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INTEGRATING LITERACY, STEM, AND FINANCIAL LITERACY OF ASNAF YOUTH FOR SUSTAINABLE DEVELOPMENT

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Abstract:

This study investigates the integration of literacy, STEM (Science, Technology, Engineering, and Mathematics), and financial literacy as a strategic approach to empower Asnaf youth in Perlis, Malaysia, and support sustainable development. Using a mixed-methods research design, we collected data from 119 Asnaf youth enrolled in three secondary schools through a structured questionnaire. The findings reveal varying levels of knowledge and interest in these domains, with notable challenges, including limited access to educational resources, insufficient parental support, and gaps in practical financial skills. Despite some awareness of financial concepts, various respondents exhibited patterns of dependency on borrowing and inconsistent budgeting practices. The study proposes an integrated educational model tailored to the socio-cultural and religious context of Asnaf youth, incorporating Islamic values and guided by the Majlis Agama Islam Negeri Perlis (MAIPs). Recommendations include strengthening digital literacy, promoting emergency savings habits, and implementing community-based learning programmes. By addressing educational disparities among marginalised Muslim youth, this study contributes to both academic discourse and policy development in youth empowerment, aligning with national development goals and Islamic principles of Zakat-based social upliftment.

**Keywords:**

Asnaf; STEM Education; Financial Literacy; Youth Empowerment; Sustainable Development; Islamic Education

Introduction

Financial literacy, a crucial life skill, empowers individuals to make informed decisions about their money, investments, and overall financial well-being (Suhana et al., 2019). For underprivileged youth, mastering financial literacy can be a pathway to breaking cycles of poverty and achieving economic independence (Zhu et al., 2024). Integrating STEM principles into financial education can provide a novel and effective approach to enhance their understanding and skills (Garg & Singh, 2018). By fostering financial literacy through comprehensive educational initiatives, individuals are better equipped to make sound financial decisions, ultimately improving their financial well-being both in the United States and globally (Kaiser & Lusardi, 2024). Early introduction of financial literacy enables the development of essential skills for navigating complex financial environments and contributing to individual and societal financial health (Mancone et al., 2024). Financial literacy initiatives, particularly those spearheaded by entities like central banks and securities regulators, play a pivotal role in equipping individuals with the acumen to make judicious investment and retirement planning choices (Sergiychuk et al., 2025).

Youth empowerment through education is a key driver of sustainable development, especially in rural and marginalised communities. In Malaysia, this issue is particularly important for the Asnaf, who are the group eligible to receive Zakat due to their financial constraints. According to the Perlis Islamic Religious Council (MAIPs), which oversees Islamic affairs and Zakat management in the state, the Asnaf group often faces educational and economic mobility barriers in their lives (Ahmad et al., 2022).

Perlis, as the smallest state in Malaysia, has a largely rural demographic where access to quality education and modern learning resources remains limited. Many Asnaf youth lack opportunities to develop essential life skills such as literacy, scientific reasoning and financial management. Literacy, STEM knowledge and financial literacy are not only important for personal development but also for the nation's progress towards becoming a high-income knowledge-based economy under Malaysia's Vision 2030 (Ministry of Education Malaysia [KPM], 2022).

STEM education prepares youth to face the challenges of future technology and the job market, while financial literacy empowers them to manage personal resources wisely (Knoote et al., 2016). This combination has the potential to enhance their ability to engage in entrepreneurial ventures. Integrating these three domains into a coherent educational framework tailored to the needs of Asnaf youth can foster self-reliance, reduce poverty gaps, and at the same time support long-term sustainable development (Hanafi et al, 2023). This study focuses on a group of Asnaf youth enrolled in community-based institutions under the guidance of MAIPs in Perlis. It investigates how the integration of literacy, STEM, and financial literacy can address existing educational gaps and promote holistic development that is aligned with both national development goals and Islamic principles of social justice and empowerment.

Problem Statement

Despite efforts to increase educational access across Malaysia, many Asnaf youth groups in rural areas such as Perlis remain underserved. They often lack exposure to modern educational tools, STEM-related training, and practical financial knowledge in particular (Hanafi et al., 2025). Most available programmes target individual domains, such as literacy or entrepreneurship, in isolation, rather than offering a comprehensive, integrated approach that reflects real-life applications (Hanafi et al., 2022). This fragmented system limits their ability to transition to higher education, secure stable employment, or effectively manage personal finances (Abdul Rahman et al., 2023).

Figure 1 illustrates a conceptual framework for integrating Literacy, STEM (Science, Technology, Engineering, and Mathematics), and Financial Literacy. This framework branches into three main domains: Financial Literacy, STEM, and Literacy Development, with each domain connected to specific focus areas.

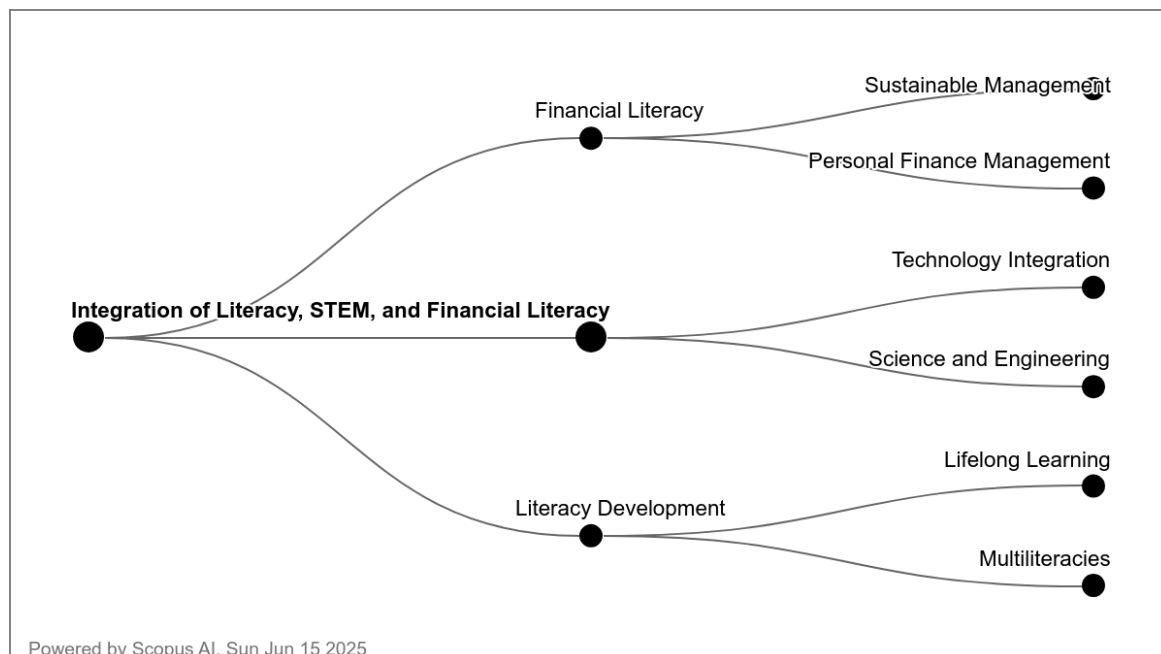


Figure 1: Linked Concept Path Summary

Financial Literacy encompasses Personal Finance Management and Sustainable Management, emphasising practical and responsible economic behaviours. The STEM component includes Technology Integration as well as Science and Engineering, reflecting the need for technical proficiency and innovation. Literacy Development expands into Lifelong Learning and Multiliteracies, highlighting the importance of continuous education and diverse communication skills. Together, this framework underscores a holistic educational approach designed to equip individuals with the critical competencies necessary for modern societal and economic participation.

Furthermore, while organisations like MAIPs play a crucial role in identifying and supporting Asnaf recipients, they often lack a focus on long-term capacity-building initiatives that go beyond immediate financial assistance. This study aims to address this gap by proposing an

educational model that empowers Asnaf youth groups through skills development and knowledge integration.

Research Objectives

The primary objective of this study is to explore the feasibility and effectiveness of integrating literacy, STEM, and financial literacy among Asnaf youth in Perlis as a strategy for promoting sustainable development. Specifically, the study aims to:

1. Assess the current levels of literacy, STEM awareness, and financial literacy among Asnaf youth.
2. Understand their interest and willingness to learn in these areas.
3. Identify the key challenges they face in accessing integrated education.

Significance of the Study

This study contributes to both academic discourse and practical policy-making by highlighting the educational needs of a specific, underserved group: Asnaf youth in Perlis, Malaysia. It offers insights into how integrated education models can be designed for rural and low-income communities. Furthermore, it provides recommendations for policymakers, MAIPs, educators, and NGOs seeking to invest in youth development that aligns with the Sustainable Development Goals (SDGs) and Islamic economic principles. By focusing on a localised setting supported by MAIPs, the findings may serve as a pilot model for similar initiatives in other rural parts of Malaysia and within broader Zakat-based empowerment programs across the Muslim world.

Literature Review

Mathematics, a core component of STEM, provides the foundational skills necessary for budgeting, investing, and understanding financial statements. Algebra can be used to calculate interest rates and loan payments, while statistics helps in assessing investment risks and returns (Özkale & Aprea, 2022). Data science, an interdisciplinary field that utilises scientific methods, processes, algorithms, and systems to extract knowledge and insights from data in various forms, both structured and unstructured, could also be taught to young people (Thibaut et al., 2018).

Literacy and Its Role in Empowerment

Literacy is a fundamental human right and serves as the cornerstone of lifelong learning (UNESCO, 2021). It not only empowers individuals to access information but also fosters critical thinking, civic engagement, and socio-economic advancement (Kirsch, 2024). For marginalised youth, such as the Asnaf, enhancing literacy levels can profoundly influence their capacity to participate in formal education, pursue employment opportunities, and navigate financial systems (Hanafi et al, 2025).

In Malaysia, disparities in literacy rates continue to exist between urban and rural areas, particularly among low-income populations (MoE, 2022). Functional literacy, encompassing skills beyond basic reading and writing skills, is crucial for successfully navigating contemporary economies and digital landscapes. Research indicates that combining literacy education with real-life applications enhances retention and motivation among disadvantaged youth (Gough, 2021).

STEM Education and Future Readiness

STEM (Science, Technology, Engineering, and Mathematics) education is increasingly recognised through research and practice as the foundation for equipping youth with the skills needed to thrive in the Fourth Industrial Revolution (World Bank, 2020). This educational approach develops essential skills such as problem-solving, creativity, and innovation, which are crucial for navigating and succeeding in the job market of the future (OECD, 2021). By promoting these skills, STEM education not only enhances individual career prospects but also contributes to the overall economic and technological advancement of society.

In Malaysia, despite national efforts to promote STEM through initiatives like the National STEM Movement, rural communities, including Perlis, face significant challenges in accessing quality STEM programs. These challenges stem from limited infrastructure and a shortage of trained educators (Ismail & Nordin, 2022). Community-based STEM initiatives have shown promise in bridging this gap by leveraging informal learning spaces and local resources (Abdul Rahman et al., 2023). Integrating STEM into non-formal education settings can help marginalised youth groups gain exposure to scientific thinking and technological tools without relying solely on the school system.

Financial Literacy and Economic Empowerment

Financial literacy refers to an individual's ability to understand and manage personal finances effectively. This includes the ability to budget, save, invest and avoid debt traps (OECD, 2020). According to Lusardi and Mitchell (2022), financially literate individuals are more likely to plan for the future, be visionary, save consistently and make informed economic decisions (Abdul, 2024). For economically disadvantaged youth, financial literacy is key to breaking the cycle of poverty and achieving self-reliance in their lives. In the context of Islamic economics, financial literacy also encompasses understanding concepts such as Zakat, Sadaqah and Waqf, which promote wealth distribution and social responsibility in society (Ibrahim, 2021). A study by Ahmad et al. (2025) found that financial literacy programs tailored to religious values increased engagement and trust among Muslim youth. This approach may be effective in reaching Asnaf youth through culturally relevant methods.

Youth Empowerment and Sustainable Development

Youth empowerment involves equipping young people with the knowledge, skills, and opportunities needed to take control of their lives and contribute positively to society (United Nations, 2021). It is directly linked to Sustainable Development Goal (SDG) 4: Quality Education and SDG 8: Decent Work and Economic Growth. Empowering Asnaf youth through integrated education aligns with global efforts to reduce inequality and promote inclusive growth (Ruzi et al, 2024). Research shows that holistic educational programs tailored to local needs can significantly improve youth outcomes in terms of employability, entrepreneurship, and civic engagement (Asian Development Bank [ADB], 2022). In Malaysia, youth development programs often focus on short-term skills training rather than long-term capacity building and are arguably only accessible to a select group (Ruzi et al, 2024). A shift towards a sustainable competency-based approach is necessary to ensure lasting impact (Ahmad & Othman, 2021).

Zakat-Based Development and MAIPs' Role

Under Islamic principles, Zakat is not only a form of worship but also a mechanism for wealth redistribution and poverty alleviation (Chapra, 2020). Institutions like Majlis Agama Islam

Negeri Perlis (MAIPs) play a pivotal role in identifying, supporting, and empowering Asnaf beneficiaries.

However, most Zakat distributions focus on short-term relief rather than long-term capacity building (Ahmad et al., 2022). There is growing recognition that Zakat should be invested in human capital development, particularly through education and skill training, to ensure sustainable impact. Several studies suggest that integrating Zakat with educational initiatives can yield higher returns in terms of social development and economic independence (Mohamed & Ismail, 2021). This aligns with the concept of productive Zakat, where funds are used to develop competencies rather than merely providing material aid. In Perlis, MAIPs has begun exploring new ways to empower Asnaf through vocational training and entrepreneurship support. However, there remains a lack of structured programs focused on literacy, STEM, and financial literacy integration.

Integrated Educational Models for Sustainable Development

An increasing number of researchers advocate for integrated educational models that combine multiple domains, such as literacy, STEM, and financial literacy, to address real-world challenges holistically (Darling-Hammond, 2021). Entrepreneurship is a crucial skill that underprivileged youth must develop to build a strong identity and shape their future. By acquiring these skills, they can break free from the cycle of poverty and enter the business world, which offers vast opportunities for financial independence (Hanafi et al, 2024).

Similarly, research by Marketa and Lucie (2022) focuses on financial literacy within the framework of teaching sustainable management to young people. The aim is to increase the engagement of youth, particularly university students, in promoting the United Nations' Sustainable Development Goals (SDGs).

Examples include:

- STEM + Literacy: Combines arts and communication with science and math.
- Entrepreneurship-based learning: Merges financial literacy with practical business skills.
- Community-based blended learning: Uses both formal and informal methods to reach marginalised youth.

Such models have proven successful in other developing contexts, showing improved retention, motivation, and real-life application of knowledge (UNICEF, 2023). Adapting these models to the cultural and religious context of Asnaf youth in Perlis, under the guidance of MAIPs, could offer a scalable solution for broader implementation. Research by Yusof et al. (2023) supports the use of project-based learning to integrate multiple subjects within Islamic educational frameworks, enhancing relevance and engagement among Muslim youth.

Gaps in the Literature

While there is extensive literature on Literacy development, STEM education, Financial literacy and Zakat-based poverty alleviation, there is limited research specifically addressing the integration of all three domains, literacy, STEM, and financial literacy, for the empowerment of Asnaf youth in Malaysia, particularly in Perlis. Additionally, few studies explore how such integration can be supported within an Islamic socio-economic framework guided by institutions like MAIPs. This study aims to fill that gap by proposing a

contextualised, integrated model based on survey data from 119 respondents, contributing to both academic knowledge and policy development in Islamic education and youth empowerment.

Methodology

A quantitative survey design was adopted to gather data from Asnaf youth regarding their literacy levels, awareness of STEM subjects, and financial literacy. To complement the quantitative data, a limited qualitative component was included through open-ended questions that allowed participants to express their opinions and suggestions regarding educational support.

Population and Sample

The study targeted Asnaf youth currently enrolled in secondary schools under the jurisdiction of Jabatan Pendidikan Negeri Perlis, specifically those registered with MAIPs as eligible Zakat recipients. To collect pertinent data, a purposive sampling technique was utilised, selecting three schools recognised for their significant population of Asnaf students: Sekolah Menengah Kebangsaan Kuala Perlis, Sekolah Agama Al-Islahiyah (Menengah), and Sekolah Menengah Kebangsaan Syed Alwi. These institutions were chosen due to their geographical diversity across Perlis and their established participation in MAIP-supported initiatives for Asnaf youth.

Following data cleansing, the research engaged a total of 119 respondents, yielding a robust and representative sample size that enhances the reliability and validity of the findings.

Research Instrument

A structured questionnaire was designed to collect data from respondents, encompassing four primary sections: Demographic Information, Literacy Level Assessment, STEM Awareness, and Financial Literacy. This questionnaire employed a well-balanced mix of closed and open-ended questions, allowing for a thorough collection of insights and opinions.

Data Collection Procedure

Data collection took place during school hours with written permission from Jabatan Pendidikan Negeri Perlis and the respective school administrations. Ethical approval was obtained, and anonymity and confidentiality were assured.

Data Analysis Techniques

Quantitative data were analysed using descriptive statistics and inferential techniques where appropriate. Qualitative responses were analysed thematically. All data were processed using SPSS version 28 and Microsoft Excel 2021.

Limitations of the Study

The study is limited by a small sample size, which may impact the generalizability of the findings. Additionally, the reliance on self-reported data introduces the possibility of bias, as participants may unintentionally provide inaccurate information or respond in ways they believe are socially acceptable. The geographical scope of the research is also restricted, which could limit the applicability of the results to other contexts or populations. Nevertheless, these limitations notwithstanding, the findings provide valuable insights into the educational needs of Asnaf youth, enhancing our understanding of the challenges and opportunities for development within this demographic.

Findings and Analysis

Demographic Profile

The study involved a total of 119 respondents who provided valuable insights into the research topic. The demographic breakdown of the participants is detailed in Table 1 below:

Table 1: Demographic Profile

Group	Percentage
Male	37.6
Female	62.4

The study engaged a total of 119 participants, revealing a significant gender disparity: 62% of the respondents were female, while males represented only 38%. This notable predominance highlights the strong presence of female voices in the research.

The majority of respondents (over 50%) are 15 years old, showing a concentration of responses from mid-adolescents. This age range (14–17 years) is widely regarded as a sensitive period for character and identity formation, where young individuals begin developing more stable values, behaviours, and life aspirations. According to Erikson’s psychosocial development theory, adolescence is the stage of "identity vs. role confusion," during which individuals explore and form their personal identity and moral compass (Erikson, 1968).

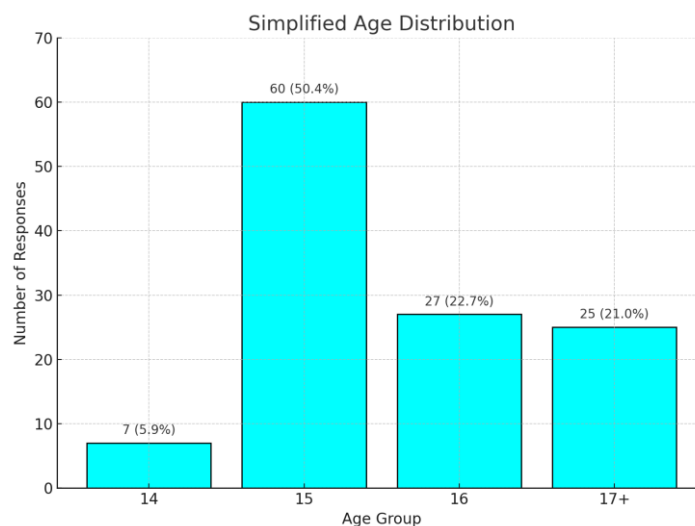


Figure 2: Simplified Age Distribution

Furthermore, neuroscientific studies affirm that the prefrontal cortex, which governs impulse control, future planning, and decision-making, undergoes significant development during adolescence (Steinberg, 2014). This makes targeted interventions in basic literacy, financial education, and ethical awareness particularly effective during this phase.

UNICEF (2011) also emphasises that adolescence is a “second window of opportunity” for positive intervention, where investments in education and life skills training can yield lifelong

developmental benefits. Hence, focusing on this demographic is not only timely but strategically impactful in empowering future-ready youth from low-income and vulnerable backgrounds (Nasir, 2024). This demographic is crucial in shaping targeted interventions, particularly in areas such as basic literacy and financial education, relevant to their developmental stage and socio-economic context. Most respondents came from low-income households, which aligns with their status as Asnaf beneficiaries registered under Majlis Agama Islam Negeri Perlis (MAIPs).

Analysis

This section presents a detailed interpretation of the findings from the survey conducted among 119 Asnaf youth in Perlis, Malaysia. The existing literature on financial behaviour, literacy, STEM awareness, and financial literacy has been analysed. Additionally, implications for policy, education, and community development are discussed.

Financial Sufficiency: Do You Have Enough Money to Spend This Month?

Findings

In a recent survey, it was found that 62.2% of the respondents, totalling 74 individuals, reported having enough money to spend this month. Conversely, 37.8%, which corresponds to 45 respondents, indicated that they did not have sufficient funds. This highlights a significant disparity in financial security among the participants.

The majority of respondents feel financially secure monthly, which suggests that many Asnaf youth may receive regular support through Zakat or other forms of family assistance. However, over one-third struggle with financial sufficiency, indicating potential gaps in income stability or budgeting practices. This aligns with findings from Bank Negara Malaysia (2023), which reports rising living costs and stagnant wage growth affecting low-income households. It also supports the work of Chen & Volpe (1998), who found that individuals with inconsistent income often face challenges in managing monthly expenses.

Implications

Financial literacy is an essential skill that can significantly impact individuals' ability to navigate their financial futures. To address this need, schools and community centres must implement financial literacy programs that include budgeting workshops specifically tailored for young people. Such programs can equip students with the foundational knowledge necessary to manage their finances effectively. Additionally, promoting the establishment of emergency savings education can encourage students to create small savings buffers, which can be invaluable for managing short-term financial fluctuations. Furthermore, fostering parental involvement in discussions about household financial planning can deepen children's understanding of resource allocation and financial decision-making. By integrating these strategies, we can create a comprehensive approach to enhancing financial literacy among youth, ultimately empowering them to make informed financial choices.

Debt Management: Do You Have Unpaid or Late Bills?

Findings

In the context of financial management among the surveyed population, the data reveals a significant discrepancy in the payment behaviours of respondents. Specifically, 25.2% of the

participants (30 individuals) reported having unpaid or late bills, indicating potential challenges in financial stability or management. Conversely, a substantial majority, accounting for 74.8% (89 respondents), indicated they did not experience issues with unpaid or late bills. This contrast suggests a bifurcation in financial practices within the sample population, warranting further investigation into the underlying factors influencing these differing experiences with bill payment.

Most respondents displayed good payment discipline; however, a significant minority struggled with debt management. This trend mirrors broader observations from national studies, which show that even individuals with a stable income can experience difficulties due to poor cash flow timing or insufficient emergency funds (Hustus & Zane, 2018). Additionally, this finding aligns with the frequent borrowing patterns identified in the following section, indicating a cycle of borrowing that can lead to repayment challenges.

Implications

Credit and Debt Awareness Modules: Incorporate lessons on credit scores, interest rates, and responsible borrowing into school curricula.

Community Financial Counselling: Offers free or subsidised services for families and youth struggling with debt.

Payment Prioritisation Tools: Teach practical strategies for prioritising essential bills and managing debt repayment.

Borrowing Habits: How Often Do You Borrow Money?

Findings

A significant portion of the surveyed population relies on borrowing as a financial strategy, with 42.9% (51 respondents) indicating that they borrow money almost every month. Additionally, 53.8% (64 respondents) report borrowing a few times each year, illustrating a recurring dependence on external financial resources. In contrast, only a small minority of 3.3% (4 respondents) indicated that they never engage in borrowing. This data underscores the prevalent nature of borrowing behaviours within this demographic, suggesting that a considerable number of individuals regularly seek external financial support to meet their needs.

This indicates a strong reliance on external financial support among Asnaf youth. Frequent borrowing increases vulnerability to debt cycles, especially when repayment becomes difficult or loans come with high interest rates. This trend mirrors national concerns regarding rising household debt in Malaysia (Bank Negara Malaysia, 2023) and supports research by Lusardi & Mitchell (2022), which shows that financially literate individuals are more likely to avoid unnecessary borrowing.

Implications

Promoting emergency funds is essential for fostering financial stability, and this can be effectively integrated into financial literacy programs by encouraging participants to set specific savings goals. Additionally, creating peer-led financial support groups offers youth a valuable opportunity to openly discuss their financial challenges, exchange ideas, and collaborate on practical solutions. Furthermore, exploring alternative lending solutions, such as microfinance and community-based lending models, can empower individuals by promoting

financial responsibility and providing necessary resources for those in need. Together, these strategies can significantly enhance financial well-being in our communities.

Expense Tracking: Do You Calculate How Much Money You Spend in a Month?

Findings

A survey revealed varying levels of engagement in spending tracking among respondents. Specifically, 31.9% (38 respondents) reported that they consistently track their spending, indicating a strong commitment to managing their finances. In contrast, a larger portion, 59.7% (71 respondents), stated that they sometimes track their expenses, suggesting a more casual approach to budgeting. Lastly, 10.9% (13 respondents) admitted to never tracking their expenses, highlighting a segment that may benefit from financial management strategies.

A significant limitation observed among respondents is their infrequent engagement in systematic expense tracking, a critical component in establishing effective budgeting practices. The lack of awareness regarding spending habits leads to a heightened risk of overspending, missed savings targets, and unforeseen financial challenges. This observation aligns with the findings of Kirsch et al. (2023), which underscore the pivotal role of functional literacy, particularly financial literacy, in facilitating informed financial decision-making. Furthermore, this trend corroborates Gough's (2021) assertion that the integration of real-life applications enhances both retention and motivation, especially among disadvantaged youth. Together, these findings highlight the necessity of developing robust financial literacy programs that prioritise practical engagement to bolster financial well-being.

Implications

To enhance financial literacy among youth, it's essential to focus on a multifaceted approach. First, implementing digital literacy training can significantly encourage the use of budgeting apps and other digital tools, helping students manage their finances more effectively. Additionally, offering monthly budget journals with user-friendly templates allows students to easily track their income and expenses, fostering better financial habits. Finally, incorporating gamification into financial education can transform learning into an engaging experience, making budgeting not only informative but also enjoyable for young learners.

Cross-Cutting Themes and Behavioural Patterns

Table 2 highlights four cross-cutting themes and associated behavioural patterns derived from the data analysis. Financial Instability is evident through high borrowing rates, unpaid bills, and inadequate funds, indicating strained financial conditions. A Lack of Planning is reflected in the inconsistent tracking of expenses, suggesting weak financial management practices. The theme of Dependency on Credit is supported by frequent borrowing, even among those with moderately sufficient incomes, pointing to habitual reliance on credit. Lastly, the Need for Education emerges from observed gaps in knowledge about budgeting, saving, and managing debt, underscoring the importance of financial literacy interventions.

Table 2: Cross-Cutting Themes and Behavioural Patterns

Theme	Supporting Evidence
Financial Instability	High borrowing rates, unpaid bills, and insufficient funds.
Lack of Planning	Low levels of consistent expense tracking
Dependency on Credit	Frequent borrowing despite moderate income sufficiency
Need for Education	Gaps in understanding budgeting, saving, and debt management

These themes collectively indicate that while many Asnaf youth manage day-to-day finances adequately, there is a lack of long-term financial resilience. Immediate crises may not be apparent, but behavioural patterns suggest a high risk of future financial distress without intervention. This aligns with Darling-Hammond (2021), who emphasises the need for systemic interventions to ensure equitable access to financial knowledge and resources.

The initiative focuses on three key components to enhance educational outcomes and community engagement. First, it emphasises integrated curriculum development, designing educational modules that creatively intertwine literacy, STEM, and financial literacy in ways that resonate with cultural relevance. Second, the establishment of community-based learning hubs aims to provide after-school centres where students can access financial coaching alongside engaging STEM activities. Lastly, the initiative seeks to forge partnerships with MAIPs to leverage institutional support, enabling the scaling of financial literacy programs throughout rural communities, thereby fostering greater financial awareness and educational opportunities.

Barriers and Suggestions from Open-Ended Responses

Barriers to education in rural areas often stem from multiple factors. Many students face significant challenges, such as a lack of access to digital devices and reliable internet connectivity. Additionally, there is a limited availability of trained teachers and educational resources, which further complicates learning in these environments. Parental support can also be minimal, often due to low levels of education and income, leading to a perception among students that certain subjects are either irrelevant or too difficult to understand. To address these challenges, students have suggested several innovative approaches. They propose implementing more hands-on workshops and interactive learning experiences that engage them more effectively. The use of mobile apps or gamified platforms can also enhance the learning process. Furthermore, involving mentors or successful youth role models could inspire and motivate students. Lastly, integrating Islamic values into teaching materials, such as linking financial literacy to Zakat, can make the subjects more relatable and relevant to students' lives.

“One student suggested: ‘If we can learn how to start a small business using our savings, that would be very useful.’”

Interpretation

The statement reflects a student's idea that acquiring skills and knowledge on how to start a small business would be beneficial, especially if it involves using personal savings as a resource. This implies a desire for practical education that empowers individuals to become financially independent and entrepreneurial. The student recognises that learning about business start-up processes can help them manage their finances more effectively and potentially build a successful venture.

The barriers reflect systemic inequalities in access to education and technology, particularly in rural areas. The suggestions highlight the need for contextualised, learner-centred approaches that resonate with the lived experiences of Asnaf youth. This supports Yusof et al. (2018), who advocate for project-based learning in Islamic schools to enhance critical thinking and relevance. It also aligns with Mohamad et al. (2023), who argue for culturally relevant financial literacy programs to increase engagement among Muslim youth.

Implications

Blended learning models effectively combine traditional classroom instruction with online resources and mobile learning apps, allowing for a more versatile educational experience. To enhance student engagement and provide real-world perspectives, mentorship programs can connect students with young professionals or entrepreneurs who serve as role models. Additionally, integrating religious perspectives by framing financial and scientific concepts within an Islamic context can improve cultural relevance and engagement for students. To reach remote areas, mobile outreach units, equipped with tablets and internet access, can be deployed as travelling classrooms, fostering learning opportunities where they are most needed.

In summary, the findings reveal a mixed picture of financial health and educational readiness among Asnaf youth in Perlis. While many appear to manage their monthly expenses adequately, clear indicators of vulnerability were identified, particularly around borrowing habits, debt management, and lack of consistent budgeting. These behaviours reflect broader national trends related to household debt and financial literacy. Addressing them through targeted education, policy incentives, and practical tools can help individuals transition from surviving month-to-month to thriving financially in the long term.

The open-ended responses provide valuable insights into the needs, perceptions, and aspirations of Asnaf youth, emphasising the importance of designing accessible, culturally relevant, and participatory learning experiences. By integrating literacy, STEM, and financial literacy within an Islamic framework supported by MAIPs, this study contributes to both academic discourse and policy development in youth empowerment and sustainable development.

Discussion

Financial Sufficiency

While the majority (62.2%) reported having enough money for the month, nearly 38% did not, signalling potential financial strain. This could be attributed to low income, high living costs, or poor budgeting. Those who struggle with monthly sufficiency may face challenges in maintaining essential needs and avoiding debt accumulation.

Debt Management

Only 25.2% reported having unpaid or late bills, which suggests relatively good payment discipline overall. However, this minority represents individuals potentially facing financial stress or mismanagement. Late payments can lead to compounding interest, damaged credit scores, and emotional distress.

Borrowing Habits

Over 96% of respondents engaged in some form of borrowing, with nearly half borrowing almost every month. This indicates a high level of financial dependence on others, possibly due to a lack of emergency savings or irregular income. Frequent borrowing increases exposure to debt cycles and financial risk.

Expense Tracking

Only 31.9% of respondents consistently tracked their monthly expenses, while 59.7% did so occasionally. Lack of consistent tracking correlates with financial insufficiency and frequent borrowing, highlighting gaps in financial planning and awareness.

Cross-Cutting Themes

Several themes emerged from the data regarding financial behaviours and challenges. First, there is a significant issue of financial instability, as evidenced by high borrowing rates, unpaid bills, and insufficient funds. This instability is compounded by a lack of planning, highlighted by the low levels of consistent expense tracking that suggest inadequate budgeting practices. Additionally, there is a concerning dependency on credit, with individuals regularly borrowing without having sufficient savings, reflecting a reliance on credit rather than achieving self-sufficiency. Lastly, the data indicates an urgent need for education, as gaps in knowledge surrounding budgeting, saving, and debt management point to a broader requirement for improved financial literacy.

These findings align with broader concerns in Malaysia regarding rising household debt and low savings rates (Bank Negara Malaysia, 2023), suggesting that these issues are reflected even at the individual level.

Conclusion and Recommendations

Conclusion

This study examined the integration of literacy, STEM, and financial literacy to empower Asnaf youth in Perlis, Malaysia. Although many respondents showed a fundamental awareness of these areas, notable gaps were found regarding consistent practice and resources. Access and motivation.

The findings suggest that a contextualised, integrated educational model developed in collaboration with MAIPs and grounded in Islamic values can significantly enhance the capabilities of Asnaf youth and contribute to national development goals. This study provides valuable insight into the financial behaviours of a group of Malaysian individuals. While many appear to manage their finances adequately, there are clear signs of financial vulnerability, particularly in the areas of borrowing and budgeting. By addressing these gaps through education, policy, and community-based initiatives, it is possible to improve financial resilience and promote long-term economic well-being.

"Financial health is not just about how much you earn; it's about how you manage what you have."

With targeted support and improved financial literacy, individuals can transition from surviving month-to-month to thriving financially in the long term.

Recommendations

Findings from this research support integrated education programs to ensure that all students have access to high-quality learning opportunities. Increasing digital access to educational resources for both students and educators is essential. Training for educators is essential to improve teaching methods and overall education quality. Parent and community involvement can help create a supportive learning environment for students. Embed gamified financial literacy modules into MAIPs' existing vocational training, leveraging mobile apps like *SimpanSimfoni* (a Malaysian savings simulator) to teach budgeting. The use of Zakat money to fund capacity-building initiatives that benefit the education programs of asnaf groups. Finally, implementing a monitoring and evaluation system is necessary to track progress, achievement and improve educational outcomes.

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