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# FROM TEXTBOOKS TO CHEQUE BOOKS: CHARTING FINANCIAL LITERACY PATHS FOR UNIVERSITY STUDENTS

**Zaiton Osman[a*], Ing Grace Phang[a] and Izyanti Awg Razli[a]**

[a] *Faculty of Business, Economics and Accountancy, Universiti Malaysia Sabah, Kota Kinabalu, Malaysia*
**Corresponding author's email: zaiosman@ums.edu.my*

## ABSTRACT

Being financially literate is fundamentally essential, especially for university students who are on the cusp of transitioning into the workforce and facing the challenge of independently managing their finances. This skill is particularly critical as they prepare to make significant financial decisions, navigate through various financial responsibilities, and establish a foundation for their future economic well-being. The primary objective of this study is to assess financial literacy among university students and explore variations based on gender, age, and academic programs. The study involved the participation of 299 university students, and data collection occurred both at the onset and culmination of the semester. The study's findings reveal that there exists no noteworthy gender-based disparity in terms of financial literacy. Nevertheless, notable distinctions emerged in the domain of basic financial literacy questions when analysed across different age groups, as well as in advanced financial literacy questions when scrutinized by the program of study. These findings bear relevance for educators and policymakers, as they suggest the necessity for tailored interventions aimed at augmenting financial literacy among university students. Furthermore, this study serves as a compass guiding future research endeavours in the realm of financial literacy.

***JEL classification***: *D14, I22*
***Keywords***: *financial literacy; comparative study; university students.*

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## 1. INTRODUCTION

Financial literacy is crucial as it enables individuals to make informed decisions about their personal finances, including saving, investing, borrowing, and managing debt. It also helps individuals understand financial products and services, such as credit cards, loans, and insurance, and how they can use them effectively to achieve their financial goals. Moreover, financial literacy enables individuals to understand the risks and benefits of various financial products and services (Huston, 2010). Financially literate individuals are better able to plan for their financial futures and avoid financial pitfalls,

such as high debt or insufficient retirement savings (Lusardi & Mitchell, 2014) and they are more likely to save money and accumulate wealth over time (Behrman, Mitchell, Soo, & Bravo, 2012). Financially literate individuals also are better able to manage their credit and avoid credit problems, such as late payments and defaults (LeBaron & Stoddard, 2013). In addition, financially literate individuals report higher levels of financial well-being, including lower levels of financial stress and higher levels of financial satisfaction (Joo & Grable, 2004).

Financial literacy is essentially the capacity to comprehend and effectively manage personal financial matters. This includes possessing the necessary knowledge and skills for making well-informed choices regarding savings, investments, budgeting, and debt management. Financial attitude, meanwhile, concerns a person's beliefs, emotions, and viewpoints regarding financial issues and money. Financial behavior, in contrast, is the actual steps people take in handling their finances. Studies have demonstrated a strong connection between financial literacy and attitude towards finances, and how individuals manage their money. Those with a higher degree of financial literacy often demonstrate beneficial financial practices, like regular saving and prudent investing. Likewise, those with a positive outlook towards their finances tend to practice sound financial management. The interplay among financial literacy, attitude, and behavior plays a crucial role in enabling individuals to attain financial well-being and security.

In Malaysia, financial literacy has been a growing concern in recent years. According to a study by Standard & Poor's (S&P) in 2019, Malaysia's financial literacy rate was 34%, which is considered low compared to other developed and emerging economies (Standard & Poor's, 2019). This indicates that a considerable number of people in Malaysia do not possess the required knowledge and abilities to handle their personal finances in an efficient manner. Furthermore, a survey by Visa in 2020 found that only 57% of Malaysians are confident in their ability to manage their finances (Visa, 2020).

The same study by S&P (2019) found that financial attitudes and behaviours in Malaysia were also relatively low, indicating a need for improvement in financial education and resources. For example, the study found that only 51% of Malaysians had a bank account, and only 20% of adults had saved money in a formal financial institution in the past year. Additionally, a survey by Bank Negara Malaysia in 2020 found that 61% of Malaysians had insufficient savings to cover three months of living expenses (Bank Negara Malaysia, 2020). These statistics suggest that many Malaysians struggle to save money and manage their finances effectively, which can have negative implications for their financial well-being.

One of the challenges facing Malaysia is a lack of financial education and awareness. According to a study by the Employees Provident Fund (EPF) in 2019, only 24% of Malaysians surveyed were confident in their financial knowledge, while 65% admitted to having little to no knowledge about financial planning and investments (Employees Provident Fund, 2019). This lack of financial literacy and awareness has led to negative financial behaviours, such as low savings rates and high debt levels.

The Malaysian government has implemented various initiatives to improve financial literacy and education. The Financial Education Network (FEN), launched by Bank Negara Malaysia in 2019, aims to promote financial literacy among Malaysians through various initiatives such as financial education programmes and

outreach activities (Central Bank of Malaysia, 2019). Additionally, the Employees Provident Fund (EPF) has launched several financial education programmes to improve financial literacy among its members (Employees Provident Fund, 2019). However, there is still a need for more comprehensive and accessible financial education and resources in Malaysia. As noted by the S&P study (2019), improving financial literacy requires a long-term effort and collaboration between government, private sector, and civil society organizations.

Despite these initiatives, existing literature often focuses on broad demographic differences and overlooks the impact of tailored interventions, such as age-based or academic program-specific strategies, on financial literacy outcomes. For instance, while finance-related courses have been shown to improve financial literacy (Chen & Volpe, 1998; Mandell, 2008), limited research has examined whether targeted strategies addressing specific subgroups, such as younger students or those in non-finance programs, yield differentiated outcomes. This gap highlights the need for a more nuanced understanding of financial literacy development among university students.

The purpose of this paper is to explore the level of financial literacy among first-year students of the Faculty of Business, Economics, and Accountancy at Universiti Malaysia Sabah. Specifically, this study investigates differences in financial literacy across gender, age groups, and academic programs to provide insights into areas where tailored interventions could effectively enhance students' financial capabilities.

## 2. FINANCIAL LITERACY

In recent years, the significance of financial literacy has escalated as individuals encounter a proliferating array of financial decisions and challenges. The conceptualization of financial literacy has undergone transformation, broadly encompassing the requisite knowledge and competencies for efficacious personal financial management. The Organisation for Economic Co-operation and Development (OECD) delineates financial literacy as "a synthesis of awareness, knowledge, skill, attitude, and behaviour indispensable for making prudent financial decisions, thereby facilitating the attainment of individual financial well-being" (OECD, 2016). This delineation underscores the criticality of not merely possessing knowledge and skills but also cultivating appropriate attitudes and behaviours towards financial decision-making. Financial literacy is paramount for individuals to navigate decisions concerning their financial futures astutely. Those endowed with elevated levels of financial literacy are more adept at making judicious financial choices, including the selection of suitable investment vehicles, effective debt management, and the formulation of budgets congruent with their financial objectives. Consequently, such financial acumen can culminate in enhanced financial outcomes, evidenced by augmented savings, diminished debt, and an expansion in wealth.

Research has consistently shown that individuals with higher levels of education tend to have higher levels of financial literacy (Hilgert, Hogarth, & Beverly, 2003; Lusardi & Mitchell, 2014). Income has also been found to be positively related to financial literacy, with higher-income individuals having higher levels of financial literacy (Hilgert et al., 2003). Age has been found to be negatively related to financial literacy, with older individuals having lower levels of financial literacy than younger individuals (Lusardi & Mitchell, 2014). Gender differences in financial literacy have also been observed, with some studies finding that women have lower levels of

financial literacy than men (Hilgert et al., 2003; Lusardi & Mitchell, 2014). Finally, cultural factors can also influence financial literacy, with individuals from certain cultures having different attitudes and beliefs towards money and financial decision-making (Kim & Chatterjee, 2013).

Several investigations have explored the correlation between financial literacy and age, revealing that levels of financial literacy generally ascend with age, as documented by Lusardi and Mitchell (2007) and the Organisation for Economic Co-operation and Development (OECD) in 2016. Specifically, the OECD's research indicated that individuals aged 65 and above exhibited superior financial literacy scores in comparison to their younger counterparts aged 18-34. Nonetheless, further research suggests that the association between age and financial literacy encompasses greater complexity. For instance, the Financial Industry Regulatory Authority (FINRA) in 2015 observed that while older individuals tend to exhibit fundamental financial literacy competencies, younger individuals are more inclined towards engaging in intricate financial activities. Correspondingly, Lusardi and Mitchell (2011) discovered that despite older adults possessing elevated overall financial literacy levels, younger adults were more proactive in financial planning and savings activities.

In a study conducted in Malaysia, Hira and Loibl (2005) identified significant variations in financial literacy and attitudes across different age demographics. The research highlighted those individuals aged 50 and above exhibited more conservative financial attitudes and demonstrated a higher propensity for savings compared to their younger counterparts, aged 18 to 24, who displayed greater confidence in their financial decision-making capabilities. Despite the intricate nature of the correlation between age and financial literacy, evidence suggests an increase in financial literacy levels with advancing age. Nevertheless, it is critical to recognize the distinct financial behaviors and attitudes prevalent among younger adults, which bear implications for the development of financial education and policy frameworks.

Further investigations into financial literacy levels among students have yielded mixed outcomes. Chen and Volpe (1998) discovered that college students possessed relatively low financial literacy levels. Conversely, subsequent studies indicated enhanced financial literacy among students who had participated in finance-related courses (Hira & Loibl, 2008; Mandell, 2008). These findings underscore the positive impact of finance education on financial literacy, as evidenced by Hira and Loibl (2008), who observed elevated financial knowledge and engagement in beneficial financial behaviors among students enrolled in personal finance courses. Similarly, Mandell (2008) reported that students who had completed a financial literacy course demonstrated significantly higher financial literacy levels in contrast to those who had not participated in such educational endeavors.However, other studies have found that even students with some finance knowledge may still lack adequate financial literacy. For example, O'Neill et al. (2013) found that while college students majoring in finance had higher levels of financial knowledge than non-finance majors, they still lacked important financial skills, such as budgeting and managing credit. Similarly, Chen and Volpe (1998) found that students who had taken finance courses still had relatively low levels of financial literacy.

Overall, these studies suggest that while finance knowledge may be positively associated with financial literacy, it may not be enough to ensure adequate financial literacy. Hence, this study intended to investigate the level of financial literacy among

university students who undertook personal finance and business finance course in Universiti Malaysia Sabah. Specifically, this study would like to investigate the differences in terms of gender, age group and program study towards basic and advance financial literacy level.

## 3. METHODOLOGY

This study sought to investigate the interconnections among financial literacy, financial attitudes, and financial behaviours, employing SmartPLS 4.0 software for analysis. The measurement items for assessing financial literacy were borrowed from Lusardi's work in 2015, while items for evaluating financial attitudes and behaviours were drawn from the research of Çoşkun and Dalziel (2020).

The study sample comprised 300 university students who were enrolled in courses related to personal finance and business finance within the Faculty of Business, Economics, and Accountancy at Universiti Malaysia Sabah. Data collection was conducted through a self-administered questionnaire, distributed during the initial week of the semester, specifically from October 18$^{th}$ to October 25$^{th}$, 2022, preceding the commencement of the first lecture. Over the span of weeks 1 to 14, students underwent instruction in business finance, covering a wide array of topics including finance fundamentals, corporate entities and financial markets, comprehension of financial statements, financial analysis, time value of money, risk and return assessment, debt valuation and interest calculations, stock valuation, capital budgeting, and the cost of capital. Throughout this period, students were also engaged in assignments, exercises, and quizzes, all designed to facilitate the attainment of the course's intended learning outcomes. Following the end of lectures in week 14, the identical questionnaire was once more distributed to the same group of students, spanning a duration of two weeks from January 4$^{th}$ to January 17$^{th}$, 2023. The questionnaire encompassed four distinct sections: financial literacy, financial attitudes, financial behaviours, and respondents' profiles. The section on financial literacy comprised 10 questions, while the financial attitudes and financial behaviours sections each consisted of 9 questions. Subsequently, the data collected were subjected to analysis employing SPSS version 28.0 software.

Based on the above Table 1.0, there were 299 responses (93.43% response rate) collected during the 1$^{st}$ week of the semesters and there were only 210 responses (65.63% response rate) collected on the 14$^{th}$ week of the semester. The reduction in responses from 299 in Week 1 to 210 in Week 14 may be attributed to attrition, such as students dropping out of the course, non-attendance, or incomplete survey submissions. Female dominated the respondents' profile with 75.7% (week 1), 80.5% (week 14) respectively and majority of the respondents are within the age 18-20 years old (week 1) and 21-25 years old (week 14). In terms of program study, majority of the respondents are students taking Financial Management & Banking program (36.2% - week 1; 42.9% - week 14).

**Table 1: Respondents' profile**

| Categories | Items | 1st week | | 14th Week | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Frequency | Percent |
| Gender | Male | 71 | 23.6 | 41 | 19.5 |
| | Female | 228 | 75.7 | 169 | 80.5 |
| Age Group | 18 - 20 years old | 152 | 50.5 | 52 | 24.8 |
| | 21 - 25 years old | 143 | 47.5 | 158 | 75.2 |
| | 26 - 30 years old | 3 | 1.0 | | |
| | 31 - 40 years old | 1 | 0.3 | | |
| Program Study | Entrepreneurship | 53 | 17.6 | 62 | 29.5 |
| | Planning and Development Economics | 9 | 3.0 | 3 | 1.4 |
| | Financial Management & Banking | 109 | 36.2 | 90 | 42.9 |
| | Financial Economics | 11 | 3.7 | 13 | 6.2 |
| | Hotel Management | 45 | 15.0 | 4 | 1.9 |
| | International Business | 46 | 15.3 | 34 | 16.2 |
| | Marketing | 2 | 0.7 | 4 | 1.9 |
| | Tourism Management | 24 | 8.0 | | |

### 3.1 Descriptive analysis: financial literacy

The results from the data shown that respondents performed better after going through 14 weeks of lecture on both courses (personal finance and business finance) with an increased in percentage of correct answers obtained in Week 14 as compared to Week 1. Table 2.0 below shows the results of basic financial literacy questions and the results.

**Table 2.0: Basic financial literacy questions**

| No. | Basic Financial Literacy Questions | Result | Percent 1st week | Percent 14th week | Percentage Change |
|---|---|---|---|---|---|
| 1 | Suppose you had RM100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow? | Correct Answer | 88.4 | 93.8 | 5% |
| | | Wrong Answer | 11 | 6.2 | -5% |
| 2 | Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, with the money in this account, would you be able to buy? | Correct Answer | 80.1 | 87.1 | 7% |
| | | Wrong Answer | 15.6 | 12.4 | -3% |
| | | I don't Know | Nil | 0.5 | |
| 3 | If interest rates rise, what will typically happen to bond prices? | Correct Answer | 58.8 | 86.7 | 28% |
| | | Wrong Answer | 37.5 | 11.9 | -26% |
| | | I don't Know | 3 | 0.5 | -3% |
| 4 | A 15-year mortgage typically requires higher monthly | Correct Answer | 58.8 | 76.2 | 17% |

| | | | | | |
|---|---|---|---|---|---|
| | payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less. | Wrong Answer | 23.9 | 19 | -5% |
| | | I don't Know | 16.6 | 2.9 | -14% |
| | | Refuse to Answer | Nil | 1.9 | |
| 5 | Buying a single company's stock usually provides a safer return than a stock mutual fund. | Correct Answer | 61.1 | 83.3 | 22% |
| | | Wrong Answer | 28.6 | 14.3 | -14% |
| | | I don't Know | 9.6 | 1.9 | -8% |
| | | Refuse to Answer | Nil | 0.5 | |

**Table 3.0: Advance financial literacy questions**

| No. | Advance Financial Literacy Questions | Result | Percent 1st week | Percent 14th week | Percentage Change |
|---|---|---|---|---|---|
| 1 | Which of the following statements describes the main function of the stock market? . | Correct Answer | 51.8 | 71.0 | 19% |
| | | Wrong Answer | 43.2 | 27.1 | -16% |
| | | I don't Know | 4.3 | 1.0 | -3% |
| | | Refuse to Answer | | 1.0 | 1% |
| 2 | Which of the following statements is correct? Function of Mutual Funds[#] | Correct Answer | 40.5 | 62.9 | 22% |
| | | Wrong Answer | 42.5 | 31.4 | -11% |
| | | I don't Know | 16.3 | 5.2 | -11% |
| | | Refuse to Answer | | 0.5 | 0% |
| 3 | If the interest rate falls, what should happen to bond prices? | Correct Answer | 61.5 | 76.7 | 15% |
| | | Wrong Answer | 34.6 | 22.4 | -12% |
| | | I don't Know | 3.3 | 0.5 | -3% |
| | | Refuse to Answer | | 0.5 | 0% |
| 4 | True or false? Buying a company stock usually provides a safer return than mutual fund | Correct Answer | 50.2 | 80.5 | 30% |
| | | Wrong Answer | 38.9 | 19.0 | -20% |
| | | I don't Know | 10.3 | | -10% |
| | | Refuse to Answer | | 0.5 | 0% |
| 5 | True or false? Stocks are normally riskier than bonds. | Correct Answer | 70.4 | 76.2 | 6% |
| | | Wrong Answer | 22.9 | 23.3 | 0% |
| | | I don't Know | 6.0 | 0.5 | -6% |
| 6 | Considering a long time period (for example 10 or 20 years), which asset normally gives the highest return? | Correct Answer | 42.2 | 57.6 | 15% |
| | | Wrong Answer | 52.8 | 41.9 | -11% |
| | | I don't Know | 4.3 | 0.5 | -4% |
| 7 | Normally, which asset displays the highest fluctuations over time? | Correct Answer | 56.8 | 77.6 | 21% |
| | | Wrong Answer | 33.2 | 20.0 | -13% |
| | | I don't Know | 9.3 | 2.4 | -7% |
| 8 | When an investor spreads his money among different assets, does the risk of losing money | Correct Answer | 53.2 | 74.8 | 22% |
| | | Wrong Answer | 43.5 | 24.8 | -19% |
| | | I don't Know | 2.7 | 0.5 | -2% |

Notes: (1) The stock market helps to predict stock earnings; (2) The stock market results in an increase in the price of stocks; (3) The stock market brings people who want to buy stocks together with those who want to sell stocks; (4) None of the above; (5) DK; (6) Refuse.

Table 3.0 shows similar results on advance financial literacy questions. The data shows a decrease in wrong answers for all the advance questions in week 14. The data also shows a decrease in “I don’t know” and “Refuse to Answer” categories in Week 14.

An independent samples t-test was conducted to determine if there was a significant difference between the mean scores of male and female on the basic and advance financial literacy level of the students. The results show that there is no significant difference between male and female in terms of their basic and advance financial literacy level. An independent samples t-test was also conducted to determine if there was a significant difference between the mean scores of age group of 18 – 20 years old (M = 2.83, SD = 0.474, n = 52) and age group of 21 -25 years old (M = 2.70, SD = 0.634, n = 158) on the basic financial literacy level. The t-test revealed a significant difference between the two groups (t(1,3) = 0.195, p < .10, d = 208). The effect size was considered medium according to Cohen's criteria. However, there is no significant difference between age group in terms of advance financial literacy level.

A one-way ANOVA was conducted to compare the mean financial literacy level of students with different program study. There were ten groups in total: Planning and Development Economics (n = 3), Marketing (n = 4), Entrepreneurship (n = 62), International Business (n = 34), Financial Management & Banking (n = 90), Financial Economics (n = 13), and Hotel Management (n = 4). The mean advance financial literacy level for each group was as follows: Planning and Development Economics (1.67, SD = 0.577), Marketing (2.0, SD = 0.816), Entrepreneurship (2.15, SD = 0.786), International Business (2.35, SD = 0.691), Financial Management & Banking (2.40, SD = 0.684), Financial Economics (2.69, SD = 0.480), and Hotel Management (3.00, SD = 0.00). The ANOVA test revealed a significant difference between groups (F(6) = 2.638, p < .010). Post-hoc tests using Tukey's HSD showed that all groups were significantly different from each other (p < .01). However, the results show that there is no significant difference on level of basic financial literacy between different program study.

Across all basic financial literacy questions, there's an observable increase in the percentage of correct answers from the 1st to the 14th week. This suggests that students' understanding of fundamental financial concepts improved over the course of the semester. For instance, the question about the impact of a 2% interest rate on a savings account saw a 5% increase in correct answers, indicating better comprehension of how interest rates affect savings. There was a corresponding decrease in the percentage of wrong answers for all questions, highlighting that fewer students were making mistakes by the end of the semester. This decrease in wrong answers reinforces the notion of improved financial literacy. The reduction in responses indicating "I don’t know" or students refusing to answer suggests increased confidence among students in tackling financial literacy questions.

Similar to the basic questions, there was a noticeable improvement in students' ability to correctly answer advanced financial literacy questions. For example, the understanding of the stock market's main function saw a 19% increase in correct answers. The decrease in wrong answers across advanced topics suggests that misconceptions about more complex financial concepts were corrected during the semester. The decline in "I don’t know" responses and a minimal number of students

refusing to answer by the 14th week indicate a stronger grasp of advanced financial topics and greater willingness to commit to an answer.

The data suggests a positive trend in financial literacy among university students over the semester, with improvements in both basic and advanced financial concepts. This trend is consistent across various aspects of financial literacy, including understanding of interest rates, inflation, mortgage payments, stock market functions, mutual funds, bond prices, and the risk-return characteristics of different assets. A notable aspect of this improvement is not just the increase in correct answers but also the significant reduction in wrong answers and uncertain responses. This indicates a comprehensive enhancement of financial literacy, reflecting an effective education program or curriculum that addresses both basic and advanced financial literacy concepts. The findings underscore the importance of financial education in helping students make informed decisions and understand the financial world more comprehensively. Such improvements in financial literacy are crucial for empowering students to manage their personal finances effectively, navigate financial markets, and make sound investment decisions in the future.

## 4. CONCLUSION AND RECOMMENDATION

Based on the study's outcomes, it can be inferred that there is no substantial disparity in financial literacy between genders. This finding is in line with a study conducted by Lusardi, Mitchell, and Curto (2010), which analysed data from the 2004 Health and Retirement Study in the United States and surveys conducted in various other countries. Their research also revealed no significant gender-based differences in financial literacy, even after considering factors such as age, education, income, and wealth. Additionally, a separate study surveyed 300 women in Botswana and similarly found no notable distinctions in financial literacy among women of varying ages or educational backgrounds (Puso & Mosweu, 2019).

Regarding age groups, this study observed a significant variation in basic financial literacy but not in advanced financial literacy. This aligns with the findings of Yang and Liao (2017), who explored financial literacy levels and determinants in Taiwan. They discovered a negative correlation between age and financial literacy, which corresponds to this study's results, indicating that age-related differences are more pronounced in basic financial literacy than in advanced financial literacy. Moreover, the study conducted by Takayama and Goto (2017) delved into financial literacy and retirement planning in Japan, providing cross-cultural insights into how age groups might influence financial literacy. Their research indicated that age has a more substantial impact on basic financial literacy compared to advanced financial literacy.

Past research has confirmed that the relationship between one's field of study and financial literacy may be intricate. While the chosen academic program may significantly affect advanced financial literacy, its impact on basic financial literacy may be less pronounced (Takayama and Goto, 2017; Yang and Liao, 2017; Chen and Volpe, 2012). This finding aligns with the results of this study, indicating that program of study has a significant impact on advanced financial literacy but not on basic financial literacy.

Interestingly, the findings also revealed a significant difference in basic financial literacy between age groups but not in advanced financial literacy. This corresponds to previous studies, such as the one conducted by Kim and Chatterjee (2016), which

compared the financial literacy of university students in France and the United States and discovered notable differences in their ability to answer basic financial literacy questions versus advanced ones. Another study by Ruiz-Mallén and López-Andreu (2017) conducted a systematic review of recent research on financial literacy among higher education students and found that there was a significant divergence in their ability to respond to basic financial literacy questions versus more intricate ones. These studies collectively provide evidence of substantial distinctions between basic and advanced financial literacy questions.

Given these findings, it is advisable for financial education programs to accommodate varying levels of financial literacy among students and offer targeted instruction to meet their specific needs. Additionally, these programs should be designed to encompass both fundamental and advanced financial literacy concepts to provide a well-rounded education. In conclusion, these findings underscore the importance of tailoring financial literacy interventions to consider differences in age and academic program, aiming to effectively enhance financial literacy among university students. Future studies could delve deeper into these variances and explore the factors contributing to the observed differences in financial literacy levels among distinct groups of university students.

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