerjaan yang berdaya saing, golongan asnaf sukar untuk keluar dari kitaran kemiskinan. Oleh itu sebagai salah satu solusinya pihak MAINJ telah mengambil inisiatif untuk melaksanakan program yang memberi nilai tambah kehidupan golongan asnaf ini dengan memberikan kemahiran jahitan melalui projek jahitan baju sekolah agama Negeri Johor.

Projek Jahitan Baju Sekolah Agama Negeri Johor yang telah dijalankan adalah satu usaha yang dirancang dan sempurna dilaksanakan oleh MAINJ dengan kerjasama Politeknik Ibrahim Sultan bertujuan untuk memberikan pendidikan kemahiran jahitan dan keusahawanan kepada para asnaf. Sekolah Agama Negeri Johor merujuk kepada sekolah pendidikan Islam yang ditadbir terus oleh Kerajaan Johor melalui Bahagian Pendidikan Islam, Jabatan Agama Islam Negeri Johor, diwujudkan atas titah perintah Duli Yang Maha Mulia Sultan Johor, Almarhum Sultan Abu Bakar untuk memberi pendidikan agama kepada kanak-kanak Islam di negeri Johor bagi memastikan kanak-kanak Islam di Johor mendapat pendidikan agama yang teratur, sempurna dan dikawal oleh pihak pemerintah. Kini, masyarakat Islam Johor memandang serius akan kepentingan Sekolah Agama Johor bagi memantapkan lagi ilmu pengetahuan khusus dalam pendidikan agama walau pun dimasa yang sama anak-anak mereka mendapat pendidikan agama menerusi matapelajaran pendidikan Islam yang diajar di Sekolah Rendah dan Menengah di bawah Kementerian Pendidikan Malaysia. Secara tidak langsung permintaan dan keperluan yang tinggi berlaku terhadap baju sekolah agama Negeri Johor memerlukan peruntukan yang besar setiap tahun oleh penjaga bagi pelajar-pelajar yang bersekolah seawal darjah satu hingga darjah enam.

Setiap tahun MAINJ memperuntukkan sejumlah lima juta Ringgit Malaysia (RM5,000,000) untuk membeli dan mengagihkan baju sekolah agama ini kepada asnaf di sekolah-sekolah berdaftar di setiap daerah di Johor Bahru. Perkara ini berulang sejak dahulu lagi, sehingga tercetus gagasan memberi kemahiran kepada asnaf dan membantu mereka sehingga dapat mengeluarkan produk baju sekolah agama berjenama sendiri, MAINJ pula akan membeli dari asnaf dan memberi kembali kepada anak-anak asnaf yang memerlukan. Gagasan inilah yang membuka ruang dan peluang melibatkan asnaf bersama-sama dalam industri pembuatan pakaian ini dan fasa pertama program ini iaitu memberi ilmu dan latihan kemahiran jahitan telah tamat dilaksanakan dengan jayanya. Melalui pemerhatian pengkaji secara dasar, setelah enam bulan tamat latihan, keberkesanan projek ini dalam meningkatkan taraf hidup dan pemberdayaan golongan asnaf dilihat berjaya membantu para asnaf dalam menjana pendapatan sendiri, meningkatkan kualiti hidup, dan mencapai kestabilan ekonomi yang berterusan.

Namun begitu, terdapat kekurangan kajian empirikal yang menyeluruh mengenai impak latihan kemahiran seperti jahitan terhadap kehidupan asnaf di Malaysia. Penilaian terperinci mengenai aspek-aspek seperti kesan psikologi dan sosial, tahap kemahiran yang dicapai, serta potensi pasaran bagi produk yang dihasilkan adalah penting untuk memahami sepenuhnya keberkesanan program-program pembangunan asnaf seperti ini. Oleh itu fasa pertama kajian ini adalah untuk melihat bagaimana projek ini dilaksanakan dan mengenalpasti kemahiran-kemahiran jahitan yang telah diberikan agar dapat menjana pendapatan setelah program ini berakhir. Diharapkan Projek Jahitan Baju Sekolah Agama Negeri Johor dapat menjadi model yang lebih berkesan dalam usaha memperkasakan golongan asnaf, seterusnya membantu mereka mencapai kehidupan yang lebih baik dan berdaya.

Metodologi

Bagi mencapai objektif kajian yang telah ditetapkan, pengkaji menggunakan kaedah kualitatif. Pengkaji terlibat secara langsung dalam projek ini yang mana turut sama menghadiri mesyuarat merancang dan merangka pelaksanaan, berada di lokasi latihan sebanyak 10 kali sebagai tenaga pengajar dan merakam peristiwa serta membuat pemerhatian penuh sepanjang sesi latihan berlangsung serta meneliti bahan dokumentasi. Pengkaji juga menemu bual pegawai dari MAINJ secara langsung, tenaga pengajar dari Politeknik Ibrahim Sultan yang telah terlibat melatih 20 orang peserta asnaf di sekitar Johor Bahru dalam tempoh 17 minggu bagi Projek Jahitan Baju Sekolah Agama Negeri Johor ini. Hasil pemerhatian secara berterusan, pengkaji telah membuat rakaman secara fotografi aktiviti-aktiviti yang berlaku dalam sesi latihan yang diberikan. Pengkaji juga meneliti dan mengendali cara pelaksanaan latihan ini dari awal hingga akhir, menganalisis jenis kemahiran jahitan yang diperlukan dan diberikan kepada pelatih, memerhati keperluan latihan, bahan dan kelengkapan latihan, mengenalpasti kekangan dan masalah sepanjang latihan, tempoh latihan yang bersesuaian serta mengkaji peranan semua pihak dalam pelaksanaan program seumpama ini.

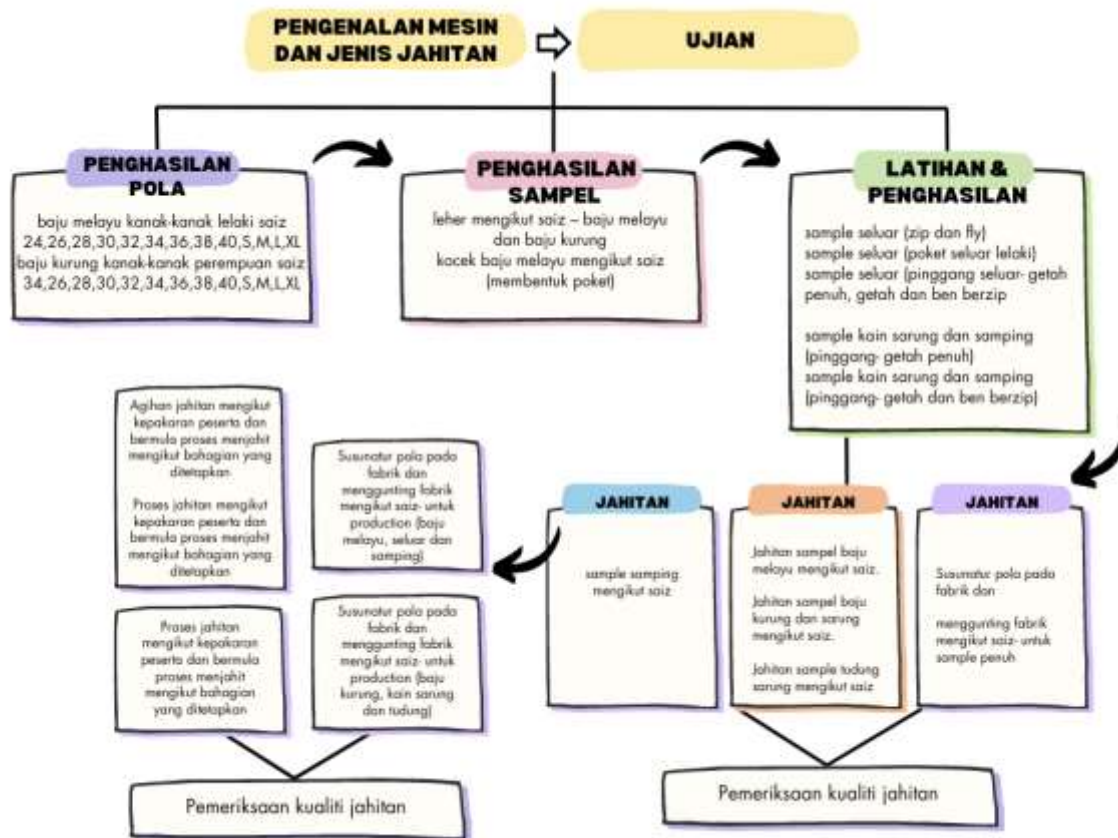
Dapatan Kajian

Dapatan kajian mendapati projek ini dilaksanakan dua hari seminggu iaitu hari Jumaat dan Sabtu selama 17 minggu berturut-turut. Pelaksanaannya menggabungkan tiga komponen utama iaitu Majlis Agama Islam Negeri Johor (MAINJ), tenaga pengajar kemahiran dan peserta dikalangan asnaf (rajah 1). MAINJ bertindak memilih peserta latihan di kalangan asnaf melalui kaedah temuduga dan pemilihan dibuat mengikut kriteria yang telah ditetapkan disamping minat dan komitmen peserta. Pemilihan peserta asnaf sekitar Daerah Johor Bahru adalah seramai 20 orang peserta wanita yang terdiri dari surirumah sepenuh masa, warga emas, mempunyai masalah kesihatan, berpendidikan rendah serta ibu tunggal. Menurut Nor Aini dan Doris (2012) golongan ibu tunggal juga perlu diberikan perhatian selain kaum minoriti Sabah dan Sarawak, Orang Asli, OKU, warga emas dan pertanian kerana ibu tunggal sering kali terpaksa bergelut dengan ketidakpastian ekonomi, terutamanya jika mereka tidak mempunyai akses kepada pendidikan, peluang pekerjaan yang stabil, atau sokongan sosial yang mencukupi. Oleh kerana itu, MAINJ bertanggungjawab sepenuhnya mengeluarkan perbelanjaan yang besar menyediakan pengangkutan pergi dan balik sepanjang latihan, makanan, peralatan asas jahitan untuk setiap individu, keperluan bahan dan kelengkapan jahitan sepanjang latihan dan tempat latihan yang selesa bagi pelaksanaan projek yang bertempat di Pusat Latihan Kemahiran Asnaf, Danga Bay, Johor Bahru. Pusat ini dipilih sebagai lokasi untuk menjalankan projek ini di atas kapasiti mempunyai ruang dan peralatan yang lengkap untuk latihan dan penyelesaian peserta.



Rajah 1: Komponen Pelaksanaan Projek

Tenaga pengajar kemahiran pula adalah terdiri daripada tenaga pengajar dalam bidang Rekabentuk Fesyen dan Pakaian dari Politeknik Ibrahim Sultan yang berpengalaman dalam bidang jahitan lebih dari sepuluh tahun. Jenis pendidikan dan kemahiran yang telah diajar kepada pelatih ini adalah seperti yang telah ditetapkan di dalam modul yang telah dibangunkan oleh tenaga pengajar yang telah dilantik. Antara kemahiran jahitan yang difokuskan kepada pelatih dalam usaha menghasilkan set pakaian berkualiti adalah seperti penghasilan pola, penghasilan pelbagai sampel seperti leher, kocek baju melayu dan seluar, seluar baju melayu, tudung, baju kurung, baju melayu, kain baju kurung, jahitan samping dan sebagainya (Rajah 2). Modul keusahawanan juga ditekankan selaras tujuan untuk memperkasa ekonomi dikalangan mereka. Jadual pembelajaran yang padat dan berfokus dilaksanakan bertujuan memastikan peserta dapat menguasai ilmu dan kemahiran yang diperlukan dengan lebih baik dan berkualiti. Kekemasan teknikal terutama jahitan amat dititikberatkan dalam menghasilkan produk akhir, justeru latihan intensif dijalankan peserta sepanjang tempoh latihan. Penilaian jahitan juga dilaksanakan bagi memastikan kualiti jahitan terjaga dan setanding kualiti produk dan permintaan pasaran.



Rajah 2: Kemahiran Yang Dipelajari

Dengan kaedah pemerhatian yang telah dijalankan sepanjang tempoh 17 minggu, pengkaji telah merakamkan aktiviti-aktiviti yang berlaku dalam setiap sesi latihan melalui rakaman fotografi dokumentasi (rajah 3). Mengumpul maklumat menggunakan rakaman fotografi dokumentasi adalah satu kaedah yang sangat berkesan dalam penyelidikan dan dokumentasi. Fotografi membolehkan maklumat visual dirakam dengan tepat, membantu penyelidik atau pengamal untuk menganalisis situasi, peristiwa, atau objek dengan lebih mendalam. Gambar diambil pada tempat kejadian (*on-site*) untuk menggambarkan persekitaran atau subjek dalam keadaan asalnya. Gambar ini digunakan sebagai bukti yang dapat dirujuk semula untuk analisis seterusnya. Dengan menggunakan rakaman fotografi, maklumat dapat dikumpul dengan lebih tepat, visual, dan mendalam, membantu penyelidik untuk membuat analisis yang lebih terperinci dan informatif apabila diperlukan.



Rajah 3: Rakaman Pengisian Latihan (Koleksi peribadi pengkaji)

Pengkaji juga mengenalpasti kekangan dan masalah yang berlaku di sepanjang sesi latihan berlangsung. Antara masalah yang dikenalpasti adalah disiplin kehadiran peserta. Terdapat peserta yang tidak hadir disebabkan waktu latihan yang berturut, dilaksanakan pada hari Jumaat dan Sabtu setiap minggu peserta perlu memenuhi undangan majlis dan aktiviti riadah keluarga, kesihatan peserta yang merosot dan perlu rawatan susulan juga punca ketidakhadiran, peserta terlibat dengan persatuan lain yang memerlukan komitmen pada masa yang sama serta masalah lain yang membawa kepada berhenti dari latihan. Seawal minggu kelima latihan tiga orang peserta telah berhenti dari menjalani latihan. Terdapat juga masalah komitmen kerja yang pasif dari peserta. Peserta tidak berminat dan tidak menunjukkan kesungguhan, peserta hadir hanya memenuhi masa terluang, tidak dapat menguasai ilmu kemahiran yang diajar dan tidak dapat menghasilkan kerja yang berkualiti seperti yang dikehendaki. Menurut Azman dan Mohd Yaziz (2016) antara faktor lain yang menyebabkan golongan asnaf masih dibelenggu kemiskinan adalah sikap mereka yang tidak bersungguh serta gagal dalam menguasai ilmu kemahiran dan keusahawanan. Walaubagaimanapun, 12 orang peserta yang sangat bersemangat, sentiasa memberi komitmen penuh terhadap latihan, berdisiplin baik dan sentiasa positif dapat mengatasi dan menutupi kekurangan dan masalah peserta tersebut.

MAINJ juga menawarkan peluang pekerjaan tetap kepada asnaf yang telah tamat latihan untuk mengisi kekosongan jawatan sempena penubuhan Pusat Kemahiran Jahitan di Taman Bukit Dahlia kelolaan Wakaf AnNur di Pasir Gudang. Peserta yang telah dilatih secara intensif menyambut baik peluang sebagai pekerja tetap dalam menjayakan Projek Penghasilan Baju Sekolah Agama Negeri Johor di Pusat Latihan Asnaf Danga Bay, sebelum dipindahkan secara

rasmi di Pusat Kemahiran Jahitan di Taman Bukit Dahlia pada 17 Julai 2024. Peserta jahitan keluaran Projek Jahitan Baju Sekolah Agama Negeri Johor ini adalah perintis yang membangunkan Pusat Kemahiran Jahitan merangkap kilang Jahitan Pakaian Baju Sekolah Agama Negeri Johor. Walaubagaimanapun, lima orang peserta lagi memilih untuk bekerja sendiri dengan mengambil tempahan pakaian secara atas talian. Usaha ini sangat membanggakan kesan dari kemahiran yang telah dipelajari dan keberanian mereka untuk berdaya saing mengikut trend semasa. Ini kerana fenomena permintaan dan pembelian secara dalam talian ini telah meningkat sejajar dengan kemajuan dunia digital dan media Baharu dalam perniagaan (Farhan, Shamsul Azahari & Ahmad, 2016). Berbekalkan ilmu keusahawanan, pengalaman sendiri dan kemahiran jahitan yang diterima, praktis ini juga berbaloi sebagai pemangkin memperkasa ekonomi mereka.

Kesimpulan

Kajian ini meneliti impak Projek Jahitan Baju Sekolah Agama Negeri Johor yang dikelola oleh pihak MAINJ dengan kerjasama Politeknik Ibrahim Sultan terhadap golongan asnaf. Hasil kajian menunjukkan bahawa gabungan kerjasama MAINJ, tenaga pengajar kemahiran, dan peserta asnaf memainkan peranan penting dalam kejayaan projek ini. Pelatih telah diberikan pelbagai kemahiran jahitan seperti penghasilan pola, jahitan kecek, tudung, kain, dan baju kurung, yang seterusnya membantu mereka menjana pendapatan sendiri. Projek ini bukan sahaja berjaya meningkatkan kemahiran teknikal asnaf, tetapi juga memberi impak positif kepada kehidupan mereka dengan membuka peluang kerjaya baru dan meningkatkan kualiti hidup. Produk pakaian sekolah agama yang dihasilkan juga setanding dengan jenama terkenal dalam industri, menunjukkan bahawa pelatih mampu menghasilkan produk berkualiti tinggi yang mempunyai permintaan yang tinggi. Secara keseluruhan, Projek Jahitan Baju Sekolah Agama Negeri Johor ini menunjukkan bahawa dengan bimbingan dan sokongan yang tepat, golongan asnaf mampu mengubah nasib mereka dan menjadi lebih berdikari.

Projek ini harus diteruskan dan dijadikan model untuk program-program pembangunan asnaf yang lain dalam mencapai tujuan yang sama. Bagi tujuan kajian ini pada masa hadapan penambahbaikan boleh dilakukan dengan melibatkan lebih banyak pihak dalam kajian, seperti peserta program yang lain, keluarga peserta, dan pihak yang menerima produk jahitan, boleh memberikan perspektif yang lebih komprehensif tentang keberkesanan program. Pendapat dan maklum balas mereka boleh memberikan gambaran lebih jelas tentang impak program ini. Kajian ini juga boleh dijadikan satu kajian longitudinal untuk melihat keberkesanan program dalam jangka masa panjang. Ini akan membantu memahami sejauh mana kemahiran yang diperoleh memberi impak kepada kehidupan asnaf selepas tamatnya program. Malah pengkaji juga boleh melaksanakan penilaian berterusan sepanjang tempoh program dan selepasnya untuk menilai keberkesanan setiap modul latihan dan membuat penambahbaikan yang diperlukan. Dengan penambahbaikan ini, kajian ini boleh menjadi lebih komprehensif, tepat, dan memberikan gambaran yang lebih menyeluruh tentang keberkesanan Projek Jahitan Baju Sekolah Agama Negeri Johor dalam memperkasakan golongan asnaf.

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PERSEPSI INDUSTRI DARI SEGI PENILAIAN PRESTASI PELAJAR LATIHAN INDUSTRI PELAJAR DIPLOMA SAINS KESETIAUSAHAAN POLITEKNIK PORT DICKSON

Nor Fauziah Ismail¹

Nor Suhaila Tahir²

Sapiah Ishak³

¹Department of Commerce, Politeknik Port Dickson, (norfauziah.ismail@polipd.edu.my)

²Department of Commerce, Politeknik Port Dickson, (norsuhaila@polipd.edu.my)

³Department of Commerce, Politeknik Port Dickson, (sapiah@polipd.edu.my)

Abstract: Latihan industri merujuk kepada penempatan pelajar di organisasi tertentu untuk menjalani latihan praktikal yang diselia dalam industri yang dipilih, dalam tempoh masa yang telah ditetapkan sebelum pelajar dianugerahkan sijil. Latihan industri ini merupakan syarat wajib bagi pelajar untuk memperolehi pengiktirafan Diploma Politeknik Malaysia. Sistem kurikulum Politeknik Malaysia, mewajibkan pelajar lulus kursus Latihan industri adalah salah satu syarat utama sebelum dipertimbangkan untuk penganugerahan diploma. Kajian ini dijalankan melalui borang soal selidik yang disediakan oleh Unit Pengurusan Latihan Industri (UPLI), yang diisi oleh 76 majikan sebagai maklum balas terhadap 76 pelajar Diploma Sains Kesetiausahaan (DSK) sesi 2 2023/2024. Fokus kajian adalah persepsi industri terhadap prestasi pelatih industri dalam aspek pelaksanaan tugas, kemahiran sosial dan komunikasi, nilai, sikap dan profesionalisme serta kepimpinan. Tujuan kajian ini adalah untuk menilai prestasi pelajar latihan industri berdasarkan pandangan industri seterusnya mengenal pasti keperluan industri dalam pengambilan pelajar latihan industri dan graduan politeknik. Hasil dapatan kajian ini turut berperanan dalam mengenal pasti keperluan industri bagi pengambilan pelajar latihan industri dan graduan politeknik, serta berpotensi meningkatkan kadar kebolehpasaran graduan politeknik. Data yang diperoleh dianalisis dengan menggunakan Microsoft Excel 365 untuk menentukan frekuensi dan peratusan skor. kesimpulannya, prestasi pelajar DSK dinilai berada pada tahap baik hingga cemerlang dengan sekurang-kurangnya 90% pelajar memperoleh penilaian cemerlang atau baik dalam keempat-empat aspek yang dinilai.

Keywords: Latihan Industri, Prestasi, Persepsi Industri

Pengenalan

Politeknik Port Dickson (PPD) merupakan politeknik keenam di bawah Jabatan Pengajian Politeknik dan Kolej Komuniti. PPD menawarkan pengajian diploma melalui 4 jabatan akademik iaitu Jabatan Kejuruteraan Awam, Jabatan Kejuruteraan Elektrik, Jabatan Kejuruteraan Mekanikal dan Jabatan Perdagangan. Jabatan Perdagangan menawarkan 3 program iaitu Diploma Perakaunan (DAT), Diploma Pemasaran (DPR) dan Diploma Sains Kesetiausahaan (DSK). Program diploma memerlukan 5 semester kuliah akademik dan satu semester Latihan industri pada semester akhir yang berlangsung selama 20 minggu. Latihan industri merujuk kepada penempatan pelajar di sesebuah organisasi untuk menjalankan latihan praktikal yang diselia dalam industri yang terpilih dalam jangkamasa yang ditetapkan sebelum dianugerahkan persijilan. Kursus latihan industri diperkenalkan untuk memantapkan kompetensi yang diperlukan dalam aspek kebolehpasaran pelajar. Ia memberi pendedahan dan pengalaman kepada pelajar dalam pembangunan teknologi, komunikasi berkesan, etika kerja, kerja berpasukan, dasar, prosedur dan peraturan, perspektif profesional dan pelaporan. Kursus

ini bertujuan untuk membina semangat dan sikap proaktif dalam diri pelajar, serta meningkatkan keyakinan mereka untuk menjadi graduan yang berjaya. (Garis Panduan Latihan Industri (Pelajar), 2013).

Menurut Othman, Ramli & Sukor (2017), latihan industri berfungsi sebagai platform untuk pelajar dalam dunia akademik untuk menggabungkan pengetahuan mereka dalam teori dengan persekitaran kerja sebenar sebagai keluk pembelajaran asas. Latihan industri ialah kursus yang dilaksanakan dengan menempatkan pelajar dalam sesebuah organisasi untuk menjalani industri terpilih amalkan sama ada ia dilakukan di dalam atau di luar negara dalam tempoh masa yang telah ditetapkan sebelum mereka diberi ganjaran Sijil, Diploma atau Ijazah Sarjana Muda. Sepanjang latihan, mereka akan diletakkan di bawah penyelia mewakili industri untuk proses arahan selanjutnya dan untuk memantau prestasi pelajar.

Kajian ini penting untuk mendapatkan maklum balas majikan mengenai prestasi pelajar di bawah mereka penyeliaan. Dengan maklumat ini, akan dapat menentukan keperluan dan keperluan industri daripada pelajar, dan pada masa yang sama akan meningkatkan kebolehpasaran mereka. Selain itu, melalui kajian ini juga aspek-aspek yang dititikberatkan oleh industri diiktiraf, dan perancangan di peringkat politeknik seperti penganjuran program yang melibatkan pelajar mengambil bahagian secara aktif dalam menyusun dan mereka bentuk program dapat dilaksanakan. Ini adalah untuk meningkatkan nilai pelajar dengan menyemai kemahiran yang lebih baik sebelum latihan industri mereka. Oleh itu, objektif kajian ini adalah untuk mengenali perspektif majikan terhadap pelajar Jabatan Perdagangan dari segi celik teknologi, komunikasi berkesan, kerja berpasukan, dasar, prosedur dan peraturan, etika professional dan pelaporan. Melalui kajian ini, data menunjukkan majikan berpuas hati dengan 76 pelajar latihan industri dari program Diploma Sains Kesetiausahaan Jabatan Perdagangan. Kertas kajian disusun mengikut kajian literatur, metodologi, keputusan, kesimpulan dan cadangan.

Kajian Literatur

Latihan industri adalah platform kepada pelajar untuk menimba pengalaman dan pengetahuan lanjutan seiring dengan pembangunan teknologi sambil menggunakan pengetahuan mereka sendiri dan akan menjadi pengalaman tambahan untuk pelajar (Okoye & Edokpolor, 2021). Kajian oleh Okoye dan Edokpolor (2021) menekankan bahawa latihan industri bukan sahaja memberi peluang kepada pelajar untuk mengaplikasikan pengetahuan teori yang dipelajari di dalam kelas, tetapi juga untuj memperoleh kemahiran praktikal yang diperlukan dalam dunia pekerjaan sebenar. Latihan industri membantu pelajar untuk memahami dan mengikuti perkembangan teknologi terkini dalam industri mereka, serta mengembangkan kemahiran praktikal seperti komunikasi, kerja berpasukan dan penyelesaian masalah. Kerjasama antara industri dan akademik memperkayakan kurikulum dan menyediakan graduan untuk pasaran pekerjaan, menangani jurang teori-amalan (Sumiati et al., 2024).

Penilaian prestasi pelajar oleh majikan juga dilihat penting dalam memastikan pelajar mencapai tahap kompetensi yang diperlukan. Kajian oleh Noorazman et al. (2018) menunjukkan bahawa penilaian ini juga membantu institusi pendidikan untuk memperbaiki kurikulum dan kaedah pengajaran. Kepuasan majikan terhadap pelajar yang menjalani latihan industri adalah satu faktor utama yang dapat memastikan majikan akan terus menerima pelajar di masa hadapan, seperti yang ditemui dalam kajian oleh Alvi, Diyah, dan Nina (2020). Kepuasan majikan sering kali bergantung kepada kemahiran komunikasi, kepimpinan, dan kerja berpasukan pelajar, yang semuanya penting dalam penempatan pelajar selepas tamat pengajian.

Kajian lain turut mengesahkan kepentingan Kemahiran generik. Laporan Bernama (2020), mendapati peningkatan kehilangan pekerjaan sebanyak 42% pada suku pertama tahun 2020, menunjukkan betapa pentingnya kemahiran generik dalam meningkatkan kebolehpasaran graduan. Ini juga disokong oleh kajian oleh Izyan Diyana Binti Madzuki dan Dr. Mhd Azmin Bin Mat Seman (2017) yang menekankan bahawa kemahiran generik berperanan penting dalam memastikan graduan mendapat kepuasan daripada majikan.

Di samping itu, kajian oleh Sharifah Hana Abd Rahman et al. (2015) dan Ng Siok Giek (2017) mengesahkan bahawa penilain prestasi pelajar oleh industri penting dalam memastikan pelajar mencapai tahap kompetensi yang diperlukan. Kajian ini selari dengan kajian Nooriah Yusof et al. (2013) yang menekankan bahawa kemahiran yang relevan dapat meningkatkan kebolehpasaran graduan dalam pasaran pekerjaan yang semakin kompetitif.

Melihat kepada aspek kemahiran teknikal dan generik, Zafir Mohd Makhbul et al. (2012) mendapati bahawa kemahiran generik dan teknikal sama penting dalam meningkatkan kebolehpasaran graduan. Penemuan ini disokong dari kajian oleh Othman (2018), yang menunjukkan bahawa literasi teknologi dan kemahiran komunikasi adalah cukup memadai, namun pelajar perlu terus meningkatkan kualiti laporan mereka. Kajian Abd Rahman et al (2015), menekankan bahawa kepuasan majikan bergantung kepada penguasaan ilmu, disiplin diri, kemahiran insaniah seperti komunikasi, pemikiran kritis dan kebolehan bekerja dalam pasukan.

Okoye & Edokpolor (2021) dalam kajiannya memberi menegaskan kepentingan latihan industri dalam membangunkan kemahiran pelajar, dengan memberi tumpuan kepada aplikasi pengetahuan teori ke dalam konteks dunia pekerjaan sebenar. Menurutny lagi, latihan industri bukan sahaja melihat kepada teori tetapi memberikan peluang untuk menguasai Kemahiran praktikal yang penting seperti perkembangan teknologi, komunikasi berkesan dan penyelesaian masalah. Dengan pendedahan kepada cabaran industri moden, ia menonjolkan latihan industri dalam mempersiapkan pelajar untuk meningkatkan kebolehpasaran mereka dalam pasaran kerja. Kajian terhadap pelajar Diploma Perhotelan oleh Dzia-Uddin (2020) turut menunjukkan bahawa kemahiran berkomunikasi, menyelesaikan masalah dan bekerja dalam pasukan adalah kemahiran utama yang dititikberatkan oleh majikan. Komunikasi berkesan dianggap sebagai keutamaan oleh majikan seperti yang dilaporkan oleh Norman et al (2017), yang menekankan kemahiran komunikasi sebagai faktor utama dalam pemilihan pekerja.

Tambahan lagi, kajian oleh Zafir Khan, Ibrahim & Ahmad (2015) menunjukkan bahawa terdapat jurang antara kemahiran yang dimiliki graduan semasa dengan jangkaan majikan terutama dalam kemahiran komunikasi dan interpersonal. Ini termasuk etika kerja, kepimpinan, serta kebolehan membuat keputusan dan menyelesaikan masalah. Penemuan ini menekankan perlunya latihan industri yang lebih sistematik untuk merapatkan jurang tersebut, sekaligus meningkatkan kebolehpasaran graduan. Ia juga menggesa institusi pendidikan untuk memperkasakan kemahiran genetik pelajar, terutamanya dalam konteks interaksi sosial dan pengurusan diri. Kajian ini juga mengesahkan bahawa kemahiran teknikal, etika, nilai, kepimpinan dan kerja berpasukan perlu ditingkatkan bagi memenuhi keperluan industri (Mohd Najid et al., 2019).

Selain itu kajian Othman, Ramli & Sukor (2017), mengenai pelajar politeknik menunjukkan bahawa penguasaan kemahiran teknikal dan generik memainkan peranan penting dalam meningkatkan kepuasan majikan. Walaupun aspek teknikal amat penting, majikan juga menghargai pelajar yang mampu menyesuaikan diri dengan cepat, bekerjasama dalam pasukan

dan mematuhi etika profesional. Ini menunjukkan bahawa pelajar yang menguasai literasi teknologi yang baik dan kemahiran bekerja dalam persekitaran dinamik lebih cenderung untuk diterima bekerja selepas tamat latihan.

Secara keseluruhannya, latihan industri bukan sahaja menjadi platform kepada pelajar untuk mempraktikkan pengetahuan akademik, tetapi juga memperkukuhkan kemahiran insaniah yang penting untuk kerjaya masa depan. Olutola & Olatoye (2020) dalam kajiannya membuat kesimpulan bahawa kesan jangka panjang latihan industri terhadap kebolehpasaran pelajar sangat bergantung kepada bagaimana pelajar mengimbangi kemahiran teknikal dengan kemahiran insaniah mereka. Ini menjadi asas yang kukuh untuk memperbaiki kurikulum latihan industri di institusi pendidikan bagi memastikan graduan lebih bersedia untuk menghadapi cabaran dunia pekerjaan yang semakin kompetitif.

Objektif Kajian

Objektif kajian ini dijalankan adalah seperti berikut:

- Menilai prestasi pelajar latihan industri semester akhir dari persepsi industri
- Mengenalpasti keperluan industri dalam pengambilan pelajar latihan industri semester akhir.
- Mengenalpasti keperluan industri dalam pengambilan graduan politeknik.

Metodologi Kajian

Kajian ini merupakan kajian deskriptif yang menggunakan kaedah soal selidik untuk pengumpulan data. Bahagian seterusnya menerangkan tentang instrumen kajian, sampel kajian, prosedur pengumpulan data dan analisis data dengan lebih terperinci.

Instrumen Kajian

Untuk menilai prestasi pelajar, instrumen yang digunakan adalah borang Latihan industri. Soal selidik digunakan sebagai instrumen utama untuk mengumpul data. Kajian tinjauan adalah salah satu jenis kajian dalam kajian deskriptif (Mohd Majid Konting, 1998). Borang ini wajib diisi oleh penyelia di organisasi atau majikan pada minggu terakhir pelajar berada di Syarikat. Borang ini digunakan untuk mendapatkan maklum balas industri berkaitan prestasi pelajar dari segi kemahiran melaksanakan tugas yang meliputi dua aspek iaitu pengetahuan dan kemahiran dan alat teknologi, kemahiran komunikasi dan sosial, nilai, sikap dan profesionalisme serta kepimpinan dan kerja berpasukan.

Pengukuran yang digunakan bagi soal selidik ini adalah berpanduan skala *Likert* di bawah

Jadual 1: Carta Skala <i>Likert</i>	
Skor	Penilaian
1	Lemah
2	Kurang Memuaskan
3	Memuaskan
4	Baik
5	Cemerlang

Empat aspek yang dikaji dari persepsi industri:

- Kemahiran melaksanakan tugas berdasarkan pengetahuan dan kemahiran serta literasi teknologi - Mampu melaksanakan tugas secara tanpa pengawasan, penggunaan alatan dan peralatan, kebolehsuaian dengan teknologi, aplikasi pengetahuan dalam melaksanakan tugas, menunjukkan peningkatan dalam pengetahuan dan kemahiran berfikir secara kreatif dan kritis.

- Kemahiran Komunikasi berkesan – Mampu menerima dan memproses maklumat, melaksanakan arahan, menganalisis secara langsung dan maklumat tidak langsung, berkomunikasi secara lisan dan bukan lisan sesuai dengan semua peringkat pekerja di syarikat dan keupayaan rundingan asas.
- Kepimpinan dan Kerja Berpasukan – Mempunyai personaliti yang positif, terlibat secara aktif dalam aktiviti berkumpulan, melaksanakan tugas dengan sesuai dan situasi positif dan mengekalkan hubungan mesra dalam kumpulan.
- Nilai, Sikap dan Profesionalisme – Mematuhi dasar, peraturan organisasi, prosedur kerja dan peraturan keselamatan dan Kesihatan, rekod kehadiran yang cemerlang, menepati masa dan kebolehan menyelesaikan masalah yang baik.

Sampel Kajian

Dalam kajian ini, populasi kajian terdiri daripada 76 industri yang mengambil pelajar Latihan industri program Diploma Sains Kesetiausahaan Politeknik Port Dickson. Jadual 1 menunjukkan statistik perbandingan antaran pelajar lelaki dan perempuan DSK bagi sesi II 2023/2024. Daripada dapatan kajian ini didapati bahawa pelajar perempuan lebih mendominasi seramai 69 orang manakala pelajar lelaki iaitu 7 orang sahaja. (rujuk jadual 1).

Jadual 1: Perbandingan Antara Jantina

Jantina	Bilangan	Peratus
Lelaki	7	9%
Perempuan	69	91%

Dari segi bangsa pula majoriti kalangan pelajar-pelajar program DSK adalah kaum Melayu iaitu seramai 68 orang diikuti dengan kaum India seramai 8 orang seperti dalam jadual 2.

Jadual 2: Perbandingan Antara Kaum

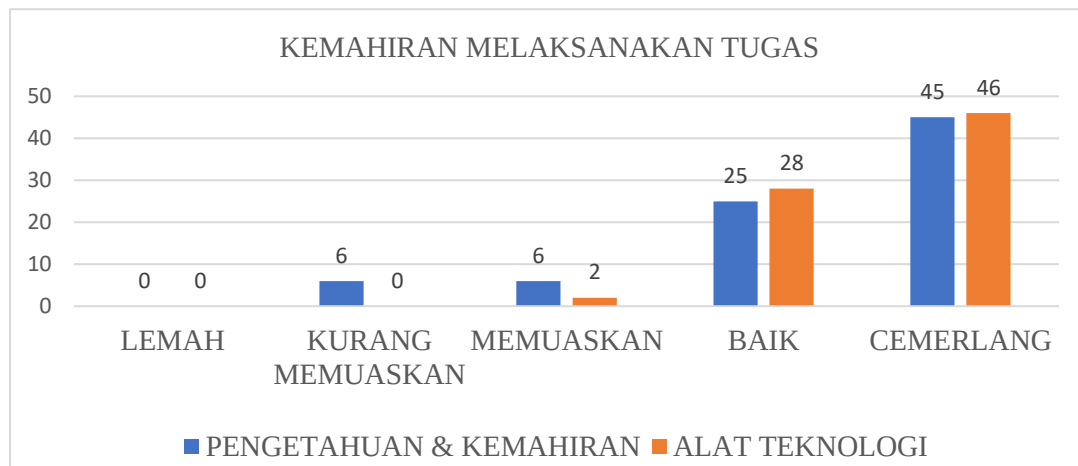
Kaum	Bilangan	Peratus
Melayu	68	89%
Cina	0	0
India	8	11%
Lain-lain	0	0%

Data dikumpul secara kuantitatif menggunakan borang maklum balas majikan untuk menilai latihan industri. Borang dilampirkan dalam log harian pelajar dan diisi oleh majikan pada akhir latihan industri. Borang-borang ini akan diserahkan oleh pelajar semasa pelajar mendaftar tamat latihan industri di Unit Perhubungan dan Latihan Industri (UPLI) PPD. Memandangkan ia merupakan salah satu boring penialain pelajar latihan industir, maka UPLI akan memastikan semua pelajar telah dinilai oleh pihak industry menggunakan boring ini. Maka kesemua 76 borang telah berjaya dikumpul untuk dianalisis.

Analisa Dan Keputusan

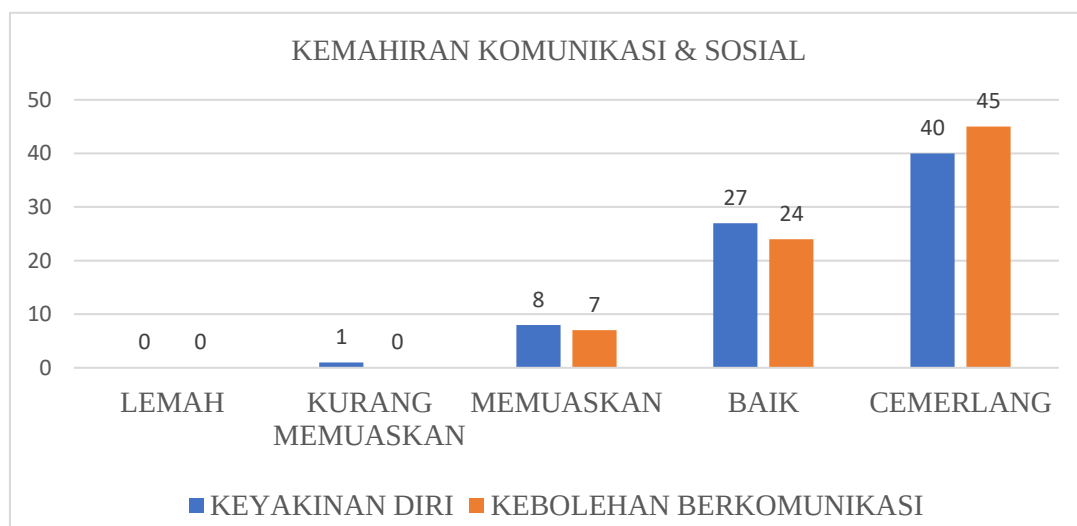
Data yang diperolehi telah dianalisis dengan menggunakan perisian Microsoft Excel 365. Statistik deskriptif yang digunakan melibatkan taburan kekerapan dan peratusan.

Dapatan Kajian dan Perbincangan



Rajah 1: Pengukuran Prestasi Pelajar Dalam Aspek Kemahiran Melaksanakan Tugas

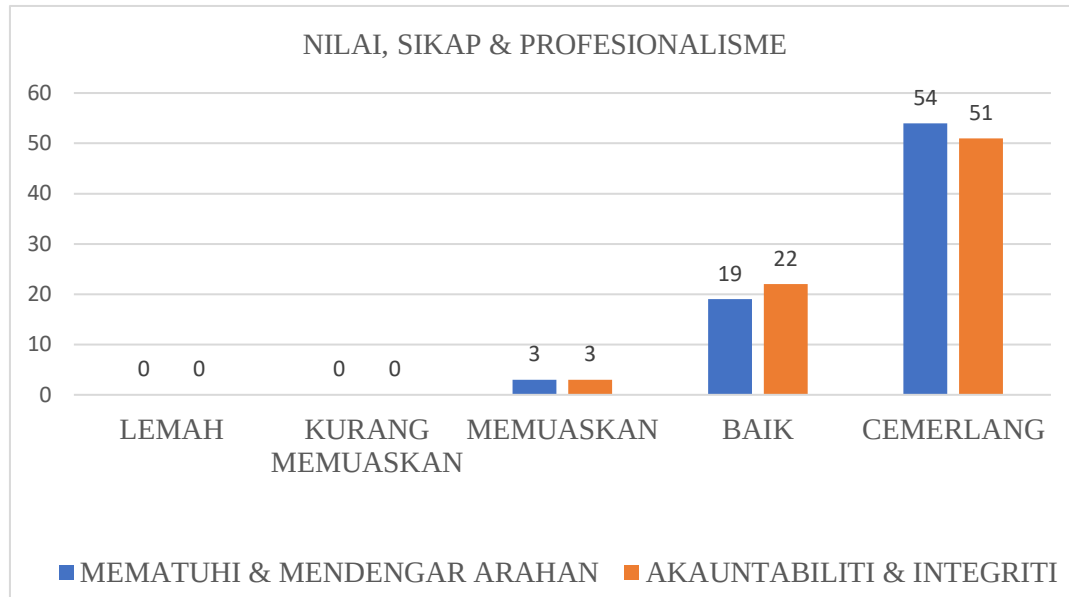
Pengukuran prestasi pelajar dari aspek kemahiran melaksanakan tugas terbahagi kepada dua bahagian iaitu kemahiran melaksanakan tugas dengan mengaplikasikan pengetahuan dan kemahiran dan kemahiran melaksanakan tugas dengan menggunakan alat atau mengamalkan pelbagai kaedah teknologi di tempat kerja. Prestasi pelajar adalah di tahap yang cemerlang di mana sebanyak 59% bersamaan dengan 45 orang pelajar mengaplikasikan pengetahuan dan kemahiran mereka manakala 61% bersamaan dengan 46 orang pelajar cemerlang dan mahir dalam penggunaan kelengkapan dan peralatan teknologi. Namun terdapat 8% atau 6 orang pelajar yang berada di tahap kurang memuaskan dalam mengaplikasikan pengetahuan dan kemahiran semasa melaksanakan tugas.



Rajah 2: Pengukuran Prestasi Pelajar Dalam Aspek Kemahiran Komunikasi Dan Sosial

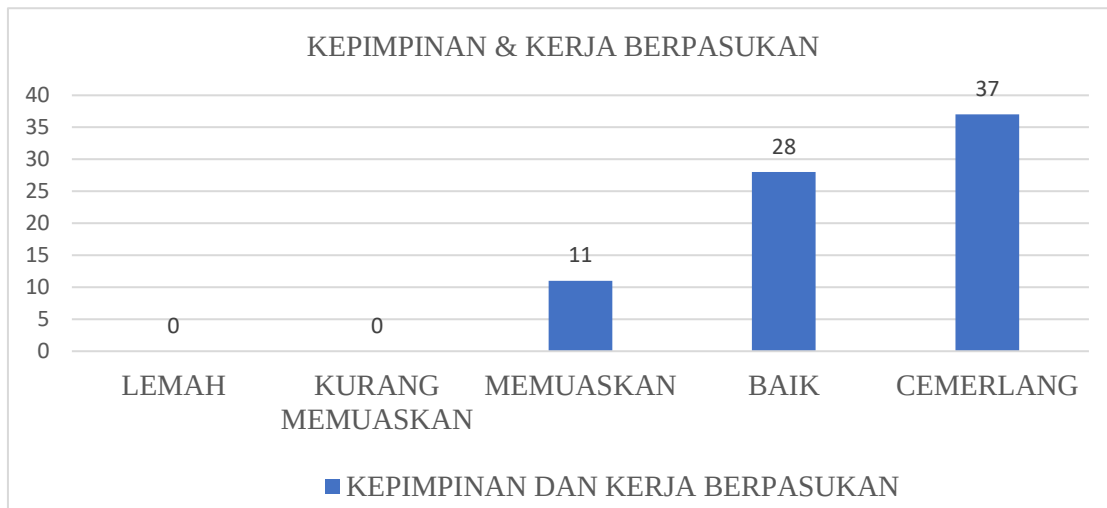
Pengukuran prestasi pelajar dalam aspek kemahiran komunikasi dan sosial melibatkan kemampuan pelajar menerima dan memproses maklumat, melaksanakan arahan, menganalisis secara langsung dan maklumat tidak langsung, berkomunikasi secara lisan dan bukan lisan sesuai dengan semua peringkat pekerja di syarikat dan keupayaan rundingan asas. Dari persepsi industri, pelajar DSK mempunyai kemahiran berkomunikasi yang cemerlang dengan merekodkan sebanyak 59% atau 45 orang pelajar, pada tahap baik 32% bersamaan 24 orang

pelajar dan tahap memuaskan merekodkan 9% bersamaan 7 orang pelajar. Dari segi keyakinan diri pula merekodkan 53% bersamaan 40 orang pelajar, pada tahap baik 36% bersamaan 27 orang pelajar dan tahap memuaskan 11%. Hanya seorang pelajar atau bersamaan 1.3% dinilai sebagai kurang memuaskan dari persepsi industri.



Rajah 3: Pengukuran Prestasi Pelajar Dalam Aspek Nilai, Sikap Dan Profesionalisme

Rajah 3-pula menunjukkan penilaian prestasi pelajar dalam aspek nilai, sikap dan profesionalisma dari persepsi industri. Aspek etika profesionalisme dinilai berdasarkan mematuhi dasar, peraturan organisasi, prosedur kerja dan peraturan keselamatan dan kesihatan, rekod kehadiran yang cemerlang, menepati masa dan kebolehan menyelesaikan masalah yang baik.. Dari segi akauntabiliti pula pelajar mestilah bertanggungjawab untuk menjelaskan tindakan dan segala keputusan yang diambil dan berintegriti iaitu kebolehan menyelesaikan masalah dengan tindakan sewajarnya. Prestasi pelajar amat tinggi iaitu sebanyak 71% yang melibatkan 54 orang pelajar mendapat cemerlang dalam aspek mematuhi dan mendengar arahan, 25% berprestasi baik yang melibatkan 19 orang pelajar manakala hanya 3 orang pelajar iaitu 4% pada tahap prestasi memuaskan. Bagi aspek akauntabiliti dan integrity pula sebanyak 67% atau 51 orang pelajar yang mendapat cemerlang, 29% atau 22 orang pelajar mendapat penilaian baik dan hanya 4% atau 3 orang pelajar sahaja yang mendapat penilaian memuaskan oleh majikan masing-masing.



Rajah 4: Pengukuran Prestasi Pelajar Dalam Aspek Kepimpinan Dan Kerja Berpasukan

Berdasarkan rajah 4 penilaian industri terhadap pelajar latihan industri dalam aspek kepimpinan dan kerja berpasukan juga adalah tinggi. Aspek kerja berpasukan menilai pelajar dalam mempunyai personaliti yang positif, terlibat secara aktif dalam aktiviti berkumpulan, melaksanakan tugas dengan sesuai dan situasi positif dan mengekalkan hubungan mesra dalam kumpulan. Aspek ini memperolehi peratusan cemerlang iaitu sebanyak 49% iaitu bersamaan dengan 37 orang pelajar. Peratusan ini menunjukkan pelajar DSK dapat melibatkan diri secara aktif dalam menjalankan tugas berpasukan dan boleh menjadi pemimpin yang baik dalam kumpulan. Manakala sebanyak 37% atau 28 orang pelajar di tahap baik dan 14% atau 11 orang pelajar dinilai di tahap memuaskan.

Kesimpulan dan Cadangan

Kesimpulannya, kajian ini telah mencapai objektif yang ditetapkan dengan hasil dapatan kajian menunjukkan prestasi pelajar Latihan industri untuk pelajar Diploma Sains Kesetiausahaan (DSK) dari persepsi industri adalah berada pada tahap baik dan cemerlang. Namun begitu kualiti pelajar masih perlu dipertingkatkan lagi dari segi kemahiran generik, kemahiran berkomunikasi, kemahiran berfikir secara kreatif dan kritis serta kemahiran bekerja secara berpasukan. Oleh kerana kajian ini hanya dilakukan terhadap pelajar latihan industri Diploma Sains Kesetiausahaan Jabatan Perdagangan, ia tidak mencerminkan perspektif sebenar majikan terhadap pelajar PPD secara keseluruhannya. Adalah disyorkan bahawa pada masa hadapan, kajian yang lebih komprehensif dan inklusif boleh dilakukan kepada seluruh pelajar latihan industri PPD daripada semua program di Jabatan Perdagangan atau perbandingan antara program boleh dijalankan antara program di PPD.

Memandangkan persepsi industri terhadap pelajar memainkan peranan yang amat penting, kajian lanjutan boleh dijalankan bagi mengenalpasti keperluan kemahiran secara khusus yang diperlukan oleh industri dalam program DSK. Data yang dikumpul daripada kajian seperti ini boleh digunakan sebagai rujukan bagi politeknik dan langkah penambahbaikan selanjutnya boleh diambil untuk meningkatkan prestasi mereka untuk pelajar latihan industri di masa hadapan. Dengan adanya fakta-fakta kajian yang mendedahkan keperluan dan kehendak industri terhadap pelajar latihan industri, Jabatan Pendidikan Politeknik dan Kolej Komuniti dapat menggubal kurikulum yang sesuai yang dapat menghasilkan graduan yang lebih berkualiti seterusnya meningkatkan peratusan kebolehpasaran graduan politeknik.

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GAYA KEPIMPINAN TRANSFORMASI GURU BESAR TERHADAP PERILAKU INOVASI GURU DI SJK TAMIL DAERAH KUALA MUDA YAN, KEDAH

Norazlinda Saad¹
Surendran Sankaran²
Raja Ramanathan³

¹School of Education, Universiti Utara Malaysia (UUM), Malaysia, (azlinda@uum.edu.my)

²School of Education, Universiti Utara Malaysia (UUM), Malaysia, (surendran@uum.edu.my)

³School of Education, Universiti Utara Malaysia (UUM), Malaysia, (prince1787@gmail.com)

Abstrak: Kajian ini bertujuan mengenal pasti pengaruh Gaya Kepimpinan Transformasi Guru Besar terhadap Perilaku Inovasi dalam kalangan guru. Kajian ini menggunakan kaedah kuantitatif dengan mengaplikasikan pendekatan tinjauan. Seramai 196 orang guru dari Sekolah Jenis Kebangsaan Tamil di Daerah Kuala Muda Yan telah dipilih sebagai sampel kajian dengan menggunakan teknik persampelan rawak mudah. Soal selidik yang mengandungi 80 item digunakan sebagai instrumen pengumpulan data yang mempunyai nilai kebolehpercayaan sebanyak 0.78 bagi pemboleh ubah Gaya Kepimpinan Transformasi Guru Besar dan 0.89 bagi pemboleh ubah Perilaku Inovasi Guru. Data kajian dianalisis dengan menggunakan statistik deskriptif dan inferensi iaitu regresi berganda. Dapatan kajian menunjukkan tahap Kepimpinan Transformasi Guru Besar berada pada tahap tinggi. Dapatan kajian juga menunjukkan bahawa terdapat pengaruh yang signifikan antara Gaya Kepimpinan Transformasi Guru Besar terhadap Perilaku Inovasi Guru. Implikasi kajian ini dapat dilihat menerusi amalan Kepimpinan Transformasi Guru Besar yang menjurus pada galakan Perilaku Inovasi dalam kalangan guru. Namun, masih terdapat ruang kepada golongan pemimpin dalam memberi pendedahan dan penekanan terhadap Perilaku Inovasi dalam kalangan guru.

Kata Kunci: Gaya Kepimpinan Transformasi, Perilaku Inovasi, Guru Besar, Guru, SJKT

Pengenalan

Gaya Kepimpinan Transformasi Guru Besar merujuk kepada pendekatan kepimpinan yang memfokuskan pada inspirasi, motivasi, dan sokongan individu untuk memacu perubahan dan inovasi dalam persekitaran sekolah (Saffiee et al., 2018). Gaya Kepimpinan Transformasi memainkan peranan penting dalam mempengaruhi Perilaku Inovasi Guru, di mana guru besar yang mengamalkan kepimpinan transformasi mampu menggalakkan guru-guru untuk meneroka kaedah pengajaran baru, mengambil risiko yang dikira, dan melaksanakan amalan pedagogi yang kreatif (Sin et al., 2024). Dengan memberikan visi yang jelas, sokongan berterusan, dan mengiktiraf usaha-usaha inovatif, guru besar boleh memacu peningkatan dalam hasil pendidikan dan mempertingkatkan kualiti pengajaran (Devagi & Mohamed Yusoff, 2024).

Kepimpinan transformasi adalah gaya kepimpinan yang dirancang untuk menggalakkan pekerja mencapai prestasi yang lebih tinggi dengan merangsang pertumbuhan dan perkembangan mereka (Munawaroh, 2011). Guru besar yang mempraktikkan kepimpinan transformasi berusaha untuk memotivasi pengikut mereka dengan pendekatan yang inovatif dan terkini, bukannya bergantung pada cara tradisional dalam menyelesaikan masalah atau mengendalikan situasi (Sin et al., 2024).

Penyataan Masalah

Kepimpinan transformasi adalah gaya kepemimpinan yang berkesan dalam memotivasi pekerja untuk berkembang dan mencapai prestasi yang lebih tinggi (Munawaroh, 2011). Isu Gaya Kepimpinan Transformasi Guru Besar dengan Perilaku Inovasi Guru sering kali melibatkan cabaran dalam menyelaraskan visi dan strategi kepemimpinan dengan keperluan inovatif dalam pengajaran (Putri & Rini, 2021). Guru besar yang mengamalkan gaya kepemimpinan transformasi perlu memupuk dan menyokong budaya inovasi dalam kalangan guru untuk memastikan perubahan yang dirancang dapat dilaksanakan dengan berkesan (Ishak & Nor, 2023). Namun, di lapangan, terdapat beberapa halangan seperti kekangan sumber, kekurangan latihan profesional, dan resistensi terhadap perubahan yang mungkin menghalang penerapan idea-idea baru (Hashim et al. 2019). Selain itu, komunikasi yang tidak efektif antara guru besar dan guru-guru boleh menyebabkan kekeliruan tentang objektif dan kaedah inovatif yang diharapkan. Untuk mengatasi isu-isu ini, adalah penting bagi guru besar untuk membangunkan pendekatan yang inklusif dan sokongan yang berterusan, serta menyediakan platform yang membolehkan guru-guru berkongsi idea dan mendapatkan maklum balas yang konstruktif (Aslan & Kesik, 2018). Dengan memastikan adanya sinergi antara kepemimpinan transformasi dan Perilaku Inovasi Guru, sekolah dapat mencipta persekitaran pembelajaran yang lebih dinamik dan berdaya saing.

Dalam kajian-kajian yang dijalankan oleh Kamarudin dan Taat (2020), Ambotang dan Andin (2020) dan Musta'amal et al. (2017) mendapati bahawa kurangnya pemupukan kreativiti semasa pengajaran dan pembelajaran. Mohamad Mohsin (2014) menunjukkan bahawa kebanyakan guru tidak berusaha untuk mengembangkan pemikiran kreatif kerana kekurangan inisiatif dan kreativiti peribadi. Kajian Suhaimi dan Muhamad Suhaimi (2020) pula mendapati bahawa beban kerja dan tekanan yang tinggi menghalang guru daripada meneroka kaedah pengajaran baru yang dapat merangsang kreativiti pelajar. Ambotang dan Andin (2020) menambah bahawa walaupun penyertaan murid dalam pertandingan inovasi menunjukkan peningkatan, Malaysia masih jauh ketinggalan berbanding negara lain. Oleh itu, guru besar dan pengetua di sekolah perlu memainkan peranan utama dalam mempengaruhi dan menggalakkan semua guru untuk melaksanakan program yang dapat menyokong pembangunan kreativiti dan inovasi di kalangan murid (Apak & Taat, 2018).

Dalam konteks sekolah, guru besar yang mengamalkan kepemimpinan transformasi memacu pengikutnya untuk bersikap inovatif dengan menerapkan pendekatan baru dan terkini, bukannya pendekatan tradisional, dalam menyelesaikan masalah dan menguruskan situasi. Walau bagaimanapun, menurut Dhanapal (2014), sekolah-sekolah SJKT menunjukkan pencapaian prestasi yang kurang memuaskan berbanding sekolah rendah lain. Kelemahan ini boleh dikaitkan dengan kekurangan profesionalisme guru serta isu dalam pentadbiran yang melibatkan guru besar SJKT. Oleh itu, kajian mengenai pengaruh Gaya Kepimpinan Transformasi Guru Besar terhadap Perilaku Inovasi Guru adalah penting untuk memahami bagaimana kepemimpinan boleh mempengaruhi dinamika dan pencapaian dalam pendidikan.

Objektif Kajian

1. Mengetahui tahap Kepimpinan Transformasi Guru Besar.
2. Mengetahui pengaruh Kepimpinan Transformasi Guru Besar terhadap Perilaku Inovasi Guru.

Tinjauan Literatur

Kepimpinan Transformasi Guru Besar

Gaya kepemimpinan transformasi merupakan pendekatan yang berorientasikan perubahan dan inovasi dalam pengurusan dan kepimpinan, terutamanya dalam konteks pendidikan (Devagi & Mohamed Yusoff, 2024). Sin dan Hanim (2024) mendefinisikan bahawa kepimpinan transformasi sebagai kepimpinan yang mendorong orang mengubah nilai dan sikap mereka supaya mempunyai tanggungjawab terhadap matlamat sesebuah organisasi dan perjuangan. Kepimpinan transformasional ditakrifkan sebagai satu gaya kepimpinan di mana seorang pemimpin menggerakkan, mengilhami serta mengangkat kedudukan pengikut. Bass (1985) menyatakan bahawa kepimpinan transformasional merupakan kepimpinan yang melibatkan pandangan jauh secara proaktif di mana pemimpin meramalkan peluang dan cabaran yang akan dihadapi oleh organisasi.

Seterusnya pemimpin transformasi bukan sahaja mempunyai kebolehan untuk meningkatkan minat pekerja dalam pekerjaan tetapi juga berkebolehan membangunkan minat yang terpendam dalam diri seseorang pekerja tersebut (Ali & Yusoff, 2017). Dalam konteks seorang guru besar, gaya kepimpinan ini melibatkan usaha untuk merangsang dan memotivasi staf serta pelajar untuk mencapai kejayaan dan meningkatkan prestasi sekolah secara keseluruhan. Guru besar yang mengamalkan gaya kepimpinan transformasi akan memfokuskan kepada pembangunan profesional, menetapkan visi yang jelas dan inspiratif, serta menggalakkan budaya kerja yang positif dan berdaya saing. Mereka akan mengambil pendekatan yang inklusif dalam membuat keputusan, menghargai input dan pandangan dari seluruh warga sekolah, serta mewujudkan persekitaran yang menyokong dan memupuk kreativiti serta inovasi (Saffiee et al., 2018). Dengan pendekatan ini, guru besar dapat mengubah minda dan sikap seluruh komuniti sekolah, seterusnya mendorong pencapaian yang lebih tinggi dan memajukan pendidikan secara keseluruhan.

Kepimpinan transformasi guru besar melibatkan usaha untuk mentransformasi sekolah melalui visi yang inovatif, kepimpinan yang berdaya saing, dan strategi yang memacu perubahan positif dalam proses pengajaran dan pembelajaran (Massod & Asfar, 2017). Seorang guru besar yang berfokus pada kepimpinan transformasi akan memupuk budaya sekolah yang inklusif dan kolaboratif, memberi sokongan kepada guru untuk meneroka pendekatan pedagogi baru, dan memastikan sumber daya digunakan secara efektif untuk meningkatkan hasil pendidikan. Kepimpinan ini tidak hanya menekankan pencapaian akademik tetapi juga pembangunan holistik pelajar dan pengembangan profesional berterusan untuk staf (Devagi & Mohamed Yusoff, 2024). Dengan pendekatan ini, guru besar berusaha mencipta persekitaran sekolah yang adaptif dan dinamik, mampu menghadapi cabaran dan meraih kejayaan dalam dunia pendidikan yang sentiasa berubah (Yean et al., 2016).

Perilaku Inovasi Guru

Perilaku Inovasi Guru merujuk kepada sikap dan tindakan yang memacu pembaharuan dan penambahbaikan dalam amalan pengajaran dan pembelajaran (Hsiao et al. 2011). Guru yang menunjukkan perilaku inovasi sering kali mencari cara baru untuk menyampaikan kandungan pelajaran, menggunakan teknologi terkini, dan mencipta strategi pengajaran yang lebih berkesan (Hashim et al., 2019). Mereka cenderung terbuka kepada idea-idea baru, berani mengambil risiko, dan bersedia untuk mencuba kaedah yang tidak konvensional demi meningkatkan hasil pembelajaran pelajar. Dengan menerapkan pendekatan inovatif, guru dapat menyesuaikan diri dengan keperluan pelajar yang sentiasa berubah dan mencipta suasana pembelajaran yang dinamik dan menarik. Perilaku ini bukan sahaja membantu dalam memotivasi pelajar tetapi juga dalam merangsang kreativiti dan penglibatan mereka, sekaligus

mempertingkatkan pencapaian akademik dan perkembangan keseluruhan mereka (Vithayaporn, & Ashton, 2019). Penyumbangan pemikiran guru yang kreatif dan inovatif kepada institusi bergantung kepada keberkesanan kepimpinan serta sokongan yang diberikan oleh pemimpin (Izzati, 2017). Gaya kepimpinan transformasi yang dipamerkan oleh guru besar atau pengetua membolehkan guru menggunakan kebolehan dan kemahiran mereka bagi menjayakan matlamat yang ingin dicapai oleh institusi dan seterusnya memperkukuhkan komitmen mereka (Ishak & Nor, 2023; Raja & Madhavi, 2018).

Metodologi Kajian

Reka bentuk kajian ini adalah berbentuk kuantitatif dengan menggunakan tinjauan sebagai kaedah pengumpulan data. Kajian ini melibatkan populasi seramai 196 orang guru dari Sekolah Jenis Kebangsaan Tamil di Daerah Kuala Muda Yan, dengan teknik persampelan rawak mudah digunakan untuk memilih peserta kajian. Instrumen kajian diadaptasi daripada kajian lepas dan dibahagikan kepada dua bahagian utama iaitu Gaya Kepimpinan Transformasi Guru Besar (40 item) (Raihana, 2012) dan Perilaku Inovasi Guru (40 item) (Rizal, 2008), dengan nilai kebolehpercayaan masing-masing sebanyak 0.78 dan 0.89. Prosedur menganalisis data dilakukan menggunakan statistik deskriptif untuk memberikan gambaran keseluruhan data, serta regresi berganda untuk mengkaji hubungan antara gaya kepimpinan transformasi dan Perilaku Inovasi Guru.

Dapatan dan Perbincangan Kajian

Jadual 1: Jantina Responden Kajian

Jantina	Frekuensi (n)	Peratus (%)
Lelaki	54	27.5
Perempuan	142	72.5
Keseluruhan	196	100

Jadual 1 menunjukkan profil jantina responden kajian, di mana terdapat 196 responden keseluruhan. Daripada jumlah ini, 54 responden (27.5%) adalah lelaki, manakala 142 responden (72.5%) adalah perempuan. Ini menunjukkan bahawa perempuan mendominasi populasi responden.

Jadual 2: Tahap Kepimpinan Transformasi Guru Besar

Dimensi	Min	Sisihan Piawai	Tahap
Karismatik	4.71	0.319	Tinggi
Inspirasi Motivasi	4.51	0.234	Tinggi
Stimulasi Intelektual	4.75	0.362	Tinggi
Pertimbangan Individu	4.57	0.260	Tinggi
Min Keseluruhan	4.64	0.294	Tinggi

Jadual 2 menunjukkan Tahap Kepimpinan Transformasi Guru Besar berdasarkan beberapa dimensi, dengan semua dimensi menunjukkan tahap tinggi. Dimensi karismatik mencatatkan min tertinggi pada 4.71, diikuti oleh stimulasi intelektual pada 4.75. Inspirasi motivasi dan pertimbangan individu juga mencatatkan min tinggi masing-masing pada 4.51 dan 4.57. Dengan min keseluruhan 4.64 dan sisihan piawai yang rendah, data ini mencerminkan konsistensi dan keupayaan tinggi guru besar dalam menerapkan kepimpinan transformasi yang berkesan di sekolah. Kajian oleh Sia et al. (2022) menyokong dapatan kajian ini, di mana mereka mendapati bahawa kepimpinan transformasional pengetua di Sekolah Tinggi Persendirian Cina berada di tahap tinggi.

Jadual 3: Pengaruh Kepimpinan Transformasi Guru Besar Terhadap Perilaku Inovasi Guru

Model	Nilai R	Nilai R ²	Sig (p)
1 ^a	0.974	0.948	0.000

Jadual 3 menunjukkan hasil analisis regresi berganda yang mengkaji pengaruh kepemimpinan transformasi guru besar terhadap Perilaku Inovasi Guru . Nilai R yang diperoleh adalah 0.974, yang menunjukkan korelasi yang sangat kuat antara Gaya Kepimpinan Transformasi Guru Besar dan Perilaku Inovasi Guru . Nilai R² pula adalah 0.948, yang bermaksud bahawa sekitar 94.8% variansi dalam Perilaku Inovasi Guru dapat dijelaskan oleh Gaya Kepimpinan Transformasi Guru Besar . Ini menunjukkan hubungan yang sangat signifikan dan kuat antara kedua-dua pemboleh ubah tersebut. Nilai Sig (p) yang diperoleh adalah 0.000, yang kurang daripada paras signifikan 0.05, menandakan bahawa pengaruh yang ditunjukkan adalah sangat signifikan secara statistik. Dengan kata lain, Gaya Kepimpinan Transformasi Guru Besar mempunyai pengaruh yang kuat dan signifikan terhadap Perilaku Inovasi Guru , dan hasil ini menunjukkan bahawa kepemimpinan transformasi memainkan peranan penting dalam mendorong inovasi di kalangan guru.

Dapatan ini adalah selari dengan Sia et al. (2022) yang menyatakan bahawa pemimpin yang mengamalkan Gaya Kepimpinan Transformasional dapat mempengaruhi pemikiran kreatif dan inovatif guru dalam sesebuah organisasi. Kajian Aziyah dan Naresh (2021) juga menyokong dapatan kajian ini, yang menunjukkan bahawa Gaya Kepimpinan Transformasi merupakan peramal utama bagi perilaku inovasi dan komitmen guru. Gaya kepemimpinan yang ditunjukkan oleh guru besar membolehkan guru memanfaatkan kebolehan dan kemahiran mereka untuk mencapai matlamat institusi, sekaligus meningkatkan komitmen mereka terhadap organisasi.

Implikasi Kajian

Implikasi kajian ini menunjukkan bahawa kepemimpinan transformasi guru besar dapat meningkatkan kesedaran warga guru terhadap proses dan aliran pengurusan sekolah, dengan menggalakkan penerapan teknik dan kaedah yang kreatif dan berinovasi dalam menjalankan tugas. Selain itu, ia dapat mewujudkan suasana tempat kerja yang sihat dan kondusif, memacu motivasi dan prestasi guru. Kajian ini juga membantu pengurusan sekolah dalam menyediakan latihan yang mencukupi kepada guru-guru di bawah kepemimpinan mereka, memastikan pengurusan yang lebih telus dan berkesan. Dengan menerapkan amalan kepemimpinan transformasi, sekolah dapat mempertingkatkan kualiti pengajaran dan suasana kerja yang menyokong perkembangan profesional dan peribadi guru.

Kesimpulan

Kesimpulan kajian menunjukkan bahawa tahap kepemimpinan transformasi guru besar di Sekolah Jenis Kebangsaan Tamil Daerah Kuala Muda Yan berada pada tahap tinggi, dan terdapat pengaruh yang signifikan antara Gaya Kepimpinan Transformasi Guru Besar terhadap Perilaku Inovasi Guru. Implikasi kajian ini menekankan bahawa amalan kepemimpinan transformasi yang diterapkan oleh guru besar berupaya untuk mendorong dan menggalakkan perilaku inovasi dalam kalangan guru. Ini menunjukkan bahawa gaya kepemimpinan yang menyokong inovasi dapat mempertingkatkan kreativiti dan kecekapan pengajaran, serta memacu peningkatan keseluruhan dalam kualiti pendidikan di sekolah.

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KEBERKESANAN PENGGUNAAN BAHAN PENGAJARAN MULTIMEDIA TERHADAP PENCAPAIAN MURID DALAM MATA PELAJARAN SAINS

Surendran Sankaran¹

Norazlinda Saad²

Lee Li Yin³

¹School of Education, Universiti Utara Malaysia (UUM), Malaysia, (surendran@uum.edu.my)

²School of Education, Universiti Utara Malaysia (UUM), Malaysia, (azlinda@uum.edu.my)

³School of Education, Universiti Utara Malaysia (UUM), Malaysia, (leliyi@yahoo.com)

Abstrak: Kajian ini bertujuan untuk mengenal pasti keberkesanan penggunaan bahan pengajaran multimedia terhadap pencapaian murid dalam mata pelajaran Sains. Kajian ini menggunakan kaedah kuasi-eksperimen yang melibatkan 60 orang murid tahun 5 di sebuah Sekolah Jenis Kebangsaan Cina, dengan persampelan bertujuan digunakan. Instrumen kajian termasuk ujian pra, ujian pasca, bahan pengajaran multimedia, dan borang soal selidik, di mana nilai kebolehpercayaan soal selidik adalah tinggi iaitu 0.95. Kumpulan kawalan menggunakan kaedah pengajaran tradisional, manakala kumpulan eksperimen menggunakan bahan multimedia semasa rawatan dan menjawab borang soal selidik selepas rawatan. Data yang dikumpul dari borang soal selidik dianalisis menggunakan Statistical Packages for Social Science (SPSS) versi 20. Persoalan kajian diuji melalui statistik inferensi, termasuk Ujian-t Sampel Berpasangan dan Ujian-t Sampel Tidak Bersandar. Dapatan kajian menunjukkan terdapat perbezaan yang signifikan dalam kumpulan eksperimen antara kedua-dua ujian, dengan peningkatan min skor sebanyak 9.66. Selain itu, terdapat perbezaan signifikan dalam ujian pasca antara kedua-dua kumpulan, di mana min skor bagi kumpulan eksperimen adalah lebih tinggi berbanding kumpulan kawalan selepas rawatan. Ini menunjukkan bahawa kaedah pengajaran menggunakan bahan multimedia adalah lebih berkesan berbanding kaedah tradisional.

Kata Kunci: Bahan Pengajaran Multimedia, Mata pelajaran Sains, Kuasi Eksperimen, SJK Cina

Pengenalan

Dalam usaha untuk mentransformasikan penggunaan Teknologi Maklumat dan Komunikasi (ICT) dalam pendidikan, Kementerian Pendidikan Malaysia (KPM) telah mengambil beberapa langkah strategik untuk memastikan kelangsungan dan keberkesanan projek-projek ICT. KPM telah berusaha meningkatkan infrastruktur sekolah, menyediakan latihan berterusan kepada guru, dan memperkenalkan platform e-learning yang memudahkan interaksi antara pelajar dan guru. KPM juga mengkaji dan mengemaskini kurikulum bagi memastikan ia relevan dengan perkembangan teknologi semasa, serta menjalin kerjasama dengan sektor swasta untuk memperkenalkan alat pendidikan inovatif. Melalui inisiatif ini, KPM berusaha memastikan penggunaan ICT meningkatkan proses pembelajaran dan mempersiapkan pelajar menghadapi cabaran masa depan dalam dunia digital seperti yang dirancang dalam Pelan Pembangunan Pendidikan Malaysia (PPPM) 2013-2025. Dengan adanya bantuan teknologi dalam pendidikan, diharapkan murid dapat berfikir pada aras yang lebih tinggi seterusnya kualiti pendidikan akan bertambah baik.

Penyataan Masalah

Keputusan pentaksiran antarabangsa tahun 2022 menunjukkan bahawa prestasi Sains pelajar Malaysia adalah tidak memuaskan, Malaysia hanya mencatat 52.1% penguasaan konsep asas Sains (Kementerian Pendidikan Malaysia (KPM), 2022). KPM sedar wujud kelemahan penguasaan pelajar khususnya dalam subjek Sains dan Matematik yang menyumbang kepada kemerosotan ketara skor Malaysia dalam Program Pentaksiran Pelajar Antarabangsa (PISA) 2022 (KPM, 2022). Kemerosotan pencapaian Malaysia dalam pentaksiran TIMSS dan PISA dikatakan berpunca daripada penguasaan konsep Sains yang lemah serta terhad oleh pelajar. Ini menunjukkan bahawa pelajar Malaysia mempunyai tahap literasi Sains yang rendah kerana pelajar dikatakan gagal mengaplikasi pengetahuan mereka dalam situasi berbeza (KPM, 2013). Memandangkan bidang Sains dan Teknologi berkait rapat dengan kemajuan negara, adalah penting untuk mendedahkan murid kepada pendidikan Sains dan Teknologi dari peringkat awal persekolahan. Kajian oleh Said et al. (2021) dan Poobalan et al. (2019) menunjukkan bahawa penggunaan ICT dalam pengajaran dan pembelajaran (PdP) dapat membantu murid memahami konsep Sains yang sukar. Kajian Nur Faizah et al. (2023), Sarabani (2021) dan Hasnah (2012) mendapati bahawa penggunaan bahan multimedia bukan sahaja menyenangkan proses pengajaran, tetapi juga memudahkan pemahaman pelajar dalam proses pembelajaran dan meningkatkan pencapaian Sains dalam kumpulan eksperimen. Kajian ini bertujuan untuk mengenal pasti keberkesanan penggunaan bahan pengajaran multimedia terhadap pencapaian murid dalam mata pelajaran Sains.

Objektif kajian

1. Mengetahui perbezaan antara min skor ujian pra Sains dengan min skor ujian pasca Sains kumpulan kawalan.
2. Mengetahui perbezaan antara min skor ujian pra Sains dengan min skor ujian pasca Sains kumpulan eksperimen.
3. Mengetahui perbezaan min skor ujian pra Sains antara kumpulan kawalan dengan kumpulan eksperimen.
4. Mengetahui perbezaan min skor ujian pasca Sains antara kumpulan kawalan dengan kumpulan eksperimen.

Tinjauan Literatur

Pengajaran Berasaskan Multimedia

Pengajaran berasaskan multimedia merujuk kepada pendekatan pengajaran yang menggunakan pelbagai jenis media, seperti video, audio, animasi, dan grafik, untuk menyampaikan maklumat dan konsep kepada pelajar (Osman, 2023; Che Suriani et al. 2020). Pendekatan ini bertujuan untuk meningkatkan pemahaman dan keterlibatan pelajar dengan menyajikan bahan pembelajaran dalam format yang lebih interaktif dan menarik. Dengan mengintegrasikan teknologi multimedia dalam bilik darjah, pengajaran berasaskan multimedia bukan sahaja memperkaya pengalaman pembelajaran tetapi juga memudahkan pelajar dalam memahami konsep yang kompleks dengan cara yang lebih visual dan praktikal (Siti Nursaadah, 2022; Rossafri et al., 2010). Selain itu, Pengajaran berasaskan multimedia membolehkan penyesuaian kepada pelbagai gaya pembelajaran, membantu pelajar untuk berinteraksi secara aktif dengan kandungan dan meningkatkan motivasi mereka untuk belajar (Sabtari et al., 2023; Sallehin & Halim, 2018).

Persembahan multimedia dapat mempengaruhi pencapaian akademik pelajar (Rusli et al., 2021). Hal ini disebabkan oleh anjakan penggunaan Alat Bantu Mengajar (ABM) yang dibina berasaskan perisian multimedia seperti aplikasi mudah alih, koswer, serta permainan pendidikan (Mahat et al., 2020). Pembelajaran Multimedia Hibrid merujuk kepada

pembelajaran berpusatkan pelajar yang memberikan penekanan kepada pembinaan kemahiran melalui sokongan teknologi Web 2.0, rangkaian sosial, serta interaktiviti yang meluas (Adzhar, Abdul Karim & Sahrin, 2017).

Metodologi Kajian

Kajian ini menggunakan kaedah kuantitatif dengan reka bentuk kuasi-eksperimen, khususnya reka bentuk ujian pra-ujian pasca kumpulan kawalan tidak setara. Populasi kajian terdiri daripada murid Tahun 5 di Sekolah Jenis Kebangsaan Cina di Kubang Pasu, dengan persampelan bertujuan melibatkan satu kelas sebagai kumpulan kawalan yang terdiri daripada 30 responden yang menggunakan kaedah pengajaran tradisional, dan satu kelas sebagai kumpulan eksperimen yang juga terdiri daripada 30 responden, tetapi menerima rawatan menggunakan bahan pengajaran multimedia. Instrumen kajian termasuk ujian pra dan ujian pasca, bahan pengajaran multimedia, serta borang soal selidik, di mana nilai kebolehpercayaan soal selidik adalah tinggi iaitu 0.95. Data dikumpulkan dan dianalisis menggunakan statistik inferensi, khususnya Ujian-t Sampel Berpasangan dan Ujian-t Sampel Tidak Bersandar, untuk menguji persoalan kajian.

Dapatan dan Perbincangan Kajian

Jadual 1: Profil Responden Dari Kumpulan Kawalan Mengikut Jantina Dan Bangsa

		Bangsa				Jumlah
		Melayu	Cina	India	Lain-lain	
Jantina	Lelaki	-	15	-	1	16
	Perempuan	2	9	2	1	14
	Jumlah	2	24	2	2	30

Jadual 1 menunjukkan profil responden dari kumpulan kawalan berdasarkan jantina dan bangsa, dengan jumlah keseluruhan 30 responden. Kumpulan ini didominasi oleh bangsa Cina, yang terdiri daripada 24 responden, termasuk 15 lelaki dan 9 perempuan. Terdapat hanya 2 responden Melayu (kedua-duanya perempuan) dan 2 responden India (juga kedua-duanya perempuan), serta 2 responden dari kategori lain (1 lelaki & 1 perempuan).

Jadual 2: Profil Responden Dari Kumpulan Eksperimen Mengikut Jantina Dan Bangsa

		Bangsa				Jumlah
		Melayu	Cina	India	Lain-lain	
Jantina	Lelaki	1	13	1	2	17
	Perempuan	1	12	-	-	13
	Jumlah	2	25	1	2	30

Jadual 2 menunjukkan profil responden dari kumpulan eksperimen berdasarkan jantina dan bangsa, dengan jumlah keseluruhan 30 responden. Kumpulan ini juga didominasi oleh bangsa Cina, yang terdiri daripada 25 responden, termasuk 13 lelaki dan 12 perempuan. Terdapat 2 responden Melayu (1 lelaki dan 1 perempuan), 1 responden India (lelaki), dan 2 responden dari kategori lain (2 lelaki).

Jadual 3: Keputusan Ujian-t Untuk Perbezaan Antara Min Skor Ujian Pra Dengan Ujian Pasca Sains Kumpulan Kawalan

	Ujian	N	Min	SP	df	t	Sig.
Kumpulan Kawalan	Pra	30	64.83	9.42	29	-1.072	.293
	Pasca	30	65.50	10.03			

Jadual 3 menunjukkan hasil ujian-t yang mengkaji perbezaan antara min skor ujian pra dan ujian pasca dalam mata pelajaran Sains bagi kumpulan kawalan. Untuk kumpulan kawalan, min skor untuk ujian pra adalah 64.83 dengan sisihan piawai (SP) 9.42, sementara min skor untuk ujian pasca adalah 65.50 dengan sisihan piawai 10.03. Nilai t adalah -1.072 dengan darjah kebebasan (df) 29 dan nilai p (Sig.) adalah 0.293. Ini menunjukkan bahawa tiada perbezaan yang signifikan secara statistik antara min skor ujian pra dan ujian pasca dalam kumpulan kawalan. Dapatan kajian ini adalah selari dengan kajian oleh Kajian Tan dan Carol (2013) menunjukkan dapatan yang sama dengan kajian ini. Analisis ujian-t menunjukkan perbezaan min skor bagi kumpulan kawalan adalah tidak signifikan, tetapi peratusan markah keseluruhan kumpulan kawalan telah meningkat dalam sesi PdP Sejarah yang menggunakan kaedah tradisional “chalk and talk”.

Jadual 4: Keputusan Ujian-t Untuk Perbezaan Antara Min Skor Ujian Pra Dengan Ujian Pasca Sains Kumpulan Eksperimen

	Ujian	N	Min	SP	df	t	Sig.
Kumpulan Eksperimen	Pra	30	60.83	10.42	29	-18.154	.000
	Pasca	30	70.50	9.03			

Jadual 4 menunjukkan keputusan ujian-t yang mengkaji perbezaan antara min skor ujian pra dan ujian pasca dalam mata pelajaran Sains bagi kumpulan eksperimen. Untuk kumpulan eksperimen, min skor ujian pra adalah 60.83 dengan sisihan piawai (SP) 10.42, sementara min skor ujian pasca meningkat kepada 70.50 dengan SP 9.03. Nilai t adalah -18.154 dengan darjah kebebasan (df) 29, dan nilai p (Sig.) adalah 0.000. Nilai p yang sangat kecil (kurang daripada 0.05) menunjukkan bahawa perbezaan antara min skor ujian pra dan ujian pasca adalah sangat signifikan secara statistik. Ini menunjukkan bahawa penggunaan bahan pengajaran multimedia dalam kumpulan eksperimen mempunyai kesan yang ketara dalam meningkatkan pencapaian Sains murid dari ujian pra ke ujian pasca. Dapatan kajian ini adalah selari dengan kajian Saripah et al. (2013) yang menunjukkan hasil yang sama, di mana wujud perbezaan yang signifikan antara min skor ujian pra Sains dengan min skor ujian pasca Sains kumpulan eksperimen. Ini bermakna kaedah pengajaran menerusi penggunaan modul multimedia Kimia interaktif berkesan terhadap pencapaian pelajar.

Jadual 5: Keputusan Ujian-t Untuk Perbezaan Min Skor Ujian Pra Sains Antara Kumpulan Kawalan Dengan Kumpulan Eksperimen

	Kumpulan	N	Min	SP	df	t	Sig.
Ujian Pra	Kawalan	30	64.83	9.42	58	1.559	.124
	Eksperimen	30	60.83	10.42			

Jadual 5 menunjukkan keputusan ujian-t yang mengkaji perbezaan antara min skor ujian pra Sains bagi kumpulan kawalan dan kumpulan eksperimen. Untuk ujian pra, min skor bagi kumpulan kawalan adalah 64.83 dengan sisihan piawai (SP) 9.42, manakala min skor bagi kumpulan eksperimen adalah 60.83 dengan SP 10.42. Nilai t adalah 1.559 dengan darjah kebebasan (df) 58, dan nilai p (Sig.) adalah 0.124. Nilai p ini lebih besar daripada paras signifikan 0.05, yang menunjukkan bahawa perbezaan antara min skor ujian pra bagi kedua-dua kumpulan tidak signifikan secara statistik. Ini bermakna tiada perbezaan yang ketara dalam pencapaian awal Sains antara kumpulan kawalan dan kumpulan eksperimen sebelum rawatan diberikan. Keputusan ini juga disokong oleh Rian dan Kamisah (2012) dalam kajian mereka

yang menggunakan pelbagai media pengajaran berasaskan konstruktivisme dalam PdP Sains. Keputusan menunjukkan tiada perbezaan yang signifikan min skor ujian pra antara kumpulan pelajar yang menggunakan perisian multimedia dengan kumpulan pelajar yang menggunakan modul atau kumpulan pelajar yang menggunakan kaedah tradisional semasa PdP.

Jadual 6: Keputusan Ujian-t Untuk Perbezaan Min Skor Ujian Pasca Sains Antara Kumpulan Kawalan Dengan Kumpulan Eksperimen

	Kumpulan	N	Min	SP	df	t	Sig.
Ujian Pasca	Kawalan	30	65.50	10.03	58	-2.029	.047
	Eksperimen	30	70.50	9.03			

Jadual 6 menunjukkan keputusan ujian-t yang membandingkan min skor ujian pasca Sains antara kumpulan kawalan dan kumpulan eksperimen. Untuk ujian pasca, min skor bagi kumpulan kawalan adalah 65.50 dengan sisihan piawai (SP) 10.03, manakala min skor bagi kumpulan eksperimen adalah 70.50 dengan SP 9.03. Nilai t adalah -2.029 dengan darjah kebebasan (df) 58, dan nilai p (Sig.) adalah 0.047. Nilai p ini kurang daripada paras signifikan 0.05, yang menunjukkan bahawa perbezaan antara min skor ujian pasca bagi kedua-dua kumpulan adalah signifikan secara statistik. Ini menunjukkan bahawa penggunaan bahan pengajaran multimedia dalam kumpulan eksperimen mempunyai kesan yang ketara dalam meningkatkan pencapaian Sains pelajar berbanding dengan kumpulan kawalan yang menggunakan kaedah pengajaran tradisional. Keputusan ini disokong oleh kajian yang dilakukan Lee dan Fariza (2018). Menurut Lee dan Fariza, kumpulan eksperimen yang menjalani sistem pembelajaran berasaskan laman web mempunyai min skor pencapaian yang lebih baik jika berbanding dengan kumpulan kawalan menjalani PdP berasaskan kaedah tradisional. Ini disebabkan penyampaian isi kandungan bertajuk “Reka Bentuk Model 3D” dalam bentuk persembahan multimedia mampu meningkatkan kefahaman responden kumpulan eksperimen lalu memotivasikan murid untuk belajar.

Implikasi Kajian

Implikasi kajian ini menunjukkan bahawa kaedah pengajaran yang menggunakan bahan pengajaran multimedia terbukti lebih berkesan dalam meningkatkan pencapaian Sains murid berbanding dengan kaedah pengajaran tradisional. Ini menggariskan kepentingan penggunaan multimedia dalam merancang aktiviti pengajaran dan pembelajaran (PdP), yang dapat memperkaya pengalaman pembelajaran dan meningkatkan pemahaman konsep. Oleh itu, guru digalakkan untuk merancang aktiviti PdP dengan mengintegrasikan bahan multimedia, tidak hanya dalam mata pelajaran Sains tetapi juga dalam mata pelajaran lain, untuk memanfaatkan potensi teknologi dalam meningkatkan keberkesanan pengajaran dan pencapaian akademik pelajar secara keseluruhan.

Kesimpulan

Kesimpulan kajian ini menunjukkan bahawa terdapat perbezaan yang signifikan antara min skor ujian pra dan ujian pasca bagi kedua-dua kumpulan dalam mata pelajaran Sains. Penggunaan bahan pengajaran multimedia dalam mata pelajaran Sains memberi kesan positif terhadap pencapaian murid, dengan peningkatan yang ketara dalam hasil ujian. Oleh itu, kaedah pengajaran tradisional perlu dipertimbangkan untuk digantikan dengan kaedah pengajaran berbantuan komputer, khususnya melalui penggunaan bahan pengajaran multimedia, untuk meningkatkan keberkesanan pembelajaran dan pencapaian akademik dalam Sains.

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PENILAIAN TAHAP PELAKSANAAN PENTAKSIRAN BILIK DARJAH DALAM KALANGAN GURU SEKOLAH MENENGAH KEBANGSAAN TEBOBON KOTA KINABALU SABAH

Mohammad Azri Amatan¹

Faridah Raimin²

Miriani Paidal³

Dayang Fatimah Majid⁴

¹SMK Tebobon Kota Kinabalu Sabah, Malaysia, (mazrians@gmail.com)

²SMK Tebobon Kota Kinabalu Sabah, Malaysia, (faridahrainin@gmail.com)

³SMK Tebobon Kota Kinabalu Sabah, Malaysia, (mirianipaidals@gmail.com)

⁴SMK Tebobon Kota Kinabalu Sabah, Malaysia, (drdf91@yahoo.com.my)

Abstrak: Kajian ini bertujuan untuk menilai tahap pelaksanaan Pentaksiran Bilik Darjah (PBD) dalam kalangan guru di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu, Sabah. Seramai 92 orang daripada 125 guru telah dipilih sebagai responden kajian. Pendekatan kuantitatif berbentuk tinjauan hirisan rentas digunakan dalam kajian ini. Data diperoleh melalui instrumen soal selidik dan dianalisis menggunakan perisian IBM Statistical Package for Social Science (SPSS) versi 25.0. Hasil kajian mendapati tahap pengetahuan guru ($M=3.90$, $SP=1.47$), kemahiran guru ($M=4.33$, $SP=1.06$), kesediaan guru ($M=4.36$, $SP=0.99$) dan sikap guru ($M=3.40$, $SP=1.35$) terhadap pelaksanaan PBD adalah tinggi. Sebaliknya, persepsi guru terhadap masalah dalam melaksanakan PBD adalah pada tahap sederhana ($M=2.86$, $SP=1.38$). Dapatan ini menunjukkan bahawa guru memiliki asas kukuh dalam melaksanakan PBD, namun terdapat isu-isu sederhana yang perlu diatasi, khususnya berkaitan persepsi guru terhadap masalah dalam pelaksanaannya. Implikasi kajian ini adalah pihak berkepentingan perlu memberi tumpuan kepada strategi yang dapat memastikan pelaksanaan PBD berjalan dengan lebih lancar dan berkesan.

Kata Kunci: Penilaian PBD, Pentaksiran Bilik Darjah (PBD), Kemahiran PBD, Pengetahuan PBD, Kemahiran PBD, Kesediaan PBD, Masalah dan Sikap PBD

Pengenalan

Pentaksiran Bilik Darjah (PBD) merupakan satu elemen penting dalam sistem pendidikan Malaysia yang diperkenalkan bagi meningkatkan keberkesanan proses pengajaran dan pembelajaran. PBD menekankan penilaian berterusan yang dilakukan melalui peranan guru dalam bilik darjah untuk menilai pencapaian pelajar secara menyeluruh (Ministry of Education Malaysia, 2020). Konsep ini bertujuan untuk menggantikan sistem peperiksaan tradisional yang sering kali memberi fokus kepada penilaian akhir tahun sahaja. Pelaksanaan PBD adalah penting kerana ia memberikan maklumat yang lebih mendalam tentang kemajuan pelajar serta keperluan mereka. Dengan penekanan kepada penilaian formatif, PBD membantu guru untuk mengenal pasti kekuatan dan kelemahan pelajar dengan lebih tepat dan membuat penyesuaian dalam pengajaran mereka (Kementerian Pendidikan Malaysia, 2021). Dalam hal ini, Heritage (2010) mendapati penilaian berbentuk formatif dapat meningkatkan keterlibatan pelajar dalam proses pembelajaran dan membantu dalam penetapan sasaran pembelajaran yang dengan lebih jelas. Demikian juga aspek kemahiran dan kesediaan guru dikenal pasti antara pemboleh ubah yang mempengaruhi kejayaan pelaksanaan PBD. Perkara ini dibuktikan oleh Guskey (2003) yang menunjukkan bahawa guru yang mempunyai kemahiran yang baik dalam teknik penilaian formatif dan pengetahuan yang mendalam lebih berkemungkinan untuk melaksanakan tugas

dengan berkesan. Selain itu, aspek kesediaan guru (Hattie & Timperley, 2007) untuk mengadaptasi dan menerapkan kaedah PBD juga dikenal pasti dapat mempengaruhi tahap kejayaan pelaksanaannya di sekolah. Walaupun PBD mempunyai banyak manfaat, terdapat beberapa cabaran yang dihadapi oleh guru dalam pelaksanaannya. Kajian Hock et al. (2022) mendapati antaranya masalah seperti kekurangan latihan yang mencukupi, sumber yang terhad, dan beban kerja yang tinggi boleh menjejaskan keberkesanan pelaksanaan PBD di sekolah. Masalah-masalah ini perlu ditangani dengan baik bagi memastikan bahawa PBD dapat dilaksanakan dengan efektif di sekolah-sekolah. Demikian juga aspek sikap guru turut dikenal pasti memainkan peranan penting dalam pelaksanaan PBD. Ahmed (2019) menyatakan bahawa sikap positif terhadap PBD dapat meningkatkan komitmen guru dalam menggunakan penilaian formatif dan memberikan maklum balas yang konstruktif kepada pelajar. Sebaliknya, sikap negatif atau kekurangan keyakinan guru (Popham, 2008) terhadap PBD hanya menyebabkan pelaksanaannya menjadi kurang berkesan.

Sorotan Literatur

Pelaksanaan Pentaksiran Bilik Darjah (PBD) merupakan komponen penting dalam sistem pendidikan Malaysia yang bertujuan untuk meningkatkan pengajaran dan pembelajaran melalui penilaian berterusan. Namun, terdapat pelbagai cabaran yang dihadapi oleh guru-guru dalam melaksanakan PBD dengan efektif. Kajian ini bertujuan untuk menilai tahap pelaksanaan PBD dalam kalangan guru di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu, Sabah. Aspek yang dikaji termasuk kemahiran guru dalam melaksanakan PBD, tahap kesediaan guru, masalah yang dihadapi semasa pelaksanaan PBD, dan sikap guru terhadap PBD. Salah satu isu utama dalam pelaksanaan PBD adalah tahap kemahiran guru dalam menggunakan teknik penilaian yang pelbagai dan efektif. Kajian lepas menunjukkan bahawa banyak guru masih kurang latihan dan sokongan dalam melaksanakan penilaian yang holistik dan berterusan (Aziz et al., 2020). Demikian juga aspek kemahiran dalam merancang dan melaksanakan pelbagai jenis penilaian, termasuk penilaian formatif dan sumatif, adalah kritikal untuk kejayaan PBD. Didapati, kurangnya kemahiran ini mengakibatkan penilaian yang tidak konsisten dan kurang berkesan, yang akhirnya mempengaruhi kualiti pembelajaran pelajar. Demikian juga dari aspek kesediaan guru untuk menerima dan melaksanakan PBD juga merupakan faktor penting. Kajian mendapati bahawa terdapat guru tidak bersedia atau kurang yakin dalam melaksanakan PBD disebabkan oleh kurangnya pemahaman atau ketidakpastian mengenai prosedur (Hazuriana & Khairul, 2022). Aspek kesediaan guru untuk menyesuaikan diri dengan amalan baru dan menerima perubahan dalam proses penilaian turut dikenal pasti penting untuk memastikan PBD dilaksanakan dengan berkesan. Hal ini termasuk kesiapsiagaan guru untuk menghadapi cabaran yang mungkin timbul dan mengadaptasi amalan baru dalam bilik darjah. Beberapa masalah yang sering dihadapi dalam pelaksanaan PBD termasuk kekurangan sumber dan sokongan yang memadai dari pihak pengurusan sekolah. Kajian menunjukkan bahawa tanpa sokongan yang cukup dalam bentuk latihan, sumber, dan bantuan teknikal, pelaksanaan PBD boleh menjadi kurang efektif (Guskey, 2003). Masalah ini sering kali menyebabkan kesukaran dalam melaksanakan penilaian secara konsisten dan menyeluruh, yang akhirnya menjejaskan kualiti penilaian dan pengajaran. Dari perspektif sikap guru terhadap PBD turut dikenal pasti memainkan peranan penting dalam kejayaan pelaksanaannya. Kajian menunjukkan bahawa sikap negatif terhadap PBD, seperti ketidakpuasan terhadap perubahan atau keraguan mengenai keberkesanan PBD, boleh menghalang pelaksanaan berkesan (Nor Hasnida, 2016). Sikap ini timbul daripada pengalaman buruk dengan sistem penilaian terdahulu atau ketidakpastian (Black & Wiliam, 1998; Stiggins, 2019) khususnya mengenai manfaat PBD dalam meningkatkan hasil pembelajaran.

Kesemua faktor ini saling berkait dan mempengaruhi satu sama lain dalam konteks pelaksanaan PBD. Kemahiran guru yang rendah boleh mengakibatkan kesediaan yang kurang, sementara masalah dalam pelaksanaan PBD boleh mempengaruhi sikap guru terhadap sistem tersebut. Selain itu, beberapa kajian terdahulu menunjukkan bahawa pelaksanaan PBD sering menghadapi masalah berkaitan dengan kemahiran guru yang tidak mencukupi, kurangnya latihan dan sokongan, serta masalah dalam memahami dan menggunakan instrumen penilaian yang sesuai (Guskey, 2003; Fullan, 2007; Hock et al., 2022). Di samping itu, sikap guru terhadap PBD memainkan peranan penting dalam menentukan kejayaan pelaksanaan sistem ini. Kajian oleh Ibrahim dan Ramlah (2022) menunjukkan bahawa guru yang mempunyai sikap positif terhadap PBD lebih cenderung untuk melaksanakan pentaksiran dengan lebih berkesan. Oleh itu, kajian ini akan mengkaji faktor terlibat untuk memberikan gambaran yang lebih jelas tentang tahap sebenar pelaksanaan PBD di sekolah terbabit.

Justeru, kajian ini dijalankan bertujuan untuk menilai tahap pelaksanaan PBD di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu, Sabah dengan memberi tumpuan kepada pemboleh ubah pengetahuan, kemahiran, kesediaan, masalah, dan sikap guru. Dengan memahami keadaan sebenar di lokasi kajian, diharapkan dapat memastikan PBD dilaksanakan dengan lebih efektif dan memberikan impak yang positif kepada kualiti pendidikan. Pentingnya kajian ini dijalankan kerana kajian lepas menunjukkan bahawa usaha menangani isu-isu berkaitan secara komprehensif adalah kunci untuk kejayaan pelaksanaan PBD khususnya dalam meningkatkan kualiti pengajaran dan pembelajaran (Hidayat et al., 2024).

Objektif Kajian

Objektif umum kajian ini adalah untuk menilai tahap pelaksanaan Pentaksiran Bilik Darjah dalam kalangan guru Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu, Sabah. Manakala objektif khusus kajian ini adalah seperti berikut:

1. Menilai tahap pengetahuan guru dalam pelaksanaan PBD di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu, Sabah.
2. Menilai tahap kemahiran guru dalam pelaksanaan PBD di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu, Sabah.
3. Menilai tahap kesediaan guru dalam pelaksanaan PBD di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu, Sabah.
4. Menilai tahap masalah guru dalam pelaksanaan PBD di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu, Sabah.
5. Menilai tahap sikap guru dalam pelaksanaan PBD di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu, Sabah.

Metodologi Kajian

Kajian ini mengaplikasikan pendekatan kuantitatif berbentuk tinjauan hirisan rentas menggunakan sepenuhnya soal selidik untuk mendapatkan persepsi guru terhadap pelaksanaan Pentaksiran Bilik Darjah (PBD) dalam kalangan guru Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu, Sabah. Pendekatan kaedah tinjauan deskriptif digunakan dalam kajian ini. Populasi kajian melibatkan seramai 125 orang guru, manakala seramai 92 orang guru dipilih sebagai responden dalam kajian ini. Pemilihan responden ditentukan menggunakan kaedah pensampelan rawak. Borang soal selidik menggunakan skala likert lima mata diedarkan kepada responden untuk memperoleh data kajian. Instrumen soal selidik kajian adalah berdasarkan instrumen yang telah diubah suai daripada kajian Tuan Azlyna Tuan Soh (2013), Aniza Ahmad (2014), Sh Siti Hauzimah Wan Omar (2019) dan juga Ng Pei Juan, Saemah Rahman & Shahlan Surat (2023). Instrumen telah melalui proses kesahan dan

kebolehppercayaan kajian. Data kajian kemudiannya dianalisis menggunakan pendekatan deskriptif, iaitu berdasarkan interpretasi nilai skor Min oleh Landell (1997), iaitu; Min 1.00-2.33 (Rendah), Min 2.34-3.66 (Sederhana) dan Min 3.67-5.00 (Tinggi).

Hasil Dapatan Kajian

Objektif 1 - Menilai Tahap Pengetahuan Guru Dalam Pelaksanaan PBD Di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu Sabah

Dapatan kajian pada Jadual 1 mendapati pengetahuan guru dalam pelaksanaan PBD berada pada tahap tinggi dengan Min (M) keseluruhan 3.90 dan Sisihan Piawai (SP) 1.47. Kesemua item kajian juga mencatatkan tahap yang tinggi. Dapatan kajian mendapati, guru memahami bahawa PBD dijalankan secara formatif dan sumatif (M=4.53), serta dilaksanakan secara berterusan di dalam bilik darjah (M=4.93). Guru turut dilaporkan bersetuju bahawa pelaksanaan PBD membantu murid mencapai kecemerlangan (M=4.63) dan ia merupakan kaedah untuk menguji pencapaian serta kebolehan pelajar (M=4.76 dan M=4.83). Selain itu, guru menyedari keperluan pengurusan dokumen berkaitan PBD (M=4.83) dan bahawa PBD wajib dilaksanakan di semua sekolah sejak 2017 (M=4.53). Pentaksiran kemahiran murid dipentingkan (M=4.93) dan pelaksanaan perlu mengikut prosedur dengan bimbingan pihak sekolah (M=4.63). Arahan KPM juga diikuti dalam pelaksanaan PBD (M=4.93) dengan tahap penguasaan murid ditaksirkan dua kali setahun (M=4.90). Kesimpulannya, guru menunjukkan tahap pengetahuan yang tinggi dalam melaksanakan PBD mengikut garis panduan ditetapkan.

Jadual 1: Tahap Pengetahuan Guru Dalam Pelaksanaan PBD

	M	SP	Tahap
Pengetahuan PBD	3.90	1.47	Tinggi
1. PBD berlaku secara formatif dan sumatif	4.53	1.13	Tinggi
2. Pelaksanaan PBD adalah secara berterusan di dalam bilik darjah	4.93	0.36	Tinggi
3. Pelaksanaan PBD membantu murid mencapai kecemerlangan yang tinggi	4.63	0.85	Tinggi
4. PBD adalah satu kaedah untuk menguji pencapaian pelajar	4.76	0.72	Tinggi
5. PBD adalah satu kaedah untuk menguji kebolehan pelajar	4.83	0.64	Tinggi
6. Pihak sekolah perlu menguruskan dokumen yang berkaitan ketika pelaksanaan PBD	4.83	0.64	Tinggi
7. PBD wajib dilaksanakan di semua sekolah sejak tahun 2017 bagi semua mata pelajaran	4.53	0.86	Tinggi
8. Pentaksiran penguasaan kemahiran pelajar dipentingkan	4.93	0.36	Tinggi
9. Prosedur pelaksanaan perlu dilaksanakan dengan betul di bawah bimbingan jawatankuasa pihak sekolah	4.63	0.99	Tinggi
10. Pelaksanaan PBD dikendalikan mengikut arahan KPM	4.93	0.36	Tinggi
11. Tahap penguasaan murid ditaksirkan sebanyak 2 kali setahun	4.90	0.54	Tinggi

Objektif 2 - Menilai Tahap Kemahiran Guru Dalam Pelaksanaan PBD Di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu Sabah

Dapatan kajian pada Jadual 2 menunjukkan tahap kemahiran guru dalam pelaksanaan PBD berada pada tahap tinggi dengan Min (M) keseluruhan 4.33 dan Sisihan Piawai (SP) 1.06. Guru-guru menetapkan objektif yang sesuai berdasarkan instrumen pentaksiran (M=5.00) dan merujuk DSKP semasa membina instrumen tersebut (M=4.93). Pelaksanaan PBD dilakukan secara berterusan (M=5.00), dengan guru mempelbagaikan kaedah pentaksiran mengikut tahap penguasaan pelajar (M=4.93) serta memastikan instrumen yang digunakan bersesuaian (M=5.00). Guru juga memastikan pelaporan penguasaan pelajar adalah tepat dengan merujuk

DSKP (M= 5.00) dan membimbing pelajar memahami pentaksiran yang dijalankan (M=5.00). Walaupun mereka biasanya membuat pelaporan tanpa bantuan (M=4.46), kemahiran pentaksiran terus dipertingkatkan secara berterusan (M=5.00). Mereka juga mengendalikan tahap penguasaan pelajar berdasarkan sukatan pelajaran (M=4.86) serta memasukkan data pelaporan secara teratur dalam format 'offline' (M=4.86). Secara keseluruhannya, tahap kemahiran guru dalam pelaksanaan PBD adalah tinggi dan konsisten.

Jadual 2: Tahap Kemahiran Guru Dalam Pelaksanaan PBD

	M	SP	Tahap
Kemahiran PBD	4.33	1.06	Tinggi
1. Saya menetapkan objektif yang bersesuaian berdasarkan instrumen pentaksiran	5.00	0.00	Tinggi
2. Saya merujuk DSKP semasa pembinaan instrumen pentaksiran	4.93	0.36	Tinggi
3. Saya memastikan pelaksanaan PBD secara berterusan di bilik darjah	5.00	0.00	Tinggi
4. Saya mempelbagaikan kaedah pentaksiran berdasarkan tahap penguasaan pelajar	4.93	0.36	Tinggi
5. Saya memastikan instrumen yang pelbagai diguna berdasarkan kesesuaian pelajar	5.00	0.00	Tinggi
6. Saya memastikan pelaporan penguasaan pelajar adalah betul dengan merujuk DSKP	5.00	0.00	Tinggi
7. Saya membimbing pelajar memahami pentaksiran yang dilaksanakan	5.00	0.00	Tinggi
8. Saya membuat pelaporan pentaksiran penguasaan pelajar tanpa bantuan orang lain	4.46	1.00	Tinggi
9. Saya memperbaiki kemahiran membuat pentaksiran secara berterusan	5.00	0.00	Tinggi
10. Saya mengendalikan tahap penguasaan pelajar berdasarkan sukatan pelajaran	4.86	0.50	Tinggi
11. Saya memasukkan data pelaporan pentaksiran pelajar secara 'Off-line' secara tersusun	4.86	0.50	Tinggi

Objektif 3 - Menilai Tahap Kesianan Guru Dalam Pelaksanaan PBD Di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu Sabah

Dapatan kajian pada Jadual 3 menunjukkan tahap kesediaan guru dalam melaksanakan PBD berada pada tahap tinggi dengan Min (M) keseluruhan 4.36 dan Sisihan Piawai (SP) 0.99. Guru sentiasa membuat persediaan mencukupi untuk pentaksiran (M=4.93) dan merujuk DSKP semasa merancang PdP dan kaedah pentaksiran (M=4.93). Mereka juga memerlukan masa yang mencukupi untuk melaksanakan PBD (M=4.76) dan menunjukkan daya berjuang yang tinggi (M=4.70). Instrumen pentaksiran dibina berdasarkan tahap penguasaan pelajar (M=4.73) dan rekod pentaksiran disimpan dengan sistematik (M=4.76). Guru juga memberi tumpuan yang tinggi dalam melaksanakan PBD (M=4.63) serta menjalankan pentaksiran dengan telus dan adil (M=4.93). Selain itu, mereka menganalisis pentaksiran untuk tindakan susulan (M=4.80) dan menyediakan bahan bantu mengajar bagi meningkatkan keberkesanan pembelajaran (M=4.80). Secara keseluruhan, tahap kesediaan guru dalam melaksanakan PBD adalah tinggi dan konsisten.

Jadual 3: Tahap Kesiediaan Guru Dalam Pelaksanaan PBD

	M	SP	Tahap
Kesiediaan PBD	4.36	0.99	Tinggi
1. Saya sentiasa membuat persediaan mencukupi untuk membuat pentaksiran	4.93	0.36	Tinggi
2. Saya sentiasa merujuk DSKP semasa merancang PdP dan kaedah pentaksiran	4.93	0.36	Tinggi
3. Saya sentiasa memerlukan masa yang mencukupi untuk melaksanakan PBD	4.76	0.72	Tinggi
4. Saya sentiasa mempunyai daya berjuang yang tinggi semasa melaksanakan PBD	4.70	0.79	Tinggi
5. Saya sentiasa membina instrumen PBD berdasarkan tahap penguasaan pelajar	4.73	0.69	Tinggi
6. Saya sentiasa menyimpan rekod pentaksiran secara bersistematik	4.76	0.72	Tinggi
7. Saya sentiasa memberi tahap tumpuan yang tinggi semasa melaksanakan PBD	4.63	0.85	Tinggi
8. Saya sentiasa menjalankan pentaksiran dengan telus dan adil	4.93	0.36	Tinggi
9. Saya sentiasa menganalisis pentaksiran yang dilakukan untuk tindakan susulan	4.80	0.61	Tinggi
10. Saya sentiasa menyediakan bahan bantu mengajar agar pembelajaran lebih berkesan	4.80	0.61	Tinggi

Objektif 4 - Menilai Tahap Masalah Guru Dalam Pelaksanaan PBD Di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu Sabah

Dapatan kajian pada Jadual 4 menunjukkan bahawa tahap masalah yang dihadapi oleh guru dalam pelaksanaan PBD adalah sederhana dengan Min (M) keseluruhan 2.86 dan Sisihan Piawai (SP) 1.38. Kesukaran yang dihadapi guru seperti masalah ketidakhadiran pelajar (M=1.23), jumlah murid yang ramai (M=1.56), dan kekangan masa dalam menaksir secara berulang (M=1.63) adalah pada tahap rendah. Begitu juga, isu seperti menghabiskan sukatan pelajaran dalam tempoh ditetapkan (M=1.80), banyaknya topik yang perlu diselesaikan dalam masa terhad (M=1.56), serta kesukaran dalam menaksir pelajar secara mendalam kerana banyaknya tahap penguasaan (M=1.73) juga berada pada tahap rendah. Walaupun terdapat bebanan tambahan bagi guru yang memegang jawatan penting di sekolah (M=1.73), kesukaran akibat ketidaksungguhan dalam menaksir (M=3.00) hanya pada tahap sederhana, dan tempoh pelaksanaan PBD yang singkat (M=2.16) pada tahap yang rendah. Secara keseluruhannya, guru menghadapi sedikit masalah dalam melaksanakan PBD, menunjukkan bahawa pelaksanaan PBD berjalan dengan baik dan tidak terlalu membebankan.

Jadual 4: Tahap Masalah Guru Dalam Pelaksanaan PBD

	M	SP	Tahap
Masalah Melaksanakan PBD	2.86	1.38	Sederhana
1. Saya hadapi kesukaran membuat PBD kerana masalah ketidakhadiran pelajar ke sekolah	1.23	0.89	Rendah
2. Saya menghadapi kesukaran dalam proses PBD kerana jumlah murid yang ramai	1.56	1.10	Rendah
3. Saya sukar menghabiskan sukatan pelajaran dalam tempoh ditetapkan kerana PBD berulang	1.80	1.21	Rendah
4. Saya menghadapi masalah kerana terlalu banyak topik perlu diselesaikan dalam masa yang sangat terhad	1.56	1.10	Rendah
5. Saya hadapi masalah dalam menaksir secara berulang kerana kekangan masa	1.63	1.21	Rendah
6. Saya menghadapi masalah kerana PBD yang banyak dalam setiap band atau tahap penguasaan menyebabkan pentaksiran tidak dapat dilakukan secara mendalam dan menyeluruh	1.73	1.28	Rendah
7. Saya tertinggal banyak masa untuk menaksir pelajar kerana bebanan semakin bertambah apabila saya memegang jawatan-jawatan penting di sekolah	1.73	1.28	Rendah
8. Saya menghadapi kesukaran kerana ketidaksungguhan saya dalam menaksir menjejaskan seluruh sistem pentaksiran PBD saya	3.00	1.41	Sederhana
9. Saya menghadapi kesukaran kerana tempoh PBD yang singkat	2.16	1.44	Rendah
10. Saya menghadapi kesukaran kerana waktu pengajaran saya adalah terhad untuk melaksanakan proses PBD	1.83	1.26	Rendah

Objektif 5 - Menilai Tahap Sikap Guru Dalam Pelaksanaan PBD Di Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu Sabah

Dapatan kajian pada Jadual 5 menunjukkan bahawa sikap guru dalam melaksanakan Pentaksiran Bilik Darjah (PBD) adalah tinggi dengan skor Min (M) keseluruhan 3.40 dan Sisihan Piawai (SP) 1.35. Guru dilaporkan menyediakan rekod prestasi murid (M=4.73, SP=0.82) dan fail untuk menyimpan rekod tersebut sebelum menjalankan PBD (M=4.86, SP=0.50). Mereka juga kerap berbincang dengan rakan sejawat tentang pelaksanaan PBD (M=5.00, SP=0.00) dan menghadiri taklimat yang dianjurkan oleh PPD (M=4.26, SP=1.17) serta JPN (M=4.06, SP=1.31). Dalam proses pengajaran, guru melaksanakan pengajaran mengikut kehendak PBD (M= 4.63, SP=0.99) dan memberi banyak peluang interaksi kepada pelajar (min = 4.93, SP = 0.36). Mereka juga memberikan penekanan kepada pembangunan kemahiran pelajar secara holistik (M=4.76, SP=0.72) dan menggunakan maklum balas PBD untuk memperbaiki pengajaran (M= 4.86, SP=0.50). Guru turut mengikuti perancangan KPM (min = 5.00, SP = 0.00) serta menepati waktu pelaksanaan yang ditetapkan (M=4.86, SP=0.50). Selain itu, mereka melaksanakan PBD berulang kali jika murid gagal mencapai tahap penguasaan yang diperlukan (M= 4.43, SP=0.97). Secara keseluruhannya, sikap guru terhadap pelaksanaan PBD adalah sangat positif dan konsisten.

Jadual 5: Sikap Guru Dalam Pelaksanaan PBD

	M	SP	Tahap
Sikap Guru Melaksanakan PBD	3.40	1.35	Tinggi
1. Saya menyediakan rekod prestasi murid sebelum menjalankan PBD	4.73	0.82	Tinggi
2. Saya menyediakan fail untuk menyimpan rekod prestasi sebelum menjalankan PBD	4.86	0.50	Tinggi
3. Saya berbincang dengan guru lain tentang pelaksanaan PBD	5.00	0.00	Tinggi
4. Saya menghadiri taklimat berkaitan PBD yang dianjurkan PPD	4.26	1.17	Tinggi
5. Saya menghadiri taklimat berkaitan PBD anjuran JPN	4.06	1.31	Tinggi
6. Saya mengajar pelajar saya mengikut kehendak PBD	4.63	0.99	Tinggi
7. Saya menyediakan banyak peluang kepada pelajar saya untuk berinteraksi dalam kelas	4.93	0.36	Tinggi
8. Saya memberikan penekanan yang lebih kepada memupuk pembangunan seluruh kemahiran pelajar	4.76	0.72	Tinggi
9. Saya menjadikan maklum balas prestasi PBD untuk memperbaiki pengajaran saya	4.86	0.50	Tinggi
10. Saya mengikuti perancangan yang telah ditetapkan KPM	5.00	0.00	Tinggi
11. Saya mengikuti menepati waktu pelaksanaan PBD yang telah ditetapkan KPM	4.86	0.50	Tinggi
12. Saya melaksanakan PBD berulang kali sekiranya murid gagal melepasi band atau tahap penguasaan yang ditaksirkan	4.43	0.97	Tinggi

Perbincangan

Hasil analisis yang telah dijalankan menunjukkan bahawa guru-guru di Sekolah Menengah Kebangsaan Tebobon, Kota Kinabalu, Sabah memiliki tahap pengetahuan, kemahiran, kesediaan, dan sikap yang tinggi dalam pelaksanaan Pentaksiran Bilik Darjah (PBD). Perbincangan ini mengupas secara terperinci setiap aspek ini dan implikasinya terhadap pelaksanaan PBD di sekolah tersebut.

Pengetahuan Guru Dalam Pelaksanaan PBD

Dapatan kajian mendapati bahawa tahap pengetahuan guru tentang pelaksanaan PBD adalah tinggi. Guru-guru di sekolah ini memiliki pemahaman yang jelas dan mendalam tentang konsep asas PBD, termasuk pelaksanaannya secara formatif dan sumatif. Guru ternyata menyedari bahawa pelaksanaan PBD di sekolah bukan hanya untuk menilai pencapaian akademik pelajar tetapi juga berfungsi untuk mengenal pasti perkembangan holistik mereka, sejajar dengan garis panduan Kementerian Pendidikan Malaysia (KPM, 2017). Dalam hal ini, Abdul Razak et al. (2023) menegaskan bahawa aspek pengetahuan guru yang baik amat diperlukan terutamanya dalam merancang pentaksiran, mengenal pasti tahap penguasaan murid, serta menyelaras aktiviti pentaksiran, selain dapat membuktikan kecekapan guru dalam memastikan PBD dilaksanakan dengan betul dan memberi manfaat kepada murid secara keseluruhannya. Dalam hal ini, guru perlu mempunyai pengetahuan pentaksiran yang baik untuk menilai pembelajaran pelajar dengan lebih berkesan dan meningkatkan hasil akademik, selain mencadangkan mempergiatkan bentuk bengkel atau latihan untuk meningkatkan pengetahuan guru dalam pelaksanaan PBD di sekolah (Tariq et al., 2023). Begitu juga aspek kecekapan guru dalam memahami dan melaksanakan PBD turut dikenal pasti memberi impak langsung kepada keberkesanan proses pengajaran dan pembelajaran di sekolah, dan seterusnya memastikan setiap murid mendapat manfaat yang optimum (Van Der Steen et al., 2023). Selain itu, guru

perlu sentiasa memperkukuhkan pengetahuan untuk menilai pembelajaran murid secara lebih berkesan, selari dengan pendekatan berasaskan kompetensi yang kini semakin ditekankan dalam sistem pendidikan global (Day, 2017; Gumus, 2022).

Kemahiran Guru Dalam Melaksanakan PBD

Kajian ini mendapati bahawa kemahiran guru dalam melaksanakan Pentaksiran Bilik Darjah (PBD) berada pada tahap yang tinggi. Guru-guru menunjukkan kebolehan dalam menetapkan objektif pembelajaran yang sesuai, membina instrumen pentaksiran yang pelbagai, dan melaksanakan pentaksiran secara berterusan serta sistematik. Kepelbagaian kaedah pentaksiran, seperti pemerhatian, kuiz, dan penilaian projek, dilaporkan digunakan dengan berkesan. Penggunaan kaedah ini menunjukkan bahawa guru mengaplikasikan prinsip-prinsip pentaksiran formatif dan sumatif dengan konsisten (Black & Wiliam, 1998; Morris et al., 2021; Jahidin & Chan, 2022). Kajian lepas menunjukkan bahawa peningkatan kemahiran guru dalam PBD banyak dipengaruhi oleh latihan profesional berterusan dan sokongan daripada pihak pentadbir sekolah (Bruce et al., 2016). Latihan yang disediakan untuk guru tidak hanya memfokuskan kepada teknik penilaian tetapi juga perlu menekankan kepada strategi pengajaran yang menyokong penerapan penilaian formatif dalam bilik darjah (Sari, 2019). Program latihan yang menyertakan pembelajaran berasaskan masalah dan pengajaran reflektif telah terbukti meningkatkan kemampuan guru dalam mengadaptasi teknik penilaian untuk memenuhi keperluan murid (Ng et al., 2023). Tambahan pula, perkembangan teknologi pendidikan memainkan peranan penting dalam meningkatkan kemahiran guru. Penggunaan platform digital dan alat penilaian dalam talian telah memperluas kaedah penilaian yang boleh diakses dan memberi maklum balas yang lebih segera kepada murid (Spector et al., 2016). Selain itu, penggunaan teknologi bukan sahaja mempercepatkan proses penilaian tetapi juga meningkatkan keterlibatan murid dalam proses pembelajaran (Bond, 2019). Kemahiran dalam melaporkan penguasaan murid secara teliti juga diperoleh melalui amalan reflektif dan penilaian rakan sebaya. Amalan ini membantu guru untuk menilai dan memperbaiki strategi penilaian mereka secara berterusan, memperkukuhkan keupayaan mereka dalam memberikan maklum balas yang konstruktif dan memperbaiki pencapaian murid (Pang, 2022). Amalan ini penting dalam memastikan penilaian yang adil dan berkesan, serta dalam memantau kemajuan murid dengan lebih teliti. Secara keseluruhan, kemahiran guru dalam melaksanakan PBD menunjukkan guru mampu mengurus PBD dengan cekap, meningkatkan keupayaan dalam menilai kemajuan murid secara holistik dan memberikan maklum balas yang membina, serta memanfaatkan teknologi terkini dalam proses penilaian.

Kesediaan Guru Dalam Pelaksanaan PBD

Tahap kesediaan guru dalam melaksanakan Pentaksiran Bilik Darjah (PBD) dikenal pasti berada pada tahap yang tinggi. Guru-guru di sekolah ini menunjukkan komitmen yang tinggi dalam membuat persediaan sebelum pelaksanaan PBD, termasuk menghadiri taklimat dan latihan yang dianjurkan. Mereka juga dilaporkan memiliki kebolehan untuk mengurus masa dengan baik dan menunjukkan daya tahan yang tinggi dalam menghadapi cabaran yang timbul semasa melaksanakan PBD. Pengurusan masa yang berkesan adalah penting dalam memastikan PBD dapat dilaksanakan dengan lancar, terutamanya apabila perlu menilai murid dalam kumpulan yang besar. Kajian menunjukkan bahawa strategi pengurusan masa yang baik, seperti penggunaan jadual penilaian yang teratur dan perancangan awal, membantu guru untuk menguruskan beban kerja dengan lebih efektif (Ng & Lee, 2023). Di samping itu, guru melaksanakan pentaksiran dengan adil dan telus turut mencerminkan dedikasi mereka dalam mencapai objektif PBD seperti yang disarankan oleh KPM (Rezai, 2022; Rosli et al., 2022). Selain itu, kajian lepas menunjukkan bahawa dedikasi guru sering dipengaruhi oleh sokongan yang diterima dari pihak pentadbir dan latihan profesional yang berterusan. Latihan yang

berkualiti dan sokongan yang konsisten membantu guru dalam menyesuaikan teknik penilaian mereka, serta meningkatkan keupayaan mereka untuk memberikan maklum balas yang konstruktif (Desimone & Garet, 2015). Tambahan pula, kesediaan guru dipengaruhi keupayaan dalam menghadapi cabaran yang timbul semasa pelaksanaan PBD. Begitu juga amalan reflektif dan penilaian rakan sebaya memainkan peranan penting dalam membantu guru menilai dan memperbaiki strategi penilaian mereka secara berterusan. Amalan ini membolehkan guru untuk mendapatkan maklum balas yang berguna dan memperbaiki kemahiran mereka dalam melaporkan penguasaan murid (Seema Agnihotri et al., 2024). Secara keseluruhan, tahap kesediaan guru dalam melaksanakan PBD mencerminkan dedikasi mereka untuk memastikan penilaian dilaksanakan dengan adil dan efektif, dengan sokongan latihan dan pengurusan masa yang baik sebagai faktor utama dalam kejayaan pelaksanaan PBD.

Cabaran Dalam Pelaksanaan PBD

Walaupun dapatan menunjukkan pelbagai aspek positif, terdapat beberapa cabaran sederhana yang dihadapi oleh guru dalam melaksanakan PBD. Antara masalah yang sering dilaporkan ialah ketidakhadiran murid, jumlah murid yang ramai dalam kelas, dan kekangan masa yang membataskan guru daripada melaksanakan pentaksiran secara terperinci. Isu ini menjadi lebih rumit apabila guru terpaksa membahagikan tumpuan kepada setiap pelajar, terutamanya dalam bilik darjah yang besar. Keadaan ini menyukarkan pentaksiran berasaskan formatif yang seharusnya memberi perhatian khusus kepada keperluan individu murid (Hopfenbeck, 2023). Selain itu, bebanan kerja tambahan yang dialami oleh guru-guru yang memegang jawatan pentadbiran turut dialami oleh para guru, beban kerja tambahan seperti ini memberi impak terhadap pelaksanaan PBD di sekolah. Guru-guru juga sering menghadapi kesukaran dalam membahagikan masa antara tugas pentadbiran dan pelaksanaan PBD. Walau bagaimanapun, perkara ini bukanlah menjadi penghalang utama bagi guru dalam melaksanakan PBD (Ozan & Kınca, 2018; Wafubwa & Csikos, 2022). Sebaliknya, cabaran-cabaran ini dikenal pasti hanya berada pada tahap yang sederhana dan tidak menjejaskan pelaksanaan PBD secara keseluruhan. Keadaan ini berlaku kerana guru masih berupaya mengaplikasikan penggunaan teknik pengajaran berbeza seperti penilaian kumpulan kecil atau penjadualan pentaksiran secara berperingkat, seterusnya dapat mengurangkan beban dan memastikan penilaian berjalan lancar (Black, & Wiliam, 2018). Selain itu, guru turut dikenal pasti menangani masalah ini dengan mengaplikasikan strategi pengurusan kelas dan masa yang efektif serta mendapat sokongan daripada pihak sekolah (Wafubwa & Csikos, 2022).

Sikap Guru Terhadap Pelaksanaan PBD

Sikap guru dalam melaksanakan PBD juga didapati berada pada tahap yang tinggi. Guru-guru menunjukkan komitmen yang jelas dalam menyediakan rekod prestasi murid, berkolaborasi dengan rakan sejawat, serta menghadiri sesi latihan dan taklimat berkaitan PBD secara berkala. Mereka juga menerapkan pendekatan pengajaran yang selaras dengan kehendak PBD, dengan memberi ruang untuk interaksi yang bermakna serta menekankan pembangunan holistik pelajar. Sikap profesional ini dapat dilihat dalam penggunaan maklum balas secara berterusan untuk memperbaiki pengajaran dan pembelajaran, serta pematuhan kepada perancangan dan garis masa yang telah ditetapkan (Parpucu & Al-Mabuk, 2023). Pelaksanaan semula pentaksiran bagi murid yang belum mencapai tahap penguasaan yang memuaskan mencerminkan usaha berterusan guru dalam memastikan semua murid mendapat peluang untuk memperbaiki diri (Carney et al., 2022). Sokongan berterusan daripada pihak pentadbiran dan latihan secara berkala turut menyumbang kepada sikap positif guru dalam melaksanakan PBD di sekolah (Bruce et al., 2016).

Kesimpulan

Secara keseluruhan, guru Sekolah Menengah Kebangsaan Tebobon Kota Kinabalu Sabah mempunyai pengetahuan, kemahiran, dan kesediaan yang tinggi dalam melaksanakan Pentaksiran Bilik Darjah (PBD). Didapati guru sememangnya memahami konsep PBD secara mendalam dan menunjukkan kemahiran yang cekap dalam menetapkan objektif, membina instrumen pentaksiran, serta melaksanakan penilaian secara sistematik. Tahap kesediaan guru juga jelas melalui persediaan rapi, pengurusan masa yang baik, dan komitmen tinggi dalam memastikan PBD dilaksanakan dengan adil dan telus. Meskipun terdapat sedikit cabaran seperti kekangan masa dan jumlah murid yang ramai, ia tidak menjadi penghalang utama dalam pelaksanaan PBD. Sikap positif guru terhadap PBD, disokong oleh latihan dan kolaborasi, membuktikan keupayaan mereka untuk menguruskan pentaksiran dengan baik dan mencapai objektif yang ditetapkan oleh Kementerian Pendidikan Malaysia.

Penghargaan

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IOT PARCEL DROP BOX

Helmi Jamaludin¹
Muhammad Syahmi Shaari ¹

¹Jabatan Kejuruteraan Elektrik, Politeknik Sultan Haji Ahmad Shah, Malaysia,
(helmi_jamaludin@polisas.edu.my)

Abstrak: Pembeli atas talian sering menghadapi pelbagai cabaran dalam memastikan penerimaan bungkusan mereka dalam keadaan yang baik, terutamanya apabila mereka tidak berada di rumah atau sedang berada di luar kawasan. Dalam kebanyakan kes, syarikat penghantar akan meninggalkan bungkusan di luar rumah, yang meningkatkan risiko bungkusan tersebut mengalami kerosakan akibat terdedah kepada cuaca ekstrem seperti panas terik atau hujan lebat. Selain itu, bungkusan juga terdedah kepada risiko kecurian, sama ada oleh manusia atau haiwan liar seperti monyet. Oleh itu, kajian ini bertujuan untuk membangunkan inovasi IoT Parcel Drop Box, satu sistem penyimpanan bungkusan yang direka untuk melindungi bungkusan daripada kerosakan dan kecurian. Sistem ini juga dilengkapi dengan fungsi notifikasi kepada pengguna melalui aplikasi WhatsApp untuk memastikan pengguna sentiasa maklum mengenai status bungkusan mereka. Reka bentuk IoT Parcel Drop Box, menggabungkan pelbagai komponen teknologi seperti ESP32, sensor inframerah, kunci pintu solenoid, dan geganti. Apabila bungkusan dimasukkan ke dalam ruang utama dan jatuh ke dalam ruang penyimpanan, sensor inframerah akan segera mengesan kehadiran bungkusan dan menghantar notifikasi kepada pengguna melalui WhatsApp. Pintu IoT Parcel Drop Box ini hanya boleh dibuka oleh pemilik sahaja dengan cara menaip perkataan "open door" pada aplikasi WhatsApp, yang seterusnya akan mengaktifkan mekanisme kunci dan membuka pintu secara automatik. Kelebihan utama produk ini termasuk kos pembangunan yang rendah, kemudahan penggunaan, penjimatan masa, serta kebolehan untuk menerima bungkusan dalam pelbagai saiz. Dengan inovasi ini, diharapkan masalah-masalah yang sering dihadapi oleh pembeli atas talian dapat dikurangkan, sekaligus meningkatkan pengalaman pembelian dalam talian yang lebih selamat dan efisien.

Kata Kunci: Parcel, ESP32, WhatsApp

Pengenalan

Perkembangan pesat dalam sektor e-dagang telah membawa kepada peningkatan jumlah pembelian atas talian di seluruh dunia. Peningkatan platform e-dagang, digabungkan dengan peningkatan akses internet dan kemudahan membeli-belah dalam talian, telah menyumbang kepada pertumbuhan dalam talian di Malaysia (Rusli *et al.*, 2022). Kemudahan membeli-belah dari rumah dan pelbagai pilihan produk menjadikan pembelian atas talian semakin popular. Namun, bersama dengan kemajuan ini, timbul pula cabaran baharu yang dihadapi oleh pengguna, terutama berkaitan dengan penghantaran dan penerimaan bungkusan. Dalam kebanyakan kes, bungkusan yang dihantar ke alamat penerima mungkin diletakkan di luar rumah sekiranya tiada orang di rumah untuk menerimanya. Situasi ini menimbulkan risiko terhadap keselamatan bungkusan serta meningkatkan kebarangkalian bungkusan tersebut mengalami kerosakan atau dicuri. Oleh itu, adalah penting untuk membangunkan penyelesaian yang dapat mengatasi masalah ini bagi memastikan pengalaman pembelian atas talian yang lebih selamat dan efisien.

Pembeli atas talian sering kali menghadapi masalah apabila bungkusan yang dihantar tidak dapat diterima kerana mereka tiada di rumah atau berada di luar kawasan (Jing *et al.*, 2022). Dalam situasi ini, syarikat penghantar lazimnya akan meletakkan bungkusan di luar rumah, yang mana tindakan ini menimbulkan beberapa isu kritikal. Pertama, bungkusan terdedah kepada cuaca yang tidak menentu seperti panas terik dan hujan lebat, yang boleh menyebabkan kerosakan pada kandungan bungkusan. Kedua, bungkusan yang ditinggalkan di luar rumah berisiko tinggi untuk dicuri, sama ada oleh manusia atau haiwan liar seperti monyet. Tambahan pula, akses kepada bungkusan yang diletakkan di dalam bekas simpanan mungkin sukar tanpa sistem keselamatan yang kukuh, menjadikan ia terdedah kepada manipulasi oleh pihak tidak bertanggungjawab. Oleh itu, satu penyelesaian inovatif yang mampu melindungi bungkusan daripada kerosakan dan kecurian serta memberikan kawalan eksklusif kepada pemiliknya adalah amat diperlukan.

Objektif utama kajian ini adalah untuk membangunkan dan menguji keberkesanan sistem penyimpanan bungkusan inovatif yang dikenali sebagai *IoT Parcel Drop Box*. Sistem ini direka untuk melindungi bungkusan daripada kerosakan akibat cuaca serta mengelakkan risiko kecurian. Selain itu, kajian ini juga bertujuan untuk mengintegrasikan sistem notifikasi melalui aplikasi WhatsApp, yang membolehkan pemilik bungkusan menerima notifikasi segera apabila bungkusan dimasukkan ke dalam *IoT Parcel Drop Box*. Sistem ini turut dilengkapi dengan ciri keselamatan yang hanya membenarkan pemilik bungkusan untuk membuka atau menutup pintu *IoT Parcel Drop Box* dengan menaip perkataan "*open door*" / "*close door*" pada aplikasi WhatsApp, sekaligus menjamin keselamatan bungkusan daripada akses yang tidak dibenarkan.

Kajian Lepas

Penggunaan teknologi *Internet of Things* (IoT) dalam pengurusan bungkusan atau telah menjadi topik kajian yang semakin berkembang seiring dengan peningkatan e-dagang dan keperluan untuk penyelesaian penghantaran yang lebih efisien dan selamat. Kajian-kajian lepas menunjukkan bahawa IoT memainkan peranan penting dalam memperbaiki sistem penghantaran dan penyimpanan bungkusan kepada penerima dengan menyediakan ciri-ciri yang lebih canggih seperti pengawasan jauh, notifikasi masa nyata, dan automasi.

Mokhsin *et al.* (2021) telah membentangkan reka bentuk dan pembangunan prototaip peti bungkusan pintar yang dinamakan sebagai sistem *ParcelRestBox*. Sistem ini menggunakan NodeMCU ESP8266 dan sensor infra merah. Ia disambungkan ke internet melalui Wi-Fi untuk menghantar mesej kepada penerima melalui aplikasi mudah alih apabila bungkusan dimasukkan ke dalam peti pintar tersebut. Dengan menggunakan NodeMCU ESP8266, sistem ini dapat beroperasi sebagai mikropengawal berasaskan IoT yang mempunyai keupayaan komunikasi tanpa wayar, manakala sensor infra merah digunakan untuk mengesan kehadiran bungkusan di dalam kotak.

Rihas *et al.* (2023) mengkaji penggunaan teknologi IoT dalam membangunkan sistem peti bungkusan pintar yang mampu memberikan notifikasi kepada pengguna apabila bungkusan tiba. Dalam kajian ini, sensor infra merah yang terhubung ke mikropengawal ESP8266 digunakan untuk mengesan kehadiran bungkusan dalam kotak dan menghantar data tersebut ke aplikasi Blynk pada telefon mudah alih pengguna. Pada masa yang sama pintu peti bungkusan ditutup secara automatik dengan menggunakan solenoid. Notifikasi segera ini membantu memastikan bungkusan tidak dibiarkan terlalu lama di luar, sekali gus mengurangkan risiko kerosakan dan kecurian. Pengguna juga menggunakan aplikasi Blynk membuka pintu solenoid untuk mengambil bungkusan yang ada dalam peti bungkusan pintar.

Walaupun banyak kajian menggunakan infrared merah namun terdapat juga kajian yang menekankan keberkesanan penggunaan sensor beban yang terhubung dengan mikropengawal untuk mengesan apabila bungkusan telah dimasukkan ke dalam bekas (Jing *et al.*, 2022; Kumar *et al.*, 2019). Manakala Kaewsrishuphawang *et al.* (2022) telah mencadangkan penggunaan tenaga solar bagi membekalkan kuasa kepada sistem IoT peti bungkusan berbanding menggunakan bateri power bank (Mokhsin *et al.*, 2021) dan bekalan kuasa arus terus.

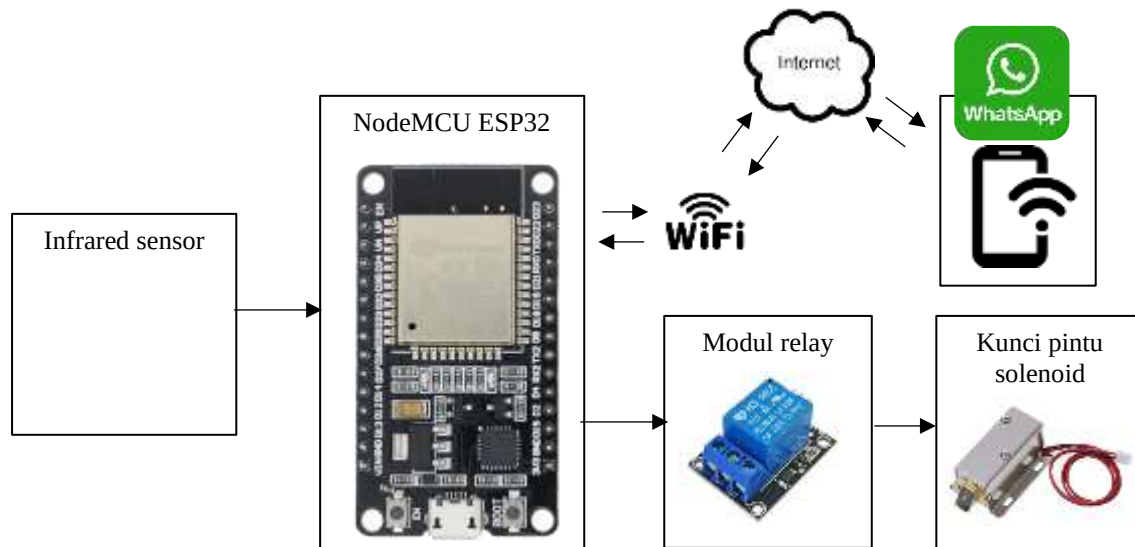
Kajian-kajian sebelumnya secara keseluruhan menunjukkan penggunaan teknologi IoT dalam sistem peti bungkusan pintar memberikan pelbagai kelebihan, termasuk peningkatan dalam keselamatan, kemudahan penggunaan, dan keupayaan untuk memantau dan mengurus penghantaran bungkusan secara lebih berkesan. Oleh itu, untuk menambah baik penyelidikan sebelumnya, maka kajian ini memperkenalkan penggunaan aplikasi WhatsApp sebagai platform utama untuk mengawal akses dan menerima notifikasi. WhatsApp dipilih kerana aplikasi ini telah menjadi perkhidmatan pesanan teks mudah alih terbesar di dunia, sekaligus mengelakkan keperluan untuk pengguna memuat turun atau belajar menggunakan aplikasi baharu.

Metodologi

Rajah 1 menunjukkan keseluruhan rajah blok sistem untuk *IoT Parcel Drop Box*. Ia mempunyai komponen perkakasan dan perisian. Sistem ini menggunakan NodeMCU ESP32 sebagai pengawal utama untuk mengawal input sensor infra merah, notifikasi penghantaran melalui aplikasi WhatsApp, dan menggunakan kunci solenoid sebagai output penggerak. Punca bekalan kuasa untuk keseluruhan sistem adalah adapter 12VDC. Sistem ini dibahagikan kepada dua bahagian: sistem pemantauan dan pengawalan.

Sistem Pemantauan: Bahagian ini berfungsi untuk memantau kehadiran bungkusan. Setiap komponen dalam bahagian ini mempunyai tujuan tertentu, seperti sensor infra merah yang digunakan sebagai sensor input untuk mengesan kehadiran bungkusan di dalam Sistem Pemantauan: Bahagian ini berfungsi untuk memantau kehadiran bungkusan. Setiap komponen dalam bahagian ini mempunyai tujuan tertentu, seperti sensor infra merah yang digunakan sebagai sensor input untuk mengesan kehadiran bungkusan. Manakala NodeMCU ESP32 memproses isyarat masukan dari sensor infra merah dan menghantar notifikasi kepada aplikasi WhatsApp yang ada dalam telefon pintar melalui isyarat Wi-Fi. Aplikasi WhatsApp digunakan untuk memaparkan mesej notifikasi kehadiran bungkusan kepada penerima.

Sistem Pengawalan: Bahagian ini akan mengawal penggerak, dalam kes ini kunci pintu solenoid, berdasarkan arahan yang dihantar melalui aplikasi WhatsApp. Fungsi modul relay adalah mengaktifkan mekanisme kunci solenoid yang menerima isyarat dari NodeMCU ESP32.



Rajah 1: Rajah Blok Sistem IoT Parcel Drop Box



Rajah 2: Reka Bentuk Prototaip IoT Parcel Drop Box

Rajah 2 menunjukkan reka bentuk prototaip *IoT Parcel Drop Box*. Peti bungkusan ini direka dalam bentuk tegak dengan ketinggian 80cm, lebar 31cm, dan kedalaman 23cm, sesuai untuk menyimpan beberapa bungkusan kecil hingga sederhana. Bahagian atas peti dilengkapi dengan satu ruang atau petak yang boleh dibuka oleh penghantar bungkusan dari syarikat kurier untuk meletakkan bungkusan. Apabila pintu ruang tersebut ditutup, bungkusan akan jatuh ke dalam kotak dan mengaktifkan sistem pemantauan. Di bahagian bawah peti, terdapat pintu yang digunakan oleh penerima untuk mengambil bungkusan. Pintu ini dikawal oleh mekanisme penguncian solenoid. Penerima boleh menghantar mesej melalui aplikasi WhatsApp untuk membuka dan menutup pintu tersebut. Di bahagian tepi kiri kotak, terdapat kotak PVC untuk menyimpan NodeMCU ESP32 dan modul relay.

Keputusan dan Perbincangan

Rajah 3 menunjukkan carta alir proses pengoperasian *IoT Parcel Drop Box* dalam menguruskan penerimaan dan pengambilan bungkusan. Penghantar hanya perlu meletakkan bungkusan di ruang atas, dan sistem secara automatik menghantar pemberitahuan kepada

penerima melalui WhatsApp. Penerima kemudian boleh mengawal pembukaan dan penutupan ruang penyimpanan bungkusan menggunakan perintah dalam WhatsApp, menjadikan sistem ini mudah dan efisien untuk digunakan.



Rajah 3: Carta Alir Proses Pengoperasian IoT Parcel Drop Box.

Jadual 1 menunjukkan keputusan pengujian prototaip dengan menggunakan pelbagai saiz bungkusan. Keputusan ujian ini mendapati bahawa sensor infra merah yang digunakan pada prototaip ini mampu mengesan kemasukan bungkusan dalam pelbagai saiz dengan berkesan. Setelah bungkusan dikesan, NodeMCU ESP32 berjaya menghantar notifikasi ke aplikasi WhatsApp, tanpa mengira saiz bungkusan yang diuji. Ini membuktikan keupayaan dan keberkesanan sensor infra merah dalam prototaip ini untuk berfungsi dengan baik dalam pelbagai situasi.

Jadual 1: Pengujian saiz bungkusan

Saiz bungkusan	Keputusan sensor infra merah mengesan bungkusan dan hantar notifikasi ke WhatsApp
22.5cm x 11cm x 14.5cm	Berjaya
14cm x 4cm x 10cm	Berjaya
9.5cm x 5.5cm x 7cm	Berjaya
9.5cm x 3cm x 8cm	Berjaya

Manakala Jadual 2 menunjukkan hasil pengujian ke atas pelbagai jenis material bungkusan. Keputusan ujian ini mendapati bahawa sensor infra merah yang digunakan pada prototaip ini berjaya mengesan kemasukan bungkusan daripada pelbagai jenis material, seperti plastik hitam, plastik putih, kotak biru, dan kotak putih. Selepas mengesan bungkusan tersebut, NodeMCU ESP32 berjaya menghantar notifikasi kepada perisian WhatsApp tanpa sebarang

masalah. Ini menunjukkan keupayaan sensor untuk berfungsi dengan baik tanpa mengira jenis material bungkusan yang digunakan.

Jadual 2: Pengujian jenis material bungkusan

Jenis material bungkusan	Keputusan sensor inframerah mengesan bungkusan dan hantar notifikasi ke WhatsApp
Plastik Hitam	Berjaya
Plastik Putih	Berjaya
Kotak Biru	Berjaya
Kotak Putih	Berjaya

Kesimpulan

Secara kesimpulan, prototaip *IoT Parcel Drop Box* telah berfungsi sepenuhnya dan telah mencapai objektif yang ditetapkan. Kajian ini merupakan satu penyelesaian yang direka untuk meningkatkan keselamatan dan kecekapan dalam penerimaan bungkusan ketika penerima tiada di rumah atau pejabat. Dengan menggunakan teknologi IoT, sistem ini membolehkan pemilik untuk memantau dan mengawal akses ke peti bungkusan dari jarak jauh melalui aplikasi telefon pintar menggunakan aplikasi WhatsApp. Kelebihan integrasi prototaip dengan aplikasi WhatsApp yang popular dan digunakan secara meluas, pengguna tidak perlu mempelajari atau menggunakan aplikasi baru, menjadikannya lebih mudah dan mesra pengguna.

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KEBERKESANAN PRODUK INOVASI PMPROW DI KALANGAN PELAJAR REKABENTUK FESYEN DALAM PROSES MELAKAR POLA PAKAIAN

Irni Nor Suhana Ismail¹
Nor Hidayah Halim²

¹Jabatan Rekabentuk dan Komunikasi Visual, Politeknik Ibrahim Sultan, Malaysia, (irni@pis.edu.my)

²Jabatan Rekabentuk dan Komunikasi Visual, Politeknik Ibrahim Sultan, Malaysia, (norhidayah@pis.edu.my)

Abstrak: Kajian ini bertujuan bagi mengenalpasti tahap keberkesanan produk inovasi PMProW di kalangan pelajar Program Rekabentuk Fesyen, Politeknik Ibrahim Sultan dalam proses melakar pola pakaian. Objektif utama tinjauan ini adalah untuk mengenalpasti tahap kemahiran pelajar mengaplikasikan produk inovasi PMProW dan tahap kepuasan pelajar dalam penggunaan produk inovasi yang dibangunkan sebagai pemudah cara dalam proses melakar pola pakaian. Kajian ini dijalankan melalui hasil pemerhatian dengan mengedarkan set soalan maklumat kaji selidik bagi mendapatkan jawapan kepada persoalan yang berkaitan dengan kajian. Seramai 46 responden yang terdiri daripada pelajar Program Rekabentuk Fesyen. Maklumat yang diperolehi dianalisis dengan menggunakan perisian Microsoft Excel untuk mendapatkan nilai kekerapan, peratusan dan nilai min. Dapatan kajian menunjukkan responden sangat berpuas hati dalam penggunaan PMProW semasa proses melakar pola pakaian kerana setiap persoalan kajian telah mencapai nilai skor min yang tinggi. Rekaan produk yang praktikal dapat memudahkan pelajar sepanjang operasi teknik melakar. Kepuasan utama dalam pemilihan produk inovasi PMProW dikalangan pelajar adalah produk inovasi ini dapat melakar pola pakaian dengan pelbagai saiz samaada ready-made ataupun custom made manakala dapatan tentang kemahiran pelajar menggunakan PMProW sangat positif dengan menyatakan produk ini mudah untuk melakar pola pakaian mengikut rekaan samaada pakaian lelaki atau wanita.

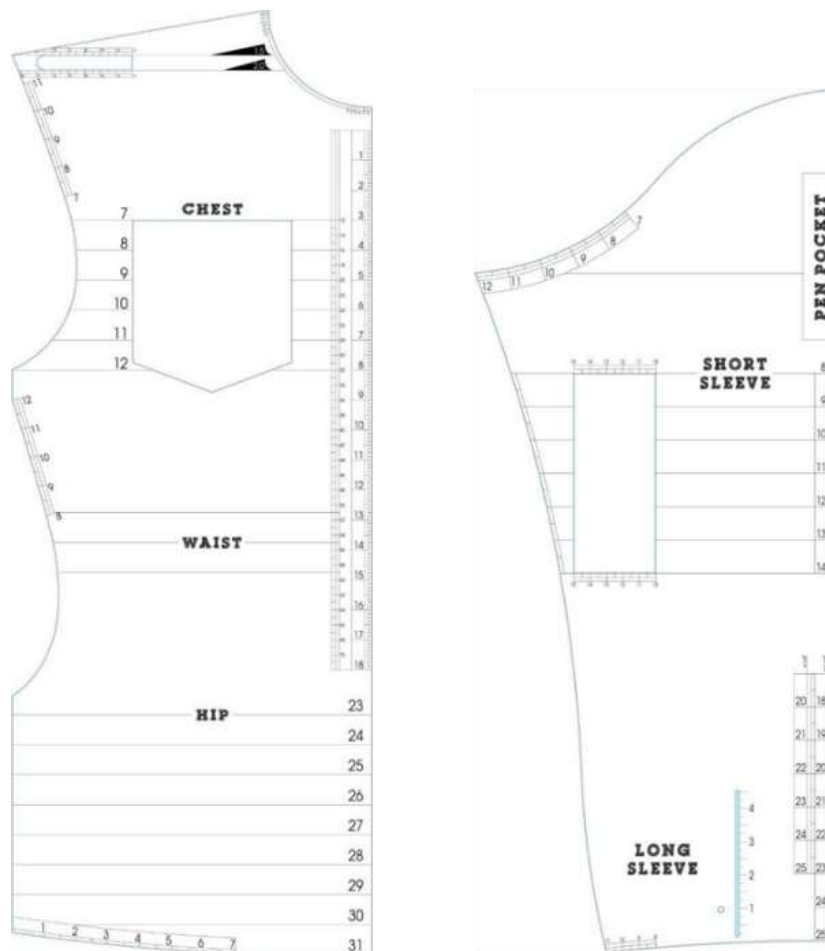
Kata Kunci: PMProW, Melakar Pola, Mudah dan Praktikal

Pengenalan

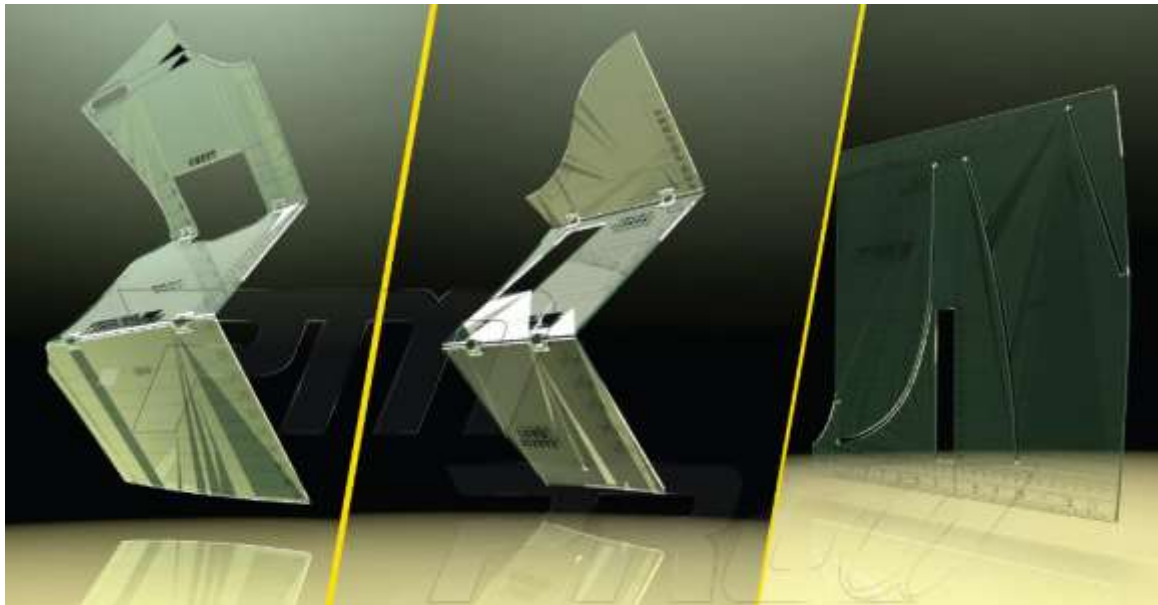
Pola blok ialah bentuk pola asas atau pola dasar untuk badan baju, lengan, skirt atau seluar yang digunakan untuk membuat pakaian yang mudah. Pola blok tidak ada basi untuk kelim dan digunakan sebagai bentuk asas untuk menjahit pakaian dan paling sesuai untuk sesiapa yang baru belajar menjahit. Menurut Mohd Ramly (2021), pola blok selalunya disediakan dan dipadankan mengikut ukuran tertentu bagi seseorang. Dengan adanya pola blok, pelajar tidak perlu lagi menyediakan pelbagai pola yang berlainan bentuk. Memadailah dengan hanya menggunakan pola blok yang boleh disesuaikan untuk menyediakan pelbagai jenis rekaan. Keunikan yang terdapat pada PMProW adalah satu pola blok yang boleh digunakan untuk melakar pola pakaian dalam pelbagai rekaan dan saiz mengikut kehendak pengguna. Reka bentuk produk ini berkonsepkan *multifunctional* kerana ianya boleh digunakan bagi penghasilan pola lelaki atau perempuan.

Hampir semua pelajar Program Rekabentuk Fesyen menghasilkan pakaian dengan mendaraf pola menggunakan pola asas yang dikenali sebagai Pola Blok/Asas. Ia juga boleh diubah mengikut stail rekaan dan dipadankan dengan seseorang yang mempunyai saiz ukuran badan yang hampir sama dengan pola blok itu tetapi selalunya tidak boleh terus digunakan untuk seseorang pelanggan. Ia hendaklah disesuaikan dahulu mengikut ukuran serta stail pakaian.

Produk inovasi PMProW ini di perbuat daripada bahan plastik perpsek dengan ketebalan 2mm, mempunyai grid ukuran pada permukaan dasar blok yang *transparent* menjadikannya lebih mudah untuk menanda bagi mendapatkan ukuran yang tepat. Setiap sudut rekaan yang terdapat pada PM Prow mempunyai kegunaan dalam melakar betuk lengkung dan garis lurus. Skala yang terdapat pada blok ini adalah tepat mengikut saiz standard bersama basi kelim (*seam allowance*) bagi memudahkan *pattern maker* untuk mendraf pola pakaian. Menurut Haron (2012), pelajar dapat menilai secara berterusan serta dapat menambahbaik rekabentuk ke tahap yang optima dengan adanya idea rekabentuk 2 dimensi iaitu boleh dilihat dan 3 dimensi merujuk kepada yang boleh disentuh. Merujuk kepada rajah dibawah, Rajah 1 adalah idea reka bentuk 2D yang telah dikemaskini kepenggunaannya manakala Rajah 2 adalah produk inovasi PMProW yang telah diuji keberkesananannya oleh pelajar.



Rajah 1: Reka Bentuk Produk Inovasi PMProW



Rajah 2: Produk Inovasi PMProW

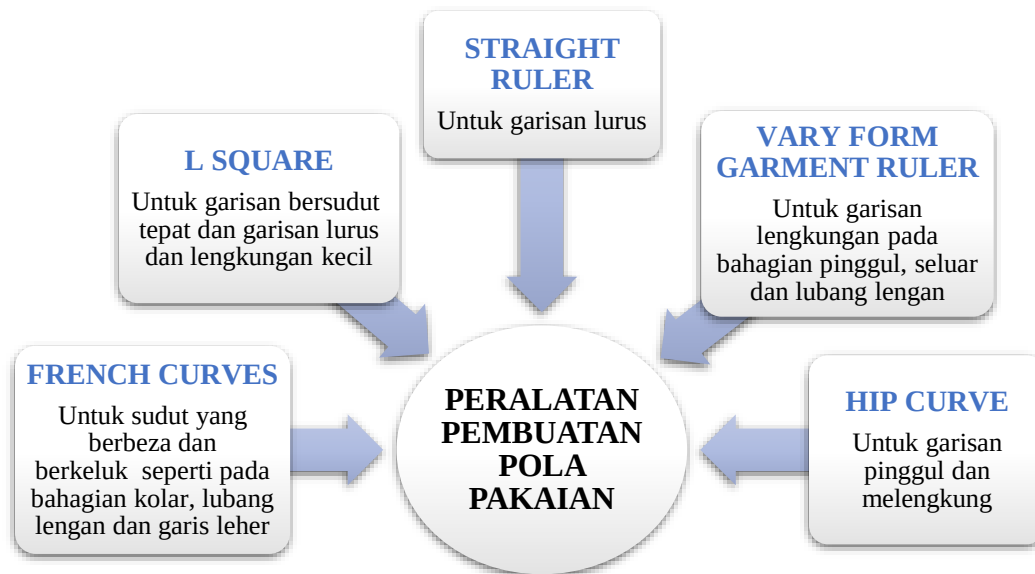
Kajian Literatur

Penyataan Masalah

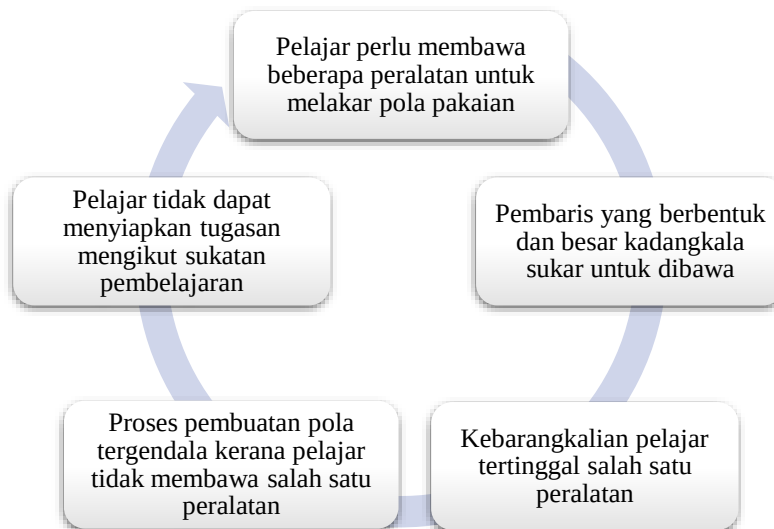
Menurut El Murad dan West (2004), bagi menghasilkan produk yang relevan dalam kebolehpasaran, pereka perlu mempunyai idea yang kreatif dan unik bahkan dapat menyelesaikan masalah. Pada dasarnya, pelajar Rekaan Fesyen memerlukan pelbagai jenis pembaris untuk melakukan proses pembuatan pola pakaian mengikut kehendak rekaan. Setiap sudut pembaris ada kegunaannya yang tersendiri bagi menghasilkan pola pakaian yang selari dengan rekaan pakaian. Ini menyebabkan pelajar perlu membuat pola pakaian yang banyak mengikut saiz dan rekaan yang pelbagai dan memerlukan ruang untuk penyimpanan pola-pola tersebut. Secara umumnya pola blok hanya boleh digunakan untuk rekaan *ready-made* sahaja dan hanya mewakili satu saiz samaada S,M,XL,XXL dan sebagainya.

Bagi penghasilan pola pakaian yang mengikut saiz *custom made* perlu mendraf pola dari peringkat awal dengan menggunakan kepelbagaian jenis pembaris dan ini menyebabkan pembaziran masa. Diantara pembaris-pembaris yang digunakan untuk mendraf pola pakaian adalah *French Curves*, *Hip Curve*, *L Square*, *Straight Ruler* dan *Vary Form Garment Ruler*. Rajah 3 menunjukkan kepelbagaian jenis pembaris yang digunakan oleh pattern maker untuk melakar pola pakaian pada satu masa.

Setiap pembaris ini mempunyai fungsi dan kegunaan yang tersendiri termasuk untuk mendraf bahagian bersudut, garisan melengkung, garisan cengkung dan garisan lurus (Razali, 2018). Bagi melakar pola, pelajar perlu membawa kesemua pembaris ini dalam penghasilan pada setiap bahagian keseluruhan pola pakaian seperti bahagian lubang lengan, leher, pinggul dan sebagainya. Selain daripada itu, peralatan yang banyak juga menyukarkan pergerakan pelajar untuk melakukan proses pembuatan pola pakaian Rajah 4 menunjukkan kajian terhadap pelajar Rekaan Fesyen dari segi kronologi tentang penggunaan pelbagai jenis peralatan. Ada kebarangkalian pelajar tidak membawa sebahagian peralatan kerana reka bentuk setiap pembaris ini panjang dan tidak praktikal untuk dipegang atau di bawa.



Rajah 3: Jenis Pembaris dan Kegunaannya



Rajah 4: Kronologi Penggunaan Pelbagai Jenis Peralatan

Kemahiran menyelesaikan masalah merefleksikan potensi pelajar bagi menentukan kepastian isu permasalahan dan mencadangkan penyelesaian sewaktu menjalani proses pengumpulan data, maklumat, penyelidikan dan penetapan sumber dalam menjalankan tugas (Idris, 2009). Seajar dengan persoalan, pengkaji terdorong untuk mengenalpasti dengan lebih jelas tentang pernyataan masalah ini melalui analisa projek 5W 1H.

WHAT	• Apakah masalah yang dihadapi? • proses mendraf pola pakaian pelbagai saiz amat merumitkan dan melambatkan kerja.
WHO	• Siapakah yang terlibat dengan masalah ini? • Industri Fesyen (<i>Pattern Maker</i>, tukang jahit, <i>Designer</i>, pelajar jurusan fesyen).
WHEN	• Bila masalah ini berlaku? • Sepanjang proses lakaran pola pakaian.
WHERE	• Di manakah masalah ini berlaku? • Bangkel jahit samaada di pusat pengajian atau didalam industri fesyen.
WHY	• Kenapa masalah ini berlaku? • Keperlbagaian saiz setiap individu.
HOW	• Bagaimana masalah ini berlaku? • Sewaktu mengambil ukuran badan dan melakar pola pakaian.

Rajah 5: Analisa Projek 5W 1H

Rajah 5 menunjukkan dapatan daripada analisa projek 5W 1H. Masalah utama yang dihadapi oleh pelajar ialah pola blok pakaian tidak boleh digunakan dalam pelbagai saiz. Masalah ini berlaku kerana setiap pakaian mempunyai kepelbagaian saiz tertentu bagi setiap individu merujuk kepada bentuk badan seseorang. Selain daripada itu, kesukaran untuk mendraf pola pakaian lelaki dan perempuan juga menjadikan penggunaan pola asas ini tidak praktikal dalam kepenggunaannya.

Oleh yang demikian, bagi mendapatkan jawapan tentang keberkesanan penggunaan produk inovasi PMProW, persoalan kajian akan meliputi perspektif mengenalpasti tahap kemahiran pelajar menggunakan PMProW dan juga tahap kepuasan pelajar dalam penggunaan PMProW semasa proses melakar pola pakaian.

Objektif Kajian

1. Menenalpasti tahap kemahiran pelajar menggunakan produk inovasi PMProW.
2. Menenalpasti tahap kepuasan pelajar dalam penggunaan PMProW semasa melakar pola pakaian.

Persoalan Kajian

1. Apakah tahap kemahiran pelajar menggunakan PMProW.
2. Apakah tahap kepuasan pelajar dalam penggunaan PMProW semasa melakar pola pakaian.

Metodologi Kajian

Bagi melihat kebolehan pasaran dan impak penggunaan PMProW – Pattern Metrics Profesional Work, kaedah pemerhatian dan tinjauan berbentuk deskripsi beserta pengedaran set soalan penyelidikan kepada 46 responden. Mohd Najib Konting (2000) mengatakan, penelitian deskriptif menerangkan suatu peristiwa yang sedang berlaku dan menjalankan penyelidikan dengan bertujuan. Kajian ini berupa tinjauan dan pemerhatian berteraskan borang soal selidik sebagai instrumen utama bagi memperolehi maklumat dan pengumpulan data berkaitan persoalan yang dikaji. Soal selidik merupakan platform terbaik dalam pengumpulan data berkaitan persoalan (Azizi Yahaya 2007) dan menemukan jawapan yang rasional daripada responden merujuk kepada persoalan kajian.

Kaedah ini dapat memberikan data berbentuk deskriptif yang tepat serta mudah untuk mendapatkan kerjasama dan maklumbalas dari responden. Oleh hal yang demikian, borang soal selidik adalah medium utama dalam kajian ini. Skala Likert Lima pemeringkatan digunakan sebagai rujukan untuk menilai jawapan responden.

Jadual 1: Skala Pemeringkatan Likert. Sumber daripada Mohammad Najib (1999)

Item	Skala
Sangat Bersetuju	5
Bersetuju	4
Kurang Bersetuju	3
Tidak Bersetuju	2
Sangat Tidak Bersetuju	1

Untuk mentafsirkan dapatan dari respon nilai min dirujuk sebagai dasar panduan. Min adalah purata yang diambil sebagai nilai cerapan di dalam data dan merupakan kaedah ukuran kecenderungan memfokuskan perihai dalam mencari nilai tengah yang mewakili keseluruhan dapatan data (Brown & Wyatt, 2020). Peranan nilai min adalah sebagai perangkap bagi menerangkan nilai purata terhadap soalan yang diutarakan iaitu tahap kemahiran responden dalam penggunaan produk dan tahap kepuasan responden terhadap produk inovasi PMProW ini.

Penerapan statistik dekskriptif bagi mendapatkan kandungan peratusan, kekerapan serta nilai skor min merujuk kepada interpretasi min pada setiap elemen yang dikaji pada peringkat tahap kompetensi mengikut skor min yang telah dijadualkan merupakan kaedah analisis bagi pengkaji. Jadual 2 menunjukkan tahap interpretasi min sebagai rujukan kajian.

Jadual 2: Interpretasi Min. Sumber daripada Norasmah Othman (2002)

Skor Min	Tahap
1.01 – 2.00	Rendah
2.01 – 3.00	Sederhana Rendah
3.01 – 4.00	Sederhana Tinggi
4.01 – 5.00	Tinggi

Responden

Pengkaji menggunakan pendekatan capaian maklumat dengan menganalisa data kajian diperolehi menggunakan perisian Microsoft Excel. Seramai 46 orang pelajar dari Program Rekabentuk Fesyen dipilih sebagai responden dengan menggunakan struktur persampelan tujuan iaitu penetapan pilihan responden dalam kelompok pelajar-pelajar spesifik berdasarkan tujuan khusus penyelidikan dan pengetahuan. Tujuan kaedah struktur persampelan purposive

adalah bagi menemukan keseluruhan data merujuk kepada prosedur dalam memberi jawapan berdasarkan persoalan (Fadli, 2021). Kaedah ini dicadangkan kerana pengkaji memerlukan responden daripada pelajar program Diploma Rekabentuk Fesyen yang menggunakan blok pola asas untuk menghasilkan koleksi pakaian bagi projek akhir pelajar.

Analisa Data

Dapatan Demografi

Jadual 3 adalah analisis demografi responden terdiri daripada maklumat jantina, bangsa dan umur. Sebanyak 95.65% adalah responden perempuan kerana pelajar mengambil jurusan fesyen ini dimonopoli oleh pelajar perempuan. Sebahagian besar daripada jumlah 46 responden adalah berumur sekitar 18 hingga 21 tahun dengan nilai kekerapan 40 orang pelajar kerana mereka merupakan pelajar lepasan Sijil Pelajaran Malaysia (SPM) dan lepasan Sijil Rekaan Fesyen dari kolej kerajaan mahupun swasta. Seramai 44 orang responden terdiri daripada bangsa melayu dan selebihnya 2 orang berbangsa India.

Jadual 3: Rangkuman Analisis Demografi Responden

Perkara	Kekerapan	Peratus %
Jantina		
Lelaki	2	4.35
Perempuan	44	95.65
Umur		
18-21 tahun	46	100
22-25 tahun	0	0
Bangsa		
Melayu	44	95.65
Cina	0	0
India	2	4.35
Lain-lain	0	0

Analisis Dapatan Kajian

Tahap kemahiran pelajar menggunakan PMProW

Jadual 4 menunjukkan hasil dapatan kajian berkenaan tahap kemahiran pelajar menggunakan PMProW. Seramai 38 bilangan responden telah menyatakan sangat setuju terhadap perkara berkaitan iaitu mudah untuk melakar pola pakaian dalam pelbagai saiz dan mudah melakar pola pakaian mengikut rekaan samaada pakaian lelaki atau wanita. Kedua item ini memperoleh skor min 5.00 iaitu yang paling tertinggi di antara kesemua soalan yang dikemukakan. Tafsiran bagi keseluruhan item adalah tinggi yang memperoleh skor min 4.67 dalam konteks mengenalpasti fasa kemahiran pelajar menggunakan produk inovasi PMProW. Responden juga bersetuju bahawa produk inovasi PMProW mudah untuk digunakan dan dipelajari kerana ukuran skala yang terdapat pada produk sangat membantu dalam penghasilan pola pakaian.

Jadual 4: Skor Min Tahap Kemahiran Pelajar Menggunakan PMProW

PERKARA		KEKERAPAN PERATUSAN										SKOR MIN	TAFSIRAN
TAHAP KEMAHIRAN PELAJAR MENGGUNAKAN PMPROW	TIDAK SETUJU				TIDAK PASTI		SETUJU						
	STS	%	TS	%	TP	%	S	%	SS	%			
Saya mudah memahami cara penggunaan PMProw	0	0.0%	0	0.0%	6	13%	35	76.1%	5	10.9%	4.35	Tinggi	
Saya mudah untuk melakar pola pakaian mengikut rekaan samaada pakaian lelaki atau wanita	0	0.0%	0	0.0%	0	0%	8	17.4%	38	82.6%	5.00	Tinggi	
Semasa ketiadaan pensyarah, aplikasi PMProw dapat membantu pelajar.	0	0.0%	0	0.0%	7	15%	30	65.2%	9	19.6%	4.24	Tinggi	
Saya mudah untuk melakar pola pakaian dalam pelbagai saiz	0	0.0%	0	0.0%	0	0%	8	17.4%	38	82.6%	5.00	Tinggi	
Saya dapat melakar pola pakaian dalam pelbagai saiz samaada <i>ready-made</i> atau pun <i>custom made</i>	0	0.0%	0	0.0%	2	4%	9	19.6%	35	76.1%	4.78	Tinggi	

4.67 Tinggi

Tahap kepuasan pelajar dalam penggunaan PMProW semasa proses melakar pola pakaian.

Jadual 5 menunjukkan analisis skor min bagi tahap kepuasan pelajar dalam penggunaan PMProW semasa dan selepas proses melakar pola pakaian diuji. Pada keseluruhannya kesemua item persoalan mendapat skor min 5.00 dengan tafsiran tinggi. Kenyataan ini dapat dibuktikan lagi dengan nilai kekerapan didalam jadual soal selidik yang menunjukkan seramai 46 orang responden bersetuju bahawa reka bentuk produk ini sangat praktikal kerana dapat mempercepatkan proses lakaran dan dapat menjimatkan masa kerana pada permukaan produk telah tersedia ukuran badan di setiap sudut blok seperti pada bahagian bahu, keruk lengan, leher dan bahagian lurus. Perspektif yang telus permukaannya memudahkan pelajar untuk menangkap malah sangat sesuai untuk dijadikan templat blok pola. Secara tidak langsung ianya dapat mempercepatkan tugas pelajar mengikut garis masa yang telah ditetapkan. Hal ini diperakui kerana PMProW diperbuat daripada bahan plastik yang ringan dan rekaanya boleh dilipat menjadikan ia mudah disimpan dan mudah untuk dibawa ke kelas.

Jadual 5: Skor Min Mengenalpasti Kepuasan Pelajar dalam Penggunaan PMProW

PERKARA		KEKERAPAN PERATUSAN										SKOR MIN	TAFSIRAN
TAHAP KEPUASAN PELAJAR DALAM PENGGUNAAN PMPRO W SEMASA PROSES MELAKAR POLA PAKAIAN.		TIDAK SETUJU				TIDAK PASTI		SETUJU					
	STS	%	TS	%	TP	%	S	%	SS	%			
Reka bentuk PMPRoW yang praktikal dapat mempercepatkan proses lakaran	0	0.0%	0	0.0%	0	0.0%	36	78.3%	10	21.7%	5.00	Tinggi	
Penggunaan PMProw dapat menjimatkan masa dan mempercepatkan tugas saya.	0	0.0%	0	0.0%	0	0.0%	38	82.6%	8	17.4%	5.00	Tinggi	
Material yang ringan, rekaan blok boleh dilipat lebih mudah untuk di bawa ke kelas	0	0.0%	0	0.0%	0	0.0%	25	54.3%	21	45.7%	5.00	Tinggi	
Mudah untuk disimpan	0	0.0%	0	0.0%	0	0.0%	38	82.6%	8	17.4%	5.00	Tinggi	
Keseluruhannya saya berpuas hati dengan cara penggunaan dan reka bentuk PMProw.	0	0.0%	0	0.0%	0	0.0%	26	56.5%	20	43.5%	5.00	Tinggi	
											5.00	Tinggi	

Analisis Keseluruhan

Jadual 6 adalah analisis min purata keseluruhan bagi mengetahui tahap keberkesanan produk inovasi PMProW di kalangan pelajar Program Rekabentuk Fesyen dalam proses melakar pola pakaian. Berdasarkan data yang telah diperolehi daripada hasil kajian, pengkaji mendapati bahawa tahap kemahiran pelajar dalam proses melakar pola pakaian memperoleh skor min 4.67 dengan tafsiran tahap tinggi. Responden memaklumkan bahawa produk PMProW ini sangat fleksible kerana mudah untuk mempelajari cara penggunaan, mudah untuk menghasilkan rekaan dan mempunyai ciri kepelbagaian fungsi. Kesemua responden juga berpendapat bahawa produk PMProW ini memenuhi kepuasan menyeluruh dari segi penggunaan sebelum, semasa dan selepas proses sesi pembelajaran dengan mencapai skor min keseluruhan sebanyak 5.00. Maklum balas daripada responden mengenai kepuasan dalam penggunaan produk ini ialah struktur reka bentuk yang praktikal, mempunyai skala ukuran yang tepat mengikut saiz badan seseorang, produk boleh dilipat kerana terdapat ensel pada bahagian penyambungan pola, mudah di bawa serta mudah disimpan.

Jadual 6: Analisis Min Purata Keseluruhan

PERSOALAN KAJIAN	SKOR MIN KESELURUHAN	TAFSIRAN TAHAP
Tahap kemahiran pelajar menggunakan PMProW	4.67	Tinggi
Tahap kepuasan pelajar dalam penggunaan PMProW semasa proses melakar pola pakaian	5.00	Tinggi

Kesimpulan

Inovasi merupakan istilah daripada perkataan *innovare* yang bermaksud sesuatu yang diperbaharui, pengubahsuaian dalam penambahbaikan atau pembangunan kreatif. Ia adalah kaedah dalam mencari penyelesaian dengan menghasilkan produk, perkhidmatan, sistem atau penambahbaikan ke arah yang lebih baik.

Hasil kajian yang telah dilaksanakan ke atas 46 responden melibatkan pelajar yang mengikuti kursus *Pattern Drafting & Construction*, mendapati produk inovasi PMProW ini boleh dijadikan sebagai peralatan utama untuk melakar pola pakaian. Ia juga boleh digunakan kepada semua pensyarah Rekabentuk Fesyen yang memerlukan bahan bantuan pengajaran dalam mengajar kursus yang berkaitan dengan penghasilan pola. PMProW ini dapat membantu pelajar semasa sesi pembelajaran dan memudahkan pensyarah dalam proses pengajaran dengan lebih berkesan, produktif serta praktikal.

Disamping itu objektif utama PMProW ini dihasilkan adalah untuk memudahkan pelajar untuk membuat pola pakaian yang pelbagai saiz dan rekaan serta boleh digunakan untuk membuat pakaian lelaki ataupun perempuan mengikut saiz yang dikehendaki samada *custom made* ataupun *readymade* dengan hanya menggunakan satu pola blok sahaja. Selain daripada itu ianya juga dapat meminimumkan kelengkapan peralatan pembuatan pola pakaian kerana sebelum ini pelajar menggunakan pelbagai pembaris seperti *French Curves*, *L Square*, *Straight ruler*, *Hip Curves* dan *Vary form garment ruler* hanya untuk menghasilkan satu pola asas khas untuk satu saiz sahaja.

Proses pembuatan pola pakaian dapat menjimatkan masa dari segi penyediaan kelengkapan. Selain daripada itu, ianya dapat meminimumkan kelengkapan peralatan dengan menggabungkan 5 jenis pembaris menjadi satu rekaan blok yang semestinya memudahkan pelajar atau pensyarah. Dengan kepantasan masa yang diambil untuk melakar pola pakaian dapat meningkatkan kadar pengeluaran mengikut target yang dikehendaki. Rekaan yang lebih praktikal ini dapat mempercepatkan proses lakaran dengan tidak perlu menukar beberapa jenis pembaris dalam satu masa mengikut kehendak rekaan. Hanya menggunakan satu blok sahaja namun dapat menyiapkan beberapa bahagian pola pakaian dengan tidak mengambil tempoh masa yang lama. Proses lakaran pola pakaian dapat dijalankan secara efektif dan praktikal tanpa ada sebarang gangguan dan tiada lagi masalah lambakan pola-pola pakaian di dalam bengkel jahitan.

Penghasilan PMProW-*Pattern Metrics Profesional Work* telah mencapai objektif utama di mana telah berjaya memudahkan pelajar dan menarik minat pelajar dalam menghasilkan pola pakaian. Pelajar amat berminat menggunakan bahan inovasi ini dalam meningkatkan kefahaman mereka dan interaktif bahan ini amat berkesan. Malah pelajar bersetuju untuk mengaplikasikan produk ini sebagai keutamaan dan akan mengusulkan keberkesanan PMProW dengan mencadangkan penggunaan produk ini kepada pelajar lain.

Berdasarkan laporan diatas, tiada satu pun dari data melaporkan pilihan tidak setuju dan sangat tidak setuju bagi soalan yang diajukan. Ini membuktikan bahawa penghasilan PMProW ini berjaya mencapai objektif yang dinyatakan.

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KAJIAN PENGAJARAN DAN PEMBELAJARAN KURSUS WORK BASED LEARNING DI KELAS YANG BESAR DI POLITEKNIK METRO JOHOR BAHRU

Hazlin Jamari¹

¹Jabatan Akademik, Politeknik METrO Johor Bahru (PMJB), Malaysia, (hazlin.jamari@pmjb.edu.my)

Abstrak: *Kursus Work Based Learning (WBL) di Kelas Yang Besar bermaksud kelas yang mempunyai bilangan pelajar yang ramai iaitu melebihi 30 orang. Ianya mungkin kos efektif untuk sesebuah institusi Pendidikan, tetapi sebenarnya, memberikan banyak kelemahan, termasuk kadar ketidakhadiran pelajar dan kegagalan hantar tugas yang tinggi dan akhirnya kurang minat untuk belajar. Kajian ini dijalankan untuk mereka bentuk semula kursus WBL Procurement in Logistics untuk meningkatkan hasil pembelajaran pelajar menerusi kaedah kolaboratif, bergantung dan berdikari (dependent, and independent learning), dengan memperkenalkan tiga perubahan: tutorial wajib dengan aktiviti pembelajaran aktif; konsistensi dalam pengajar kursus; dan kuiz dalam talian. Cadangan reka bentuk ini telah diuji oleh sekumpulan 50 orang pelajar Diploma Pengurusan Logistik dan Rantaian Bekalan di Politeknik METrO Johor Bahru yang mengikuti kursus WBL Procurement in Logistics. Kajian ini dilaksanakan dengan menilai kesan perubahan ini ke atas tiga hasil pembelajaran: pertama; pencapaian purata markah akhir dalam menjelaskan proses perolehan logistik dan prosedur yang dilaksanakan oleh organisasi, kedua; mengetahui penentuan harga dan mengurus kualiti perolehan dalam logistik; ketiga; tindak balas mengenai etika dan tanggungjawab sosial terhadap isu perolehan. Data kajian dianalisis melalui laporan hasil pembelajaran kursus menggunakan sistem i exam spmp. Hasil penemuan kajian, menunjukkan ianya memberi kesan positif kepada semua hasil pembelajaran, terutamanya disebabkan peningkatan kehadiran semasa tutorial. Peningkatan yang paling ketara berlaku untuk pembelajaran pelajar iaitu mencatat pencapaian melebihi 70% berbanding sasaran Jabatan Akademik, PMJB iaitu 50%.*

Kata Kunci: *WBL, Kelas Besar, Procurement, Hasil Pembelajaran*

Pengenalan

Pendidikan di peringkat pengajian tinggi telah mengalami beberapa cabaran sejak kebelakangan ini. Untuk menampung semakin ramai pelajar dari pelbagai latarbelakang untuk mengikuti pengajian, dan pada masa yang sama institusi pengajian menerima kurang dana untuk mengajar pelajar ini, akhirnya, institusi semakin bergantung pada kelas yang sangat besar iaitu terdiri pelajar yang ramai, melebihi 30 orang (Goffe dan Kauper, 2014; Watts dan Schaur, 2011; Watts dan Becker, 2008), walaupun diujahkkan bahawa mod pengajaran ini hanya menguntungkan sekumpulan kecil pelajar dengan gaya pembelajaran tertentu (Geerling, 2013, Lage et al., 2000, Moryl, 2013). Ramai yang berpendapat bahawa reka bentuk kelas ini membawa kepada peratus ketidakhadiran pelajar yang tinggi, kurangnya penglibatan, kurang motivasi dan isu kesihatan mental (seperti kebimbangan), dan akhirnya mengakibatkan pembelajaran terganggu (Hornsby, 2013). Osman, 2013, berpendapat, ramai pelajar akhirnya tidak menamatkan pengajian, atau mereka mengambil masa yang lebih lama untuk menamatkan pengajian daripada yang dijangkakan (Garcia-Ros et al., 2018). Menukar mod penyampaian adalah satu langkah penambahbaikan proses pengajaran dan pembelajaran (Leger et al., 2013), dan berkemungkinan melibatkan kekangan belanjawan (Goffe dan Kauper, 2014, Westervelt, 2016). Isu ini telah mendorong pengkaji untuk memikirkan perubahan yang

akan meningkatkan hasil pelajar dalam kursus WBL pada kelas yang besar, termasuk usaha untuk memperkenalkan kaedah baru penyampaian dengan menggalakkan pembelajaran secara kolaboratif dan aktif. Bermula pada tahun 2024, pengkaji mereka bentuk semula kaedah penyampaian WBL kursus “procurement in logistics” di PMJB, dengan memperkenalkan tutorial kumpulan kecil mandatori dan kuiz dalam talian, serta mengekalkan pengajar kursus procurement WBL. Matlamat perubahan ini adalah untuk memastikan semua pelajar dari latarbelakang kemahiran yang berbeza dapat mencapai hasil pembelajaran. Latarbelakang kemahiran yang berbeza bermaksud pelajar kolaboratif (mahir dalam kerja berkumpulan dan menjadi sebahagian daripada pasukan), pelajar yang terlalu bergantung (yang "memerlukan sejumlah besar arahan daripada pensyarah"), dan pelajar bebas (boleh bekerja tanpa bimbingan sepenuhnya dan mahir dengan perantarnya") (Lage et al., 2000). Kajian mendapati bahawa pelajar kolaboratif akan mendapat manfaat daripada aktiviti berkumpulan dengan pelajar lain dalam tutorial; pelajar yang terlalu bergantung kepada pengajar akan mendapat manfaat daripada konsistensi pengajar kursus dengan amalan set kuliah yang teratur; dan pelajar bebas akan mendapat manfaat daripada belajar sendiri dengan kuiz dalam talian yang diwajibkan. Tujuan kajian ini adalah untuk menentukan sama ada perubahan reka bentuk ini akan meningkatkan hasil pembelajaran kursus WBL di dalam kelas yang besar.

Kajian Literatur

Banyak pandangan menyatakan bilangan pelajar akan memberi kesan kepada kualiti persekitaran pembelajaran. (Ehrenberg et al. 2001; Cuseo 2007). Di institusi pendidikan, banyak galakan diberi kepada pelajar untuk melibatkan diri secara kolaboratif dan aktif dalam tugas melibatkan penyelesaian masalah dan pemikiran kritikal. Oleh itu, saiz kelas memberi kesan kepada kualiti pembelajaran pelajar. (McKeachie 1980; Cooper and Robinson 2000; Mulryan-Kyne 2010). Aspek pertama kajian ini ialah pengenalan tutorial mandatori, yang diketuai oleh pelajar yang berpengalaman dalam dunia pekerjaan bidang procurement in logistics, dengan aktiviti pembelajaran aktif seperti permainan, eksperimen atau masalah latihan. Kehadiran didapati meningkat. Kesan kehadiran kelas terhadap prestasi pelajar telah lama dikaji dan kebanyakan penyelidik mendapati kehadiran meningkatkan prestasi akademik; contohnya termasuk kajian oleh Romer (1993), Durden dan Ellis (1995), Marburger (2006), dan Cohn dan Johnson (2006). Boulatoff dan Cyrus (November, 2022, membuktikan tiga rekabentuk yang diperkenalkan akan menambahbaik hasil pembelajaran pelajar pada kelas yang besar.

Gambaran Keseluruhan Reka Bentuk Kajian

Kajian ini melibatkan dua sesi pengajian berturut-turut bagi kursus yang sama (Procurement in Logistics) dari sesi 1 2023/2024 da sesi 11 2023/2024 . Kursus ini adalah teras kursus untuk pelajar DLS 5 Diploma WBL Pengurusan Logistik dan Rantaian Bekalan. Ia adalah kursus wajib untuk pelajar ini.

Objektif Kajian

Objektif kajian ini adalah untuk melihat apakah pencapaian ;

1. Hasil Pembelajaran 1 iaitu pencapaian purata akhir pelajar untuk menjelaskan proses perolehan logistik dan prosedur yang dilaksanakan oleh organisasi;
2. Hasil Pembelajaran 2 iaitu pencapaian purata akhir pelajar untuk mengetahui penentuan harga dan mengurus kualiti perolehan dalam logistik
3. Hasil Pembelajaran 3 iaitu pencapaian purata akhir pelajar bertindak balas tentang etika dan tanggungjawab sosial terhadap isu perolehan.

setelah menggunakan reka bentuk semula kursus WBL Procurement in Logistics.

Metodologi Kajian

Kajian ini menggunakan sistem spmp peperiksaan PMJB i exam spmp. Data penilaian merangkumi semua keperluan penilaian yang termaktub dalam sukatan kursus WBL Procurement in Logistics. Data telah dianalisis menggunakan sistem peperiksaan PMJB i exam spmp. Jumlah responden adalah kelas bagi sesi pengajian 11 2023/2024 iaitu DLS Semester 5 program Diploma Pengurusan Logistik Dan Rantaian Bekalan PMJB berjumlah 50 orang.

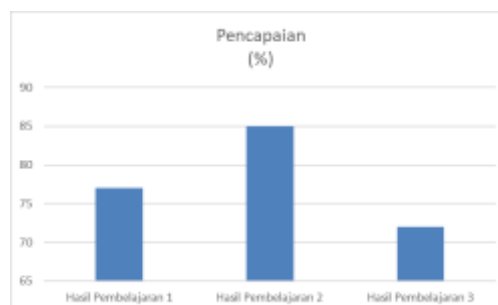
Data Kajian

Hasil kajian mendapati purata pencapaian hasil pembelajaran 1, 2, dan 3 kursus adalah melebihi 70%. Pencapaian hasil pembelajaran 1 adalah 77%, hasil pembelajaran 2 ialah 85% dan hasil pembelajaran 3 ialah 72%. Pencapaian tertinggi adalah hasil pembelajaran 2 iaitu 85%. Hasil pembelajaran 2 kemahiran pelajar untuk mengetahui penentuan harga dan mengurus kualiti perolehan dalam logistik.

Jadual 1: Pencapaian Hasil Pembelajaran Kursus WBL Procurement in Logistics

Hasil Pembelajaran	Pernyataan Hasil Pembelajaran Kursus	Pencapaian
1	Menjelaskan proses perolehan logistik dan prosedur yang dilaksanakan oleh organisasi	77%
2	Mengetahui penentuan harga dan mengurus kualiti perolehan dalam logistik	85%
3	Tindak balas tentang etika dan tanggungjawab sosial terhadap isu perolehan	72%

Sumber: Laporan Penambahbaikan Kursus WBL Procurement in Logistics, DLS, 2024



Rajah 1: Pencapaian Hasil Pembelajaran Kursus WBL Procurement in Logistics

Sumber: Laporan Penambahbaikan Kursus WBL Procurement in Logistics, DLS, 2024

Penemuan Kajian

Berdasarkan penemuan kajian, pengkaji mendapati kaedah pengajaran dan pembelajaran mempunyai kesan positif terhadap gred akhir, markah penilaian berterusan, dan pembelajaran pelajar bagi kelas WBL yang besar. Kehadiran semasa tutorial, khususnya untuk meningkatkan prestasi pelajar dalam akademik menerima maklumbalas yang positif di kalangan pelajar.

Keputusan dan Perbincangan

Hasil pembelajaran dan gred median yang diperoleh oleh pelajar ditunjukkan dalam Jadual 1. Seperti yang ditunjukkan dalam jadual, kadar pencapaian hasil pembelajaran kursus adalah baik, dengan lebih 70% pencapaian purata markah pelajar melebihi sasaran 50% Jabatan Akademik PMJB.

Kesimpulan

Pengajaran dan pembelajaran berdasarkan kaedah dan teknik mengajar yang kreatif dan berkesan melalui penggunaan bahan bantu belajar, inovatif mampu merangsang pelajar untuk belajar dalam kelas WBL yang besar. Pensyarah yang bersifat positif akan menerima perubahan sebagai satu cabaran dalam profesion mereka. Pensyarah yang dinamik, cekap dan sentiasa berusaha untuk memajukan pengajaran dan pembelajaran dalam kelas dengan merancang teknik mengajar dan menghasilkan bahan bantu mengajar yang menarik, akhirnya, memberi impak yang tinggi kepada hasil pembelajaran pelajar. Kaedah pengajaran perlu dipelbagaikan mengikut keperluan pelajar yang mempunyai tahap pengetahuan dan kemahiran yang berbeza untuk memudahkan pelajar memahami pengajaran. Selepas tinjauan dijalankan, produk atau pengajaran dan pembelajaran inovatif ini bukan saja dapat membantu pelajar yang mempunyai masalah dalam pembelajaran, ia juga boleh dijadikan aktiviti pengukuhan dan pengayaan bagi pelajar yang telah menguasai sesuatu pengetahuan. Ia turut membantu kemahiran pelajar dalam aktiviti berkumpulan, menyuntik motivasi pelajar dan interaksi pensyarah dan pelajar.

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PRINSIP KEHADIRAN DALAM CERPEN-CERPEN MANA SIKANA: ANALISIS TEKSDEALISME

Khatijah Mohd Rahim¹

Norazimah Zakaria²

¹Fakulti Bahasa dan Komunikasi, Universiti Pendidikan Sultan Idris (UPSI), Malaysia,

khatijahrahim96@gmail.com

²Fakulti Bahasa dan Komunikasi, Universiti Pendidikan Sultan Idris (UPSI), Malaysia,

norazimah@fbk.ups.edu.my

Abstrak: Pengarang yang prolifik dalam berkarya akan sentiasa berusaha untuk membawa pembaharuan untuk mengangkat teks ciptaannya mencapai tahap keunggulan melalui kehadiran pelbagai sumber dan idea. Oleh itu, menjadi keutamaan seseorang pengarang dengan menerapkan kepelbagaian dan kesegaran sumber dalam karyanya. Sebagai seorang penulis yang dilabelkan prolifik di negara ini, Mana Sikana menyedari akan kepentingan akan pembaharuan dalam kehadiran sumber idea yang baharu dan berinovasi dalam hasil teks-teksnya. Sehubungan itu, tujuan makalah ini adalah untuk menganalisis prinsip kehadiran dalam tiga buah cerpen karya Mana Sikana berdasarkan teori Teksdealisme. Bagi mengukur tahap kualiti kepengarangan seseorang pengarang, empat prinsip teori Teksdealisme dapat digunakan. Hanya satu prinsip, iaitu prinsip kehadiran yang diaplikasikan dalam kajian ini untuk menganalisis cerpen Daun-daun Keramat (1975), Kawan yang Berbudi dan Berduri (1964) dan Petualang Bangsa (1983). Kaedah analisis teks dan kaedah kepustakaan telah digunakan dalam kajian ini. Hasil analisis ketiga-tiga teks mendapati bahawa Mana Sikana sentiasa membuat pembaharuan dan inovasi seiring usaha untuk mewujudkan kepelbagaian sumber dan idea yang baharu menerusi pengalaman peribadi, isu semasa dan penyelidikan. Hasil penelitian menunjukkan pembaharuan yang dilakukan menerusi sumber idea, struktur dan aliran dalam ketiga-tiga teks. Selain memperlihatkan pengekal terhadap struktur tertentu, struktur penciptaannya turut mengalami perubahan. Dari segi aliran menunjukkan pembaharuan dalam pembawaan aliran realisme. Impaknya, segala pembaharuan dan pemantapan terhadap setiap teks ciptaannya yang dilakukan dari masa ke masa untuk mencapai tahap keunggulan serta mampu menjadi pemangkin kepada penulis-penulis lain agar sentiasa membawa satu pembaharuan dalam karya yang dihasilkan.

Kata Kunci: Teksdealisme, Pembaharuan, Aliran, Struktur, Idea

Pengenalan

Kemunculan ramai pengarang telah memberikan sumbangan dalam dunia sastera tanah air. Individu yang bergelar pengarang perlu sekurang-kurangnya memiliki sifat sebagai pemikir atau lebih baik memiliki jati diri sebagai ahli falsafah. Selain itu, pengarang yang baik mempunyai sifat yang berbeza dengan pengarang yang lain iaitu peka dan sensitif dengan isu yang berlaku di sekeliling. Sejak zaman-berzaman, pengarang mendapat tempat yang istimewa dalam tingkat kehidupan. Penulis, pendidik dan pengkritik sastera yang berasal dari Perak, iaitu Mana Sikana atau nama penuhnya Abdul Rahman Napiah telah memeriahkan pentas sastera tanah air dengan menghasilkan pelbagai genre sastera antaranya cepen, novel, drama dan buku kritikan sastera.

Usaha ini merupakan sumbangan untuk mengangkat martabat sastera tanah air. Sehubungan itu, beliau sering memenangi sayembara penulisan pada peringkat nasional dan negeri. Melalui

penghasilan karya drama dan cerpen beliau telah digelar sebagai pengarang yang prolifik. Antara anugerah ulung yang pernah dirangkul beliau adalah Anugerah Sasterawan Perak kedua pada tahun 2004 melalui penglibatan aktif beliau dalam penulisan drama, cerpen dan pementasan drama. Kerajaan Negeri Perak cukup teliti dalam memilih penerima watak dan pencapaian ini amat membawa erti besar buat Mana Sikana.

Mana Sikana merupakan seorang pengarang dalam bidang kesusasteraan Melayu yang mendapat kedudukan penting dalam coretan sejarah kesusasteraan Melayu Malaysia. Beliau banyak memberi sumbangan dalam bidang perkarya seperti cerpen, drama dan novel serta kritikan sastera. Sebagai pengarang dan pengkaji, Mana Sikana seorang pengkarya yang prolifik, tepu dengan falsafah dan pemikiran kontemporari dalam karya-karya kreatif yang dihasilkan.

Sastera tidak terbentuk secara sia-sia dan hanya sekadar rekaan semata-mata. Oleh itu, sumber-sumber yang berlegar di persekitaran, pengalaman, pemerhatian, pembacaan, perenungan dan penyelidikan dikongsi dan ditukangi sehingga menjadi kesatuan pemikiran. Mana Sikana (1996, ms: 60) menyatakan bahawa idea dan pengalaman mempunyai hubungan rapat dengan sifat jati diri. Idea dan pengalaman akan mencorak dan membentuk subjek karya. Pernyataan ini dapat diperjelaskan bahawa kehadiran atau asal usul sumber idea pengarang dalam penciptaannya menjadi titik tolak permasalahan kajian ini. Sesebuah karya sastera yang berupaya mendidik dan memotivasikan masyarakat sewajarnya menghadirkan sumber idea yang berkualiti dan memperlihatkan pembaharuan. Justeru, kajian ini memberikan fokus terhadap proses mengeksplorasi kehadiran sumber idea Mana Sikana dalam berkarya sehingga membentuk tekstual teks sekali gus mencapai tahap kepengarangannya.

Pernyataan Masalah

Nama Mana Sikana bukanlah asing dalam kalangan pencinta bidang kesusasteraan Melayu. Berdasarkan penelitian, pengarang yang bersifat prolifik ini begitu sinonim dengan karya drama di mana kebanyakan dramanya dipentaskan lebih daripada sekali. Kini Mana Sikana semakin giat dalam penghasilan karya sastera iaitu cerpen walaupun sudah bersara daripada kerja hakikinya. Oleh itu, sudah tiba waktunya karya beliau dihurai dan diangkat untuk melihat falsafah yang cuba disampaikan melalui penghasilan penulisan kreatif khususnya cerpen beliau. Karya cerpen lebih menjadi pilihan kebanyakan pengarang sastera kerana masyarakat pada era ini lebih dekat dengan isu dan subjek yang mudah untuk difahami. Karya cerpen menggunakan bahasa yang mudah difahami dan jalan cerita yang jelas.

Kajian awal yang dijalankan ini adalah wajar dalam mengaplikasikan teori Teksdealisme bagi memperlihatkan keunggulan karya-karya sastera tempatan khususnya genre cerpen aspek proses kreatif hasil penulisan Mana Sikana. Unsur-unsur yang dapat mengunggulkan sastera iaitu pengarangnya, teksnya dan khalayaknya. Teori Teksdealisme ini menyediakan proses penatidiran, keunggulan dan idealistik. Mana Sikana (2013, ms: 93) menyatakan bahawa beliau berharap agar teori ini menjadi penawar atau majun kepada sastera Malaysia dan menjadi satu landasan untuk para penulis berkarya. Oleh yang demikian, usaha yang baik bagi meninjau karya cerpen Mana Sikana sebagai bahan kajian terutamanya terhadap perkembangan pemikiran beliau.

Selain itu, kajian ini juga wajar dijalankan bagi meneroka pembaharuan dan kelainan pemikiran Mana Sikana pada zaman penulisannya. Mana Sikana merupakan seorang pengarang yang mula berjinak dalam penulisan karya sastera sejak tahun 1960-an sehinggalah kini. Beliau juga telah mengamali beberapa aliran pemikiran dalam penulisan karya sasteranya secara giat.

Tambahan pula, beliau banyak mengupas persoalan-persoalan yang berlaku di persekitarannya dan menterjemahkannya dalam bentuk penulisan yang boleh menyedarkan masyarakat tentang pergolakan yang sedang berlaku dalam tahun 1960-an, 1970-an, 1980-an, 1990-an, tahun 2000 hingga kini. Kini Mana Sikana masih lagi aktif berkarya dan masih mampu menghasilkan penulisan cerpen yang berkualiti dan bermutu.

Objektif Kajian

Makalah ini bertujuan untuk menganalisis prinsip kehadiran dalam tiga buah cerpen Mana Sikana berdasarkan teori Teksdealisme. Prinsip kehadiran adalah prinsip pertama dalam teori Teksdealisme yang menuntut seseorang pengarang untuk menerbitkan sumber dan idea yang baharu daripada pelbagai sumber agar teks mencapai tahap unggul.

Bahan Kajian

Tiga buah cerpen telah menjadi pilihan dalam kajian ini, iaitu *Daun-daun Keramat*, *Kawan Berbudi dan Berduri* dan *Petualang Bangsa*. Cerpen-cerpen ini dipilih kerana menggambarkan perubahan dan pembaharuan pengarang dalam berkarya serta memiliki kekuatan dan keistimewaan yang tersendiri.

Kerangka Teoritis

Teori Teksdealisme yang diasaskan oleh Mana Sikana telah digunakan dalam kajian ini. Teksdealisme mewakili dua kosa kata iaitu 'teks' dan 'idealisme' yang membawa maksud teks atau karya yang berkualiti atau unggul. Teori Teksdealisme menjelaskan bahawa setiap pengarang mempunyai hasrat untuk mencapai suatu tahap keunggulan dalam penciptaan karya-karyanya. Oleh itu, pengarang akan menghasilkan karya yang bermutu dan lebih baik daripada yang pernah dihasilkan sebelumnya dengan menyerlahkan bakat, kebolehan, daya intelektual dan keterampilannya yang ada. Mana Sikana (2006) menyatakan bahawa pengarang sesuatu karya juga dituntut mencapai keunggulan yang bermakna mempunyai nilai yang tinggi, luar biasa, cemerlang dan memiliki kekuatan untuk bertahan dalam ujian masa dan zaman. Keunggulan pula satu istilah yang membawa erti budaya sastera ke sesuatu tahap tinggi baik di peringkat kebangsaan juga antarabangsa. Oleh itu, teori Teksdealisme digunakan dalam menganalisis karya dianggap unggul apabila wujud kehadiran, berlaku perlanggaran, dimantapkan melalui pengukuhan dan individualisme seseorang pengarang tercipta sepanjang mengabdikan dirinya dalam penciptaan.

Mana Sikana (2007, ms: 495) berpendapat bahawa teori Teksdealisme atau teori keunggulan mendefinisikan teks sebagai susunan idea dan pengalaman yang mengandungi makna yang berlapis-lapis dengan mempunyai sifat-sifat keunggulannya. Sifat berani dan bijaksana seseorang pengarang dalam mengemukakan idea dan pengalaman yang telah diperolehinya dapat membuktikan sifat-sifat keunggulan. Pengarang juga perlulah sentiasa memberikan gambaran pembaharuan dalam karyanya melalui idea dan pengalaman agar dapat memberi makna yang baharu dan seterusnya menghasilkan karya yang memperlihatkan mutu dan keunggulan. Selain itu, pengarang juga harus berani menghasilkan teks sebagai demonstrasi intelektualisme dan mengaplikasikan konstruktif epistemologisme yang berhubung dengan metafizika dan falsafah. Menurut Mana Sikana (2006), keunggulan sesuatu karya berlaku apabila pengarang menjalankan usaha untuk mencernakan teks dengan sebaiknya. Teori Teksdealisme terdiri daripada empat prinsip iaitu kehadiran, perlanggaran, pengukuhan dan individualisme. Prinsip-prinsip Teksdealisme ini dapat menyerlahkan keunggulan pengarang sepanjang terlibat dalam dunia penulisan.

Prinsip kehadiran berdasarkan teori Teksdealisme merujuk kepada kehadiran pengalaman dan teks adalah hasil kehadiran idea daripada pengalaman pengarang yang mempengaruhi daya kreativitinya. Mana Sikana (2006, ms: 105) berpendapat bahawa pengalaman tersebut akan membentuk suatu idea yang unggul dan dikemukakan dalam penciptaan teks. Dalam proses penciptaan atau penulisan, kehadiran akan terus berlaku dalam pemikiran pengarang sehinggalah teks tersebut disiapkan. Teks yang mencapai tahap unggul bermula daripada idea dan pengalaman. Idea merujuk kepada lintasan-lintasan pemikiran yang terkandung dalam kesedaran pengarang yang mengembang dan mendewasakan, kemudian dijalinkan dalam bentuk kreatif. Pengalaman pula ialah sumber yang mencetuskan idea itu dan pengalaman bergerak dalam sublimasi secara tidak sengaja bagi membentuk subjek. Subjek yang dibincangkan dalam karya akan memudahkan pengarang tersebut dikenali.

Kehadiran memperlihatkan bagaimana pengarang memilih, menyaring dan menyempurnakan maklumat-maklumat yang datang daripada idea dan pengalaman. Unsur-unsur atau bentuk-bentuk pengalaman yang benar-benar sesuai, mantap, bermakna dan bernilai akan dipilih secara terperinci oleh seseorang pengarang sebelum menghadirkan pengalaman-pengalaman tersebut. Pengalaman yang dialami pengarang termasuklah isu atau peristiwa, jalinan, teknik, wawasan, pemikiran, tokoh, gaya bahasa dan latar. Idea dari pengalaman yang hadir dalam pemikiran pengarang tidak terbatas sumber dan rujukannya. Hal ini bermakna sumber idea tidak mempunyai sekatan dan syarat-syaratnya. Sumber yang boleh dirujuk ada pelbagai seperti melalui pengalaman, bacaan dan pemerhatian pengarang. Unsur-unsur kehadiran termasuklah apa-apa sahaja yang terlintas di fikiran pengarang. Mana Sikana (2006, ms: 107) menyifatkan bahawa selagi unsur-unsur itu dapat menghadirkan pengalaman, selagi itulah unsur-unsur itu dikategorikan sebagai kehadiran. Teks yang terhasil terbentuk daripada pengalaman-pengalaman pengarang. Dalam konsep Teksdealisme, pengarang perlu mengumpul sebanyak mungkin pengalaman daripada pelbagai sumber dan rujukan. Ini kerana, teks terbentuk daripada pengalaman pengarang yang diproses, dianyam dan ditenun menjadi sebuah teks daripada sumber yang pelbagai. Pernyataan oleh Shahnnon Ahmad (1979, ms: 28) telah membuktikan bahawa sumber idea tidak mempunyai batasannya sama seperti aspek kehidupan yang juga tidak ada batasannya. Idea yang terhasil bermula dari pengalaman sendiri. Dalam teori Teksdealisme, teks yang dianalisis melalui prinsip kehadiran ini diteliti berdasarkan iaitu pertama, apakah fakta yang hadir dan daripada mana sumber kehadirannya? Kedua, bagaimana fakta itu hadir dalam teks tersebut? Ketiga, apakah fungsi kehadirannya? Perkara-perkara ini ditunjukkan melalui kehadiran subjek dan watak yang ditonjolkan oleh pengarang.

Metodologi Kajian

Kaedah yang telah digunakan dalam penelitian ini adalah kaedah kepustakaan dan analisis teks. Melalui kajian kepustakaan, pengumpulan bahan-bahan yang berkaitan dengan tajuk kajian dan pembacaan secara mendalam. Banyak bentuk bertulis yang menjadi sumber utama seperti buku, majalah, jurnal, akhbar, kertas-kertas kerja seminar dan latihan ilmiah. Dengan menggunakan teknik bacaan secara rapi, cerpen-cerpen yang dikaji akan dibaca secara analitis dan kritis. Seterusnya, data-data daripada cerpen-cerpen ini dianalisis melalui kaedah analisis teks dengan menggunakan teori Teksdealisme sebagai panduan pengkajian. Selain itu, kajian ini dibataskan dengan menggunakan prinsip kehadiran dalam teori Teksdealisme. Penelitian bentuk-bentuk kehadiran dalam analisis berdasarkan teori Teksdealisme adalah berdasarkan kehadiran sumber idea dan aspek struktur (pemikiran, subjek, latar dan watak) dan aliran. Prinsip kehadiran akan dihubungkan dengan sumber-sumber pengalaman pengarang dalam menghasilkan karya tersebut. Pengalaman yang dimiliki pengarang akan menentukan bentuk-bentuk kehadiran sama ada struktur, unsur, aliran atau ideologi. Cerpen-cerpen dalam kajian

ini akan dianalisis berpandukan tiga persoalan iaitu pertama, apakah fakta-fakta yang dihadirkan? Kedua, bagaimanakah kehadiran itu dilakukan? Ketiga, apakah kesan dan fungsinya kepada teks? Gabungan ketiga-tiga persoalan ini akan memperlihatkan kesatuan idea seseorang pengarang dalam membentuk teks ciptaannya.

Dapatan dan Perbincangan

Dapatan analisis dalam kajian ini menunjukkan bahawa aspek kehadiran dalam ketiga-tiga cerpen diperincikan dari segi kehadiran sumber idea, struktur dan aliran yang dihadirkan oleh pengarang sebagaimana yang ditunjukkan dalam jadual 1 berikut:

Jadual 1: Dapatan Analisis

Novel	Kehadiran Sumber Idea	Kehadiran Struktur	Kehadiran Aliran
Daun-daun Keramat	Pengalaman Peribadi	Subjek/Watak/Latar	Realisme
Kawan yang Berbudi dan Berduri	Pengalaman Peribadi	Subjek/Watak/Latar	Realisme
Petualang Bangsa	Penyelidikan/Pembacaan/Rujukan	Subjek/Watak/Latar	Realisme

(Sumber: Pengkaji)

Berdasarkan dapatan analisis dalam jadual, didapati prinsip kehadiran dalam ketiga-tiga cerpen diperlihatkan menerusi idea atau sumber pengalaman pengarang yang menunjukkan kepelbagaian sumber, iaitu pengalaman peribadi, penyelidikan, pembacaan dan rujukan sehingga pengarang menghadirkan subjek, latar, watak, teknik dan unsur yang mengukuhkan teks-teks ciptaannya. Sementara aliran yang dianutinya pula diperlihatkan menerusi aliran realisme dalam cerpen-cerpen yang dikaji.

Kehadiran dalam Daun-daun Keramat

Kehadiran sumber idea merupakan konteks yang penting dalam proses penciptaan. Pengkaji akan meneliti dari mana datangnya sumber idea tersebut. Sumber idea yang berselirat dalam minda akan ditukangi dan dikembangkan oleh pengarang. Prinsip kehadiran dalam *Daun-daun Keramat* diperlihatkan menerusi sumber idea, struktur sesebuah karya dan aliran yang dianuti seseorang pengarang, *Daun-daun Keramat* merupakan antara cerpen terawal yang ditulis Mana Sikana semasa beliau menjadi guru sekolah di negeri Johor pada tahun 1975. Melalui pemerhatian, beliau membuat catatan dan penelitian daripada peristiwa, fakta, situasi masyarakat bagi memperoleh idea yang unik.

Kehadiran Sumber Idea

Mana Sikana menulis cerpen *Daun-daun Keramat* pada tahun 1975 yang diilhamkan melalui kes kecanduan ganja yang mula menular dalam kalangan orang Melayu dalam tahun 1970-an hingga 1980-an. Melalui pengalaman peribadinya yang pernah bertugas sebagai seorang guru di sekolah negeri Johor pada tahun 1969 hingga 1974. Pada era tersebut, penyalahgunaan ganja lebih tertumpu kepada kaum Melayu terutamanya golongan nelayan yang menggunakan ganja agar mereka dapat berjaga sehingga lewat malam. Melalui keratan akhbar yang bertarikh 5 September 1973, telah melaporkan bahawa pokok ganja yang terbaik telah ditanam di sebuah

kebun di Benut, Pontian di negeri Johor. Malah, pengedar-pengedar ganja dari seluruh negara sanggup datang ke Johor untuk membeli daun ganja untuk dipasarkan kepada pembeli dan ada juga yang memasarkan sehingga ke luar negeri. Menurut Tan Sri Kadir Yusof, Peguam Negara dalam satu sidang akhbar di Pusat Biro Narkotik,

“Pokok-pokok ganja yang ditanam di Pontian merupakan yang terbaik sekali di dunia, menyebabkan minat pengedar-pengedar datang membelinya dan kemudian menyeludupkan ke luarnegeri melalui ejen-ejen tertentu.”

(1973)

Daripada penggunaan ganja, berlaku arus perubahan daripada segi bentuk dadah kepada dadah jenis tiruan (sintetik) dan golongan muda lebih ramai terjebak dalam penyalahgunaan dadah. Sebagai inisiatif pengawalan dadah di Malaysia, sebuah jawatankuasa khusus telah ditubuhkan iaitu Kabinet Mengenai Dadah pada tahun 1975. Jawatankuasa yang dipengerusikan oleh Y.A.B Timbalan Perdana Menteri ketika itu bertanggungjawab untuk menyemak dan menetapkan satu dasar mengenai penggunaan, pencegahan dan pembasmian dadah. Usaha ini semakin digiatkan sehinggalah negara telah mengisytiharkan dadah sebagai Musuh Nombor Satu Negara pada tahun 19 Februari 1983.

Kehadiran Struktur

Daun-daun Keramat yang telah dihasilkan Mana Sikana pada tahun 1975 telah menghadirkan kepekaan beliau terhadap isu dadah yang semakin serius dalam kalangan rakyat Malaysia. Oleh yang demikian, Mana Sikana menghadirkan struktur menerusi subjek-subjek, watak dan latar yang bersesuaian setelah membuat penelitian, penyaringan dan pemilihan sewajarnya dalam menghasilkan teks ini. Masalah dadah masih lagi merupakan masalah keselamatan negara khususnya yang berkaitan dengan penagihan dan pengedaran dadah. Dalam cerpen *Daun-daun Keramat* ini, pengarang telah mewujudkan keterlibatan masyarakat dalam penanaman ganja secara haram untuk dipasarkan kepada penduduk setempat melalui watak Pak Kamid yang sudah bertahun-tahun mengusahakan kebun ganja untuk menyara kehidupannya dan keluarganya.

Aspek struktur dalam cerpen ini turut memperlihatkan kehadiran watak yang menentang kegiatan penanaman ganja yang dilakukan oleh Pak Kamid iaitu Murad, anak lelakinya sendiri. Murad bertugas sebagai pegawai pencegah bahan-bahan narkotik dan penghapus penanaman ganja. Penentangan yang dilakukan oleh Murad terhadap Pak Kamid adalah satu langkah untuk menyelamatkan ayahnya daripada ditangkap dan didakwa atas kesalahan menanam bahan terlarang. Watak Murad berperang dengan emosi apabila cuba untuk memujuk ayahnya supaya menghentikan kegiatan tersebut. Beliau sering akan terikat dengan kenyataan yang dikeluarkan Pak Kamid bahawa segala perbelanjaan Murad untuk hidup dan belajar sehinggalah berjaya mendapat kerjaya yang baik hasil daripada penanaman ganja yang dilakukan. Hal ini dibuktikan melalui petikan tersebut,

“Tapi, kerajaan akan membakarnya, ayah.”

“Siapa yang berani bakar? Cakap!” tanya Pak Kamid sambil mencapai parang yang tersangkut di dinding, lalu mencabutnya daripada sarung. Bersilau-silau cahaya parang yang tajam putih itu. “Kau juga akan jadi mangsanya, Murad.”

(Mana Sikana, 1975: 188)

Cerpen ini juga berlatar belakang di kawasan perkampungan yang masih mengamalkan tradisi kemasyarakatan yang erat. Namun, terdapat juga kegiatan-kegiatan haram melalui penanaman ganja yang dilakukan oleh kebanyakan penduduk termasuk Pak Kamid untuk menyara

kehidupan yang semakin tenat dan kurang peluang untuk memperoleh pekerjaan yang tetap. Secara realitinya, kegiatan dadah bukan hanya terdedah di bandar-bandar besar yang bebas dengan pergaulan, malah kegiatan penyebaran dadah juga boleh dilakukan di kawasan perkampungan yang tiada akses dengan dunia luar.

Secara ringkasnya, pengarang telah menyusun secara sistematik, kemas dan padat dari segi struktur seperti subjek, watak dan latar dalam pembinaan teks ini. Kesemua aspek struktur mengukuhkan pembinaan teks ini sebagai karya yang lengkap dan bermutu sekali gus menyerlahkan sifat jati diri dan keunggulan pengarang dalam berkarya.

Kehadiran Aliran

Cerpen ini beraliran realisme. Sifat realisme yang ditunjukkan oleh pengarang dalam karya ini sangat akrab hubungannya dengan sosial dan masyarakat. Menurut Mana Sikana (2006, ms: 44), aliran realisme menfokuskan perjuangan masyarakat dan sastera dijadikan alat untuk mencapai matlamat dan menuntut pengarang bersifat protes sosial. Teks yang sebegini biasanya bersifat konsisten dan memperlihatkan hubungan sastera dengan masyarakat dan menepati tanggapan bahawa sastera adalah cerminan masyarakat. Mana Sikana dalam *Daun-daun Keramat* menghadirkan kehidupan sebenar masyarakat yang bersifat kekeluargaan dan perjuangan masyarakat kampung untuk meneruskan kehidupan dengan menjalankan kegiatan haram. Usaha Murad untuk memujuk ayahnya Pak Kamid untuk berhenti daripada melakukan kegiatan penanaman ganja kerana pihak kerajaan sudah menghidu kegiatan ayahnya itu. Aliran realisme yang diamalkan pengarang dalam novel ini menunjukkan kesesuaiannya dengan subjek-subjek dan pemikiran yang berhubung dengan perjuangan masyarakat untuk mengawal kegiatan dadah yang semakin parah di negara kita.

Secara rangkumannya, *Daun-daun Keramat* memperlihatkan sikap prihatin dan kepekaan pengarang terhadap isu yang semakin mengganas dalam kalangan orang Melayu khususnya dengan kegiatan dadah di Malaysia. Pengalaman, pemerhatian dan penelitian akan disaring, dipilih dan disesuaikan sebelum dianyam menjadi teks yang menarik dan efektif.

Kehadiran dalam Kawan yang Berbudi dan Berduri

Mana Sikana (1990) mengatakan bahawa sifat berani dan bijaksana yang dimiliki pengarang sebagaimana yang dituntut dalam teori Teksdealisme merupakan faktor yang mendorong dan mewujudkan desakan sama ada dari dalam jiwa atau luaran serta rangsangan yang menggerakkan seseorang untuk berkarya. Hal ini diperjelaskan bahawa pengarang turut mengutip pengalaman dan rangsangan berkarya melalui pelbagai saluran hasil desakan jiwa mereka. Cerpen *Kawan yang Berbudi dan Berduri* (1964) merupakan karya pertama Mana Sikana yang diterbitkan dalam akhbar Berita Harian. Beliau menghasilkan karya ini semasa beliau masih menuntut di Maktab Perguruan. Pengarang juga telah mengaplikasikan segala peristiwa, fakta dan situasi masyarakat melalui pemerhatian dan penelitian yang dilakukan.

Kehadiran Sumber Idea

Kawan yang Berbudi dan Berduri memperlihatkan tindakan pengarang membuat pembaharuan dengan menghadirkan sumber pengalaman menerusi pengalaman peribadi. Pengarang masih mengekalkan teknik dan narasi penciptaan terdahulu dengan menghadirkan sumber melalui pengalaman peribadi. Kaedah ini dilakukan dengan membuat pembacaan, pemerhatian, perenungan, penelitian dan kajian. Cerpen ini diilhamkan oleh pengarang dengan gaya hidup para penuntut maktab perguruan. Mana Sikana pernah menjadi penuntut di Maktab Perguruan di kota metropolitan, Kuala Lumpur selama 2 tahun.

Oleh yang demikian, pengarang menarasi cerpen ini melalui watak ‘aku’ yang bercadang berjalan-jalan sekitar bandar setelah selesai ujian akhir semester di maktabnya. ‘Aku’ dan rakan-rakan telah menjelajah sekitar bandar pada malam hari. Mereka telah melalui satu lorong yang mana terdapat ramai perempuan yang berpeleleran memakai pakaian yang seksi dan mengghairahkan. Sehingga rahsia terbongkar bahawa salah seorang rakan mereka iaitu Nafis selalu menjadi tetamu tetap di lorong gelap tersebut untuk melanggan pelacur. Cerpen yang dihasilkan pengarang ini untuk memperlihatkan realiti sebenar kehidupan di bandar pada malam hari. Selain itu, teks ini juga menunjukkan kepada audiens bahawa kesempitan dan desakan masyarakat menyebabkan seseorang terlibat dalam kancah kemungkaran dan kemaksiatan demi mendapatkan wang untuk menyara kehidupan dan memenuhi keperluan hidup.

Secara tuntasnya, teks *Kawan yang Berbudi dan Berduri* ini telah dihasilkan pengarang berdasarkan penelitian beliau terhadap isu-isu yang berlaku melibatkan penindasan terhadap golongan wanita melalui aktiviti seks. Selain itu, pengarang juga telah menampilkan isu persahabatan dan hubungan percintaan.

Kehadiran Struktur

Teksdealisme turut memperlihatkan kehadiran subjek dan watak yang digembleng pengarang berdasarkan penyelidikannya. Aspek yang menjadi subjek dalam cerpen ini adalah hubungan persahabatan dan kesetiaan. Oleh yang demikian, pengarang telah menghadirkan isu persahabatan dalam kalangan penuntut Maktab Perguruan yang baru sahaja selesai ujian bagi semester akhir. Pengarang telah menghadirkan watak-watak dalam kalangan penuntut Maktab Perguruan dalam cerpen ini. Penuntut Maktab Perguruan sangat sinonim dengan sikap dedikasi dan berintegriti kerana mereka bakal menjadi seorang pendidik anak bangsa. Selain itu, sepatutnya bakal guru perlu bertanggungjawab menghidupkan bangsa namun dalam cerpen ini pengarang menegangkan kerenah dan sikap yang tidak bermoral yang terlibat dengan kegiatan melanggan pelacur. Hal ini dibuktikan melalui petikan,

“Kami kenal perempuan itu; pelajar semaktab dengan kami. Penuntut tahun dua. Baju perempuan itu terbuka sedikit bahagian dadanya, di sampingnya seorang lelaki separuh umur.”

(Mana Sikana, 1964: 280)

Cerpen ini berlatar belakang masyarakat penuntut institut pengajian tinggi atau golongan yang berpendidikan tinggi. Dalam masa yang sama juga, pengarang juga menegangkan latar belakang masyarakat yang hidup di lorong pelacuran. Selain itu, pengarang berjaya memvisualisasikan keadaan di lorong gelap tersebut dari segi suasana dan kegiatan manusia. Dalam teks itu juga pengarang mewujudkan konflik yang melibatkan persahabatan, kekeluargaan dan percintaan.

Secara rumusannya, Mana Sikana telah memanifestasi sisi gelap kehidupan di kawasan bandar. Isu pelacuran dan pemerdagangan manusia di negara ini serta negara jiran seperti tiada penghubungnya. Teks yang dibawa oleh pengarang ini telah berjaya memberi satu impak yang mendalam dalam diri khalayak. Pengarang juga mencapai keunggulan dalam pemikirannya dengan kehadiran teknik dan naratif yang baharu dalam dunia kepengarangan.

Kehadiran Aliran

Mana Sikana masih mengekalkan aliran realisme dalam penciptaan cerpen *Kawan yang Berbudi dan Berduri*. Realisme sebenarnya memperlihatkan kecenderungan menyatakan kebenaran dengan terperinci supaya kelihatan *real* atau *benar*. Berdasarkan aliran realisme, peristiwa yang dipaparkan mestilah yang benar berlaku dan bersejarah namun yang dipentingkan ialah cara penyampaian dan pengalamannya diterima oleh manusia yang lain. Cerpen *Kawan yang Berbudi dan Berduri* memerihalkan tentang realiti sebenar kehidupan di bandar yang dialami oleh sekumpulan penuntut Maktab Perguruan. Sisi gelap yang dipaparkan oleh pengarang telah membuka minda khalayak agar bangkit dan menjaga maruah diri terutamanya golongan wanita daripada terlibat dengan gejala maksiat.

Kehadiran dalam Petualang Bangsa

Petualang Bangsa merupakan sebuah lagi karya yang terhasil daripada pengalaman melalui penyelidikan. Penyelidikan yang dilakukan oleh Mana Sikana merentasi disiplin ilmu kepada ilmu sejarah. Cerpen ini terhasil daripada sejarah pendudukan komunis di negara kita sekitar tahun 1941 hingga 1945. Komunis yang bernaung di bawah jawatankuasa Parti Komunis Malaya (PKM) mula bersifat radikal di tanah air kita selepas Jepun menyerah kalah. PKM telah mengambil keselamatan untuk menguasai Tanah Melayu selama 14 hari. A. Samad Said (1987) mengatakan bahawa melalui pembacaan yang dilakukan pengarang menyumbang sumber pengalaman yang dapat mencetuskan idea untuk membentuk dan mencipta karyanya dengan cara tersendiri.

Kehadiran Sumber Idea

Melalui rujukan peristiwa kedatangan komunis di Tanah Melayu telah mempengaruhi pengarang dalam penciptaan cerpen *Petualang Bangsa*. Kedatangan komunis di Tanah Melayu telah meninggalkan memori hitam dalam kalangan penduduk Tanah Melayu. Komunis telah melakukan kekacauan dan penindasan dan menyasarkan masyarakat kampung sehinggalah kerajaan melancarkan darurat. Keadaan ekonomi penduduk Tanah Melayu ketika itu sangat tenat. Hal ini telah menginspirasi pengarang untuk menghasilkan sebuah teks yang memaparkan penderitaan dan kesusahan yang dihadapi oleh penduduk Tanah Melayu dan diselitkan juga isu pembelotan yang dilakukan oleh penduduk Tanah Melayu dengan bekerjasama dengan pihak komunis.

Oleh yang demikian, pengarang telah menghadirkan watak Kasa yang mengalami kesempitan untuk menyara kehidupan keluarganya semasa darurat daripada komunis. Kasa buntu kerana sepanjang tempoh darurat, dia tidak boleh menoreh getah untuk menyara keluarganya. Dalam cerpen ini, pengarang telah mengetengahkan rintihan yang dialami penduduk kampung yang terpaksa berhadapan dengan komunis sehingga mereka hilang punca pendapatan dan tidak mampu membeli makanan keperluan asas untuk keluarga.

Kehadiran Struktur

Pengarang menghadirkan aspek struktur dari segi subjek, latar dan watak yang memperlihatkan pembaharuan dan *Petualang Bangsa*. Kehadiran subjek dalam cerpen ini mencakupi pelbagai bidang seperti sejarah, pengorbanan, penentangan, penindasan, penjajahan baru dan ekonomi. Oleh itu, subjek yang dihadirkan dalam teks ini bersifat menyeluruh, komprehensif dan bervariasi. Mana Sikana telah menunjukkan situasi penindasan yang dialami oleh masyarakat di Kampung Kuala Cermin ekoran kekacauan yang dibuat oleh pihak komunis. Pihak komunis melakukan kekacauan dengan membunuh, mengerah tenaga dan mengganggu ketenteraman di Kampung Kuala Cermin sehingga kerajaan mengisytiharkan darurat. Situasi yang dicipta oleh

pengarang ini secara realitinya berlaku semasa Tanah Melayu di fasa darurat sebelum kemerdekaan negara.

Sebagai pembaharuan, pengarang telah menghadirkan watak penduduk kampung yang terdiri daripada Kasa, Zaimah dan Aris. Konflik dalam cerpen ini adalah semasa kampung yang mereka duduki telah diceroboh oleh pihak komunis. Penduduk kampung merasa terkesan dari segi ekonomi dengan kehadiran komunis yang membuat kekacauan dan penindasan. Perkara yang lebih memeritkan apabila ada antara penduduk kampung yang bersubahat dengan pihak komunis sebagai tali barut untuk merampas hak dan pemilikan penduduk kampung. Oleh itu, pengarang telah meletakkan watak Kasa yang memberanikan diri keluar dari rumah untuk menoreh getah yang menjadi titik tolak terbongkarnya bahawa Aris terlibat dengan kegiatan tali barut komunis yang sentiasa memberi maklumat rahsia kepada pihak komunis. Perbincangan aspek struktur dalam teks ini telah memperlihatkan bahawa pengarang telah memperbaharui unsur sejarah melalui penyelidikan.

Kehadiran Aliran

Mana Sikana mencipta teks *Petualang Bangsa* untuk memberi peluang kepada khalayak pembaca berfikir serta menghayati keperitan yang dialami nenek moyang kita sebelum kemerdekaan tanah air. Pengarang masih lagi menggunakan aliran realisme sebagai narasi penciptaannya. Cerpen ini merupakan karya yang dapat membuka minda generasi hari ini serta membangkitkan semangat cinta akan tanah air yang dicampur gaul pengarang dalam menyampaikan idea dan gagasannya. Realisme asalnya adalah satu aliran yang dianuti oleh satu gerakan sastra bermula awal abad ke-19. Aliran ini diaplikasikan kepada prosa yang memaparkan ilusi kehidupan yang mencakupi persekitaran yang para watak dan segala keperihalan yang realistik iaitu yang munasabah.

Secara rangkumannya, *Petualang Bangsa* wujud hasil daripada sumber penyelidikan, pembacaan, pemerhatian dan rujukan Mana Sikana terhadap sumber, peristiwa dan fakta sejarah yang berlaku semasa pencerobohan komunis di negara kita sebelum kemerdekaan. Kesatuan teks yang dibentuk oleh struktur yang padat setelah penyaringan dan penaakulan terhadap bahan sumber menjadikan idea dan pemikiran dalam cerpen ini mantap dan berupaya mencitrakan misi nasional pengarang untuk penyatuan bangsa. Aliran realisme yang dipaparkan menerusi keberanian penduduk tempatan untuk menentang penindasan pihak komunis yang berupaya mencerminkan sifat jati diri untuk menanam kesedaran demi mengangkat maruah bangsa.

Kesimpulan

Mana Sikana diakui mempunyai daya kreativiti dan keunikan dalam berkarya. Setiap karyanya tidak menunjukkan *stereotaip* dan klise sebaiknya mengandungi misi dan visi yang disasarkan. Prinsip kehadiran dalam teori Teksdealisme menuntut pengarang untuk menampilkan pelbagai pengalaman dengan membuat penyaringan, pemilihan dan penyatupaduan bagi menghasilkan jalinan peristiwa yang kemas, mantap dan menarik. Selain itu, Teksdealisme juga turut membuktikan bahawa pengarang dapat menghasilkan teks yang unggul melalui pengalaman, kebijaksanaan, berani meneroka, bersifat inovatif serta tidak hanya berada di zon selesa dengan melakukan perubahan dan pembaharuan dalam karyanya. Melalui Teksdealisme juga menuntut pengarang untuk memastikan teks-teks yang dihasilkan lebih bermutu daripada sebelumnya dengan membuat pemantapan dan penyempurnaan dari pelbagai sudut.

Cerpen karya Mana Sikana jelas menyerlahkan beliau sebagai pengarang yang mahu mengangkat sifat manusiawi serta menyatupadukan bangsa di Malaysia. Kebanyakan teks-

teksnya menonjolkan nilai-nilai positif yang terselit melalui peristiwa dan situasi yang dinarasi dalam karyanya. Selain itu, Mana Sikana juga mengetengahkan keutuhan hubungan kekeluargaan yang kuat yang mana dapat mendasari kejayaan sesuatu bangsa dan negara. Secara rangkumannya, cerpen-cerpen yang dihasilkan beliau banyak menunjukkan sebab dan akibat bagi sesuatu peristiwa yang boleh berlaku dalam kalangan masyarakat. Jelas menunjukkan bahawa karya beliau sangat sesuai untuk khalayak tanpa mengira lapisan umur.

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+60139338546

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