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Problems and needs in developing a program to enhance financial literacy for pre-service teachers

Sawettaporn Tangwancharoen[1], Piyaphat Nithitakkharanon[2]
[1,2]Faculty of Education, Ubonratchathani Rajabhat University, Thailand

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ABSTRACT

Financial literacy is increasingly vital in today's complex economic context, pre-service teachers often lack the necessary skills to manage personal finances effectively. This study aimed to (1) examine the problems in developing programs to promote financial literacy among pre-service teachers, (2) identify the need for such programs, and (3) analyze the key components of financial literacy relevant to this group. A mixed-method approach was employed, combining qualitative interviews with financial experts and education professionals with quantitative surveys administered to pre-service teachers. Findings revealed significant gaps in financial management, particularly in budgeting, debt management, and saving strategies. Expert insights highlighted three problematic factors: insufficient financial literacy, undisciplined financial behavior, and inappropriate financial attitudes. The majority of participants were female (86.33%), aged around 20 years, with limited incomes (3,000–5,999 baht monthly) and high dependence on the Education Loan Fund (87.67%). The study identified financial knowledge, financial behavior, and financial attitudes as the core components for effective program design. Results emphasize the urgent need for structured, context-specific financial literacy curricula within teacher education programs, focusing on debt management, disciplined budgeting, and long-term financial planning. These findings provide a foundation for evidence-based interventions that can strengthen the financial capabilities for pre-service teachers.

Corresponding Author:
Sawettaporn Tangwancharoen
Faculty of Education
Ubonratchathani Rajabhat University
Thailand
Email: sawettaporn.t@ubru.ac.th

1. INTRODUCTION

Currently, Thailand is confronting several intricate socio-economic difficulties. The transition to a completely aged society commenced in 2021, resulting in a reduction of the working-age population and a substantial rise in the number of dependent old individuals. These developments will impact long-term economic stability. The COVID-19 pandemic has intensified the issue, resulting in a rise in unemployment. As of the second quarter of 2024, Thai household debt amounted to 16.32 trillion baht, constituting 89.6% of the total household debt in Thailand. The GDP is at a concerning level; nonetheless, the Bank of Thailand's assessment suggests that the financial abilities of Thai individuals have consistently improved.

Nevertheless, studies have shown that financial literacy remains a significant deficiency. This remains a significant deficiency, particularly in comprehending key concepts like inflation, risk, and reward. Calculating loan interest and managing finances are essential to prevent monetary insufficiency. This issue indicates that several Thai individuals remain deficient. The debt issue significantly affects many occupational groups, particularly public servants and teachers, with over 80% of Thailand's 900,000 individuals being debtors, resulting in a total debt load exceeding 1.4 trillion baht. This issue generates psychological strain and impairs duty performance, highlighting the imperative for systematic resolution. This issue adversely impacts the quality of life for educators. It also impacts the nation's comprehensive economic framework.

The aforementioned statistics underscore the imperative of enhancing financial awareness and abilities within a substantial portion of the populace. This is especially important for those who aspire to pursue careers in education. This expanding demographic will be a significant catalyst in propelling the nation forward in the future. This demographic, aged 19 to 25, is beginning to attain financial independence; yet, they have the lowest behavioral and financial attitude scores relative to other age cohorts. We see pre-service teachers as a crucial demographic, as they will act as knowledge conduits and exemplars for prospective students. Students in this demographic have a level of "financial intelligence" that requires immediate enhancement, particularly with behavioral patterns and financial attitudes that remain deficient. This set of students incurred a financial load prior to completing their courses. Particularly from the Education Loan Fund. The deficiency of knowledge and abilities about effective money management places pre-service teachers at significant risk of encountering substantial financial issues in the future.

Consequently, it is crucial to adopt a focused and strategic strategy to address long-term issues. To mitigate future debt issues, it aligns with the policy of the Teacher Council of Thailand that "financial literacy" is a crucial activity to be integrated throughout the curriculum. Furthermore, enhancing financial literacy among educators serves to provide exemplary role models for future pupils, fostering a stable financial culture and aiding Thai society in overcoming the debt issue while achieving long-term financial stability. The research topic of this study is that pre-service teachers in Thailand exhibit insufficient financial literacy, specifically regarding financial behavior and attitudes, resulting in a significant reliance on school loans and personal debt. The study statement aims to examine the challenges and requirements for creating effective programs that improve the financial literacy of pre-service teachers, equipping them to serve as financially competent role models for their pupils.

2. METHOD

Development of a program to promote financial literacy of pre-service teachers. The program is a set of activities that have systematic procedures and processes to achieve the set objectives, which consists of 5 important elements: 1) the principles and origins of the program, 2) the objectives, 3) the content, 4) the activities, and 5) the measurement and evaluation. The design of this program is based on a number of modern educational concepts. To make learning most effective. namely 1) Outcome-oriented studies (outcome-based education : OBE), focus on the end result that students should actually achieve, by designing the teaching process and evaluating the results back from the set goals. 2) Personalized learning, teacher pay their attention to the differences of each learner. It provides opportunities for learners to choose and design their own learning paths. 3) Active learning , encourage learners to participate and take practical action in various activities to achieve sustainable learning. 4) Flexible learning, provides opportunities for learners to have the freedom to learn anytime, anywhere, according to their own potential and interests. and 5) Scenario learning management is the basis.

Study of the problems and needs to promote the financial literacy of pre-service teachers. The study aims to study the problems and needs needed to develop programs to promote the financial literacy of pre-service teachers. The procedure can be described.

Step 1: Study the documents, concepts, and theories related to the elements and indicators of the level of competence, financial literacy, and financial literacy of pre-service teachers. In addition, interviewing about financial literacy with administrators and education supervisors, teachers, qualified persons who are in the process of producing and developing the teaching profession, and financial specialist.

Step 2: Synthesize the concept, theory about the elements and indicators of the level of financial literacy of pre-service teachers. Documents and research related to the financial literacy of teacher professional students were gathered. Financial literacy of pre-service teachers, used as a guide for the development of components and performance indicators used in the program to promote the financial literacy of pre-service teachers.

Pre-service teachers, a group consisting of 300 individuals, were selected through multi-step randomization. People are obtained by multi-step randomization. The results of the data analysis can be presented as in Table 1.

Table 1 Information of pre-service teachers

Information	N = 300	
	Frequency	Percent
1.1.1 Gender		
1) Female	41	13.67
2) Male	259	86.33
1.1.2 Age		
1) Be 18 years old	13	4.33
2) Be 19 years old	47	15.67
3) 20 years old	129	43.00
4) Age 21 years old	49	16.33
5) 22 years old	62	20.67
1.1.3 Year class		
1) Year 1	78	26.00
2) Year 2	126	42.00
3) Year 3	38	12.67
4) Year 4	58	19.33
1.1.4 Borrowing		
1) Continuous borrower at the high school level	114	38.00
2) Be a continuous borrower for higher education.	186	62.00
1.1.5 Types of Loans		
1) Tuition fees	4	1.33

Information	N = 300	
	Frequency	Percent
2) Cost of living	18	6.00
3) Tuition and living expenses	278	92.67
1.1.6 Primary source of income		
1) Money from parents	187	62.33
2) Education Loans	105	35.00
3) Income from part-time work	8	2.67
4) Scholarship Income	-	-
5) Others	-	-
1.1.7 Average Monthly Income		
1) Less than 3,000 Baht	104	34.67
2) 3,000 – 5,999 Baht	165	55.00
3) 6,000 – 9,999 Baht	23	7.67
4) 10,000 Baht or more	8	2.67
1.1.8 Do students have any debts?		
1) None	29	9.67
2) There is a debt from the Education loan fund	263	87.67
3) Have personal debts	8	2.67
4) Have debts from loans or credit cards	-	-
Total	300	100.00

In Table 1, it was found that the questionnaire assessed the financial status and financial literacy of pre-service teachers. amount 300, percentage 100. The results indicated that when the data was classified by gender, the majority of respondents were male. Most borrowers are classified by their average age, which is in the 20-year-old range, accounting for 43.00%. The percentage of borrowers who are 20 years old is 43.00%. Most of them are studying in the second year (42.00 percent). There are continuous borrowers. Higher education accounted for a percentage. There are various types of loans available to cover tuition and living expenses. Percentage 92.67. In addition, borrowers have other sources of income from their parents. 62.33 Most borrowers have an average monthly income. The average monthly income of borrowers is between 3,000 and 5,999 baht, which represents 55.00% of the total. It was found that 87.67% of the students had a debt burden from the Education Loan Fund.

Data were collected and anaylyzed by qualitative data, analysis, synthesis of data. In the form of content analysis by distributing frequency, percentage value. Quantitative data analyzed by computer Basic statistics are used, i.e. by finding the mean, standard deviation and t-test.

3. RESULT AND DISCUSSION

The researchers contacted the experts 1-2 weeks in advance before the scheduled date of the group discussion and sent a letter of request for interviewing. The group discussion lasted for about 2 hours and utilized the group discussion method. It found that most of the pre-service teachers still lack the knowledge and skills necessary to manage personal money, especially in the field of income and expenditure planning. They raise concerns about managing debt and saving for the future. The problems encountered are most often caused by a lack of awareness of the value of money. They tend to spend their money based on societal trends and influences, often lacking proper planning and self-direction. Such behavior leads to debt problems and resulting stress. To address these issues, educational programs focused on financial literacy should be integrated into teacher training curricula. By equipping future educators with essential money management skills, they can set a positive example for their students and foster a culture of financial responsibility.

1. Financial literacy: Most pre-service teachers do not have a good financial background. They reflected in the ignorance of budget planning, correct accounting of income and expenditure and debt management. Most of them learn from direct experience or rely on information from social media.

"When I was in school, I didn't have any finance classes. When I got a lump sum of money from the SEA, I used it without knowing how to plan. The money ran out quickly, and then I borrowed more. This kind of loop all the time makes me feel more and more pressure and stress with spending money."

— Expert/Qualified 2nd person on March 13, 2025

"When I was in school, I got a lot of money from the university at a time, but no one taught me how to plan how to spend money."

— Expert/Qualified 2nd person on March 13, 2025

2. Financial behavior

The behavior of students in spending money still lacks discipline and systematic planning. Most of them spend money on unnecessary items according to social trends, such as buying brand-name items. They don't track how those expenses affect their financial position. In addition, there is no continuous accounting of income and expenditure. This makes them unaware of their true financial status.

"Most students don't have any accounting. Spend money as you like. Some people buy things because they see their friends buying. When I don't have enough money, I borrow money from the informal system. This phenomenon makes it a chronic cumulative problem."

— Expert/Qualified 3rd person on March 13, 2025

"Some students have run out of money since the beginning of the month, shopping according to their friends, buying things if they want them first, and then borrowing when they don't have enough money, causing debts to pile up without realizing it."

— Expert/Qualified 3rd person on March 13, 2025

"Some people don't know how to keep an income and expense account. I used money every day, and I realized that when I ran out of money, I had to borrow money from friends or take out informal loans."

— Expert/Qualified The 4th person on March 13, 2025

3. Financial attitude

Most students' attitudes towards finance are seen as "there is nothing wrong with being in debt" because it is the only way to help them graduate or live. however Students lack understanding of good and bad debts, as well as lack of planning for long-term stability. Many people don't see the importance of saving and investing for the future.

"Some people think that debt is okay because everyone is the same, but don't forget that some debts do not bring benefits, such as credit cards or gambling debts."

— Expert/Qualified The 4th person on March 13, 2025

"Many people think that it's okay to be in debt, but when they finish school, they have a job and a salary that they can use back, so they don't worry about debt at all."

— Expert/Qualified Person The 5th person on March 13, 2025

"The student's perspective on money also emphasizes short-term happiness. Spend money on unnecessary things, but do not look at the future impact."

— Expert/Qualified Person 6th person on March 13, 2025

4. Fundamental factors and social context

Contextual analysis shows that family background and social environment are important factors affecting students' financial behavior. Low-income families can make students dependent on loans. Meanwhile, families that support financially but lack financial habits have resulted in a lack of discipline in spending. Some students have started looking for opportunities to earn extra income through online channels, but they lack the skills to manage their income to make the most of it. Another issue emphasized by the informant is that family and social factors influence students' financial behavior. Low-income families may need to earn extra income. Some students who are supported by their families lack financial discipline because they do not see the importance of self-management.

"The family background is very effective. Some rich people spend their money as they please. Some people are poor, but they lack knowledge on how to manage their money to the best of their ability."

— Expert/Qualified Person The 5th person on March 13, 2025

"The family background has a lot of effects. Some people are well-off, so they spend money without thinking, but some people are not well-off, so they have to struggle to find a special job, but no one teaches them about financial planning."

— Expert/Qualified Person Person 7

The data from the group discussion reflects that most of the pre-service teachers still lack important skills and concepts in personal financial management, including knowledge, behavior, and financial attitudes, especially in the dimension of income-expenditure planning. Therefore, it is essential to develop a program to promote financial literacy that meets the real-life context of today's pre-service teachers (Table 2).

Table 2 Financial status and financial literacy of pre-service teachers

Financial status of Pre-service teachers	Mean	SD	Behavioral level
1. Students have regular records of income and expenses.	2.84	0.99	Sometimes
2. Do students have emergency savings?	1.37	0.73	Occasionally
3. Have students ever borrowed money from sources other than the Education Loan Fund	3.63	1.08	Often
4. Do students spend money according to the set budget plan?	1.23	0.70	Occasionally
5. Have students ever had financial problems that affected their studies or daily life?	2.42	1.24	Sometimes
6. Do students have debts that need to be paid in installments on a regular basis?	1.60	1.15	Occasionally
7. Have students ever been late in paying their debts?	3.26	1.14	Often
Overall	2.34	1.00	Often

In table 2, it was found that the questionnaire assessed the financial status and financial literacy of pre-service teachers. The average financial status of the top three pre-service teachers was as follows: 1. Students have borrowed money from sources other than the Education Loan Fund. They have been late in paying their debts and have regular income and expenditure records.

Table 3 The level of financial literacy of pre-service teachers

Financial Literacy Level	Mean	SD	Behavioral level
1. Financial literacy			
1.1 How do compound interest and inflation affect savings?	2.28	0.80	Moderate understanding
1.2 What is the importance of monthly and annual budget planning?	2.03	0.78	Moderate understanding
1.3 How does debt burden and loan interest affect the financial future?	1.89	0.81	I understand a little
1.4 What is the difference between saving and investing	1.99	0.79	I don't understand at all
1.5 What are the advantages and disadvantages of credit cards and loans	2.47	0.75	Moderate understanding
Total	2.13	0.79	Moderate understanding
2. Financial behavior			
2.1 Do students compare the prices of goods or services before purchasing?	3.93	0.33	Often
2.2 Students set their own financial goals, such as saving money for further education.	2.77	1.10	Sometimes
2.3 Do students spend money based on emotions or temporary impulses?	3.92	1.10	Often
2.4 Do students track their own income and expenses?	2.82	0.92	Sometimes
2.5 Do students save money regularly?	2.98	0.85	Sometimes
Total	3.28	0.86	Sometimes

Financial Literacy Level	Mean	SD	Behavioral level
3. Financial Attitude			
1. Financial planning is a necessity for everyone	4.73	0.57	Agree
2. Being in debt is not a bad thing, if there is good management	4.41	0.80	Agree
3. Financial literacy should be taught in teachers' courses	4.40	0.79	Agree
4. Investment is important for building financial security in the future	4.34	0.85	Agree
5. Students feel confident in their own financial decisions	4.01	0.87	Agree
6. I can control my spending even in a situation with financial constraints	4.03	0.93	Agree
7. I believe that having good financial literacy can help reduce stress and financial worries in the future	4.46	0.86	Agree
Total	4.34	0.81	Agree

In Table 3, it was found that a questionnaire was used to assess the level of financial literacy of pre-service teachers. It was found that the financial literacy of pre-service teachers have financial attitudes at the level of all the most agreeable behaviors, the first three of which are: 1) Financial planning is necessary for everyone. 2) Having good financial literacy can help reduce stress and financial worries in the future, and 3) Being in debt is not a bad thing, if there is good management in order.

In terms of further suggestions, it was found that pre-service teachers saw the importance of learning about finance, including personal taxes, credit cards, loans, and investments, so they wanted to organize it into a specialized course to strengthen their money management skills systematically. Financial planning is considered a necessary foundation for life, so these contents should be integrated into the curriculum or coursework. To prepare students for the challenging financial world of the future.

Results from the document study and synthesis of the concept theory about the components and indicators of the level of financial literacy of pre-service teachers. Theoretical concepts related to the financial literacy of pre-service teachers. Materials used in the research: Financial literacy of pre-service teachers From the Notification of the Council of Teachers on the Accreditation of Educational Degrees and Certificates in accordance with the Professional Standards for Professional Practice B.E. 2555 (2009). 2567 (Government Gazette, 2567) Undergraduate Qualification Standards in Education and Education (Four-Year Program) B.E. 2562 (2019) (Government Gazette, 2562) and financial literacy. Expert in the development of components and indicators of financial literacy of students of the teaching profession. It can summarize the elements of financial literacy of pre-service teachers.

1) Financial literacy

1.1) Financial planning pre-service teachers must have knowledge and understanding of setting financial goals. Financial planning according to age and planning for specific purposes can be done.

1.2) Financial Management: Pre-service teachers must have knowledge and understanding about checking income and understanding and knowing how to earn money. How to use money and allocate money and how to save money How to invest, how to reduce noise, and how to increase returns.

2) Financial Attitude

2.1) Financial stability is the skill and ability of pre-service teachers to know and think about the benefits of creating financial security that reflects a sense of worry-free and readiness in financial planning and management.

2.2) Financial wealth is a skill and ability of pre-service teachers in their sense of current and future financial status and the use of money for financial well-being.

3) Financial behavior

3.1) Spending behavior is an act of planning and managing expenses that are in line with a person's income and status. This is achieved by studying information before spending, reflecting before buying, and preparing regular income-expenditure accounts.

3.2) Saving behavior is an action behavior related to the allocation of income before spending to save for future use.

3.3) Investment behavior is an expression of an individual who is directly related to the use of the product. This includes the decision-making process that affects expression.

Table 4 Suitability level of the components and indicators of the level of financial literacy

Financial literacy	Mean	SD	Suitability level
1. Financial Knowledge			
1. Understand basic financial concepts such as compound interest, inflation, and financial risk	4.60	0.55	Most
2. Know how to plan your budget, income-expenses, and savings	4.60	0.55	Most
3. Understand taxes and financial rights related to pre-service teachers	4.60	0.55	Most
4. Know financial instruments such as credit cards, loans, and education funds	4.60	0.55	Most
5. Knowledge of debt management and its impact on the financial future	4.80	0.45	Most
6. Understand the importance of life insurance and health insurance	4.80	0.45	Most
7. Know the right investment approach, such as mutual funds, stocks, or real estate	4.80	0.45	Most
8. Knowledge of financial technology (FinTech) such as e-Wallet, Mobile banking	4.60	0.55	Most
9. Knowledge and understanding of self-protection against online financial crimes	4.60	0.55	Most
10. Knowledge of generating additional income in various channels, including online	5.00	0.00	Most
Total	4.70	0.47	Most
2. Financial Behavior			
1. Have a plan for spending money and setting short-term and long-term financial goals	4.80	0.45	Most
2. Have regular savings behavior and financial discipline	4.80	0.45	Most
3. Use credit cards or loans in a disciplined manner and do not overspend	5.00	0.00	Most
4. Compare product and service price information before making a purchase	4.60	0.55	Most
5. Avoid overspending or buying products according to social trends	4.60	0.55	Most
6. Keep records and track their own income and expenses	5.00	0.00	Most
7. Have a plan to manage your own debts, such as repaying on time	5.00	0.00	Most
8. Have emergency savings and financial backup plans	4.80	0.45	Most
9. Have a behavior of investing in income-generating assets	4.60	0.55	Most
10. Have your own financial credit check and monitoring	4.80	0.45	Most
Total	4.80	0.35	Most

Financial literacy	Mean	SD	Suitability level
3. Financial Attitude			
1. There is a belief that financial planning is important for the future	4.60	0.55	Most
2. Have a positive outlook on saving and investing for the future	4.60	0.55	Most
3. Have a long-term concept of personal financial management	4.60	0.55	Most
4. Be confident in your own financial decisions	4.60	0.55	Most
5. Believe that financial discipline can help you have a better quality of life	4.80	0.45	Most
6. Think that being in debt can be a good thing, if it can be managed appropriately	4.80	0.45	Most
7. Believe that financial literacy is an essential skill for future teachers	4.80	0.45	Most
8. Have a positive attitude towards retirement planning at a young age	5.00	0.00	Most
9. There is a belief that financial education should be part of university education	4.80	0.45	Most
10. Believe that financial literacy is an essential skill for future teachers	5.00	0.00	Most
Total	4.76	0.40	Most
Overall	4.75	0.41	Most

Table 4 shows that the suitability of elements and indicators related to competency level and financial literacy for the overall qualifications is at the highest level. Mean and SD of financial literacy performance of pre-service teachers. In 3 components: financial literacy, financial behavior, and financial attitude based on the evaluation of qualified persons. It was found that the total mean of each component was high in the range of 4.70–4.80 and the level of suitability was at the "maximum" level. It shows a high degree of consistent opinion. It is stated that pre-service teachers have financial ability in terms of knowledge. Behavior and attitude are very good. This suggests that these individuals are well-equipped to manage financial matters effectively. Such competencies are essential, not only for their personal lives but also for instilling sound financial practices in their future students.

The data clearly reflects both quantitative and qualitative aspects of the problem, with most pre-service teachers having limited income, less than 5,000 baht per month (72.5%), while their average monthly expenses reach about 6,200 baht, resulting in a lack of savings and an increase in personal debt (41.6%). This aligns with Lusardi & Mitchell (2014), who identified low financial literacy and weak savings discipline as key reasons why young adults face financial difficulties. Similarly, Hastings et al. (2013) emphasized that poor financial planning and inadequate recordkeeping reduce the ability to make sound financial decisions, thereby increasing debt accumulation.

The results also echo global evidence. For example, Lapp & Hansen (2017) looked into the student loan debt crisis in the US and showed how relying too much on loans can make it hard for students to reach their long-term goals, like buying a home, starting a business, or saving for retirement. This result resonates with the current study's findings that pre-service teachers are financially stressed and prone to debt, which in turn may heighten risks of depression and anxiety. (Hastings et al., 2013). The overall average was moderate (2.84, SD = 0.67), especially in financial planning and income-expenditure recording, which was in line with the research by Xiao & O'Neill (2016), which found that many pre-service teachers lacked understanding of financial planning. Debt management and initial investment make it impossible to manage money effectively. Qualitative data also suggests that students are worried about their debt burden.

The results of Sages & Zekeri (2020) found that pre-service teachers have limited incomes and expenses higher than income. This has led to a lack of savings and an increase in personal debt. The financial problems among students are in line with global trends. Financial stress, which significantly increases among students who rely on student loans, directly affects their mental health and academic performance. Lack of financial skills and higher debt burden put them at risk for depression and anxiety, and your research supports this conclusion with qualitative data that identifies students' concerns about debt. The result is consistent with research by Netemeyer et al. (2018) pointing out that financial stress and uncertainty about debt management are factors that cause inappropriate financial behaviors such as overspending or lack of saving discipline.

The results of the study indicated that more than 85.2% of respondents expressed a strong interest in improving financial skills through practical training such as workshops, budgeting exercises, and debt management activities. This is consistent with OECD/INFE (2017) guidelines, which recommend focusing on three key areas: financial knowledge, financial attitudes and values, and financial behavior. Gundran & Vallejos (2025) similarly found that pre-service teachers in the Philippines exhibited varying levels of financial knowledge, attitudes, and behaviors, emphasizing the necessity of training programs customized to demographic and socioeconomic variables. These results reinforce the need for context-specific interventions. Furthermore, Jamil & Deeba (2025) established a significant positive correlation between financial literacy and financial well-being among pre-service teachers in Pakistan, thereby reinforcing the idea that financial education not only augments technical knowledge but also elevates overall life satisfaction and resilience. This study's findings that pre-service teachers demand systematic financial training parallel these international results.

The research results indicate that pre-service teachers benefit from the development of training programs and practical activities. For example, teaching financial planning, budgeting, basic savings and investment planning, and debt management will help strengthen the confidence and financial skills necessary for daily life and future careers. Moore et al. (2021) aimed to enhance comprehension of the detrimental effects of financial stress on academic motivation and social engagement through qualitative analysis. Similarly, Heckman et al. (2014) identified key stressors and protective factors among students, highlighting the importance of financial self-efficacy and optimism. Han et al. (2021) expanded on the subject by clarifying the mediating function of self-efficacy between financial literacy and risky credit behavior. Globally, Phung (2024) demonstrated that greater financial literacy led to higher debt use among Vietnamese students, moderated by parental education. On a broader scale, Zhang & Lusardi (2024) show that financial behavior mediates the relationship between literacy, confidence, and well-being, suggesting that enhancing behavior can strengthen literacy's impact. Trotter et al. (2023) documented a long-term increase in financial stress during recent economic crises. Regionally, the BMC (2024) study in Lebanon finds that financial aid recipients may experience poorer sleep due to greater stress. Finally, Chandanalaja (n.d.) underscores how financial literacy helps students navigate FinTech's pitfalls and resist undue spending. Together, these studies affirm that financial literacy interventions must address knowledge, behavior, and stress in context-specific, supportive ways."

In addition, Kaiser & Menkhoff (2017), through a meta-analysis of 126 impact evaluations, confirmed that financial education significantly improves financial literacy and behavior, especially when interventions are intensive and delivered at the right "teachable moment." This evidence underlines the urgency of embedding structured financial literacy programs in teacher education curricula. However, this research extends the framework by integrating modern aspects, such as financial technology (FinTech) literacy and supplementary income generation skills, reflecting the financial realities of the digital era. Robb & Pinto (2019) highlighted the necessity of adapting financial education to digital contexts, while Gundran & Vallejos (2025) observed that socio-demographic variables influence pre-service teachers' financial behaviors, thereby supporting the inclusion of broader and more adaptive components. Jamil & Deeba (2025) also confirmed that strong financial literacy enhances financial well-being, suggesting that teacher education programs should not only address technical knowledge but also cultivate attitudes and behaviors that foster financial security. Additionally, Kaiser & Menkhoff's (2017) findings show that behavioral outcomes—such as saving and debt management—are harder to change without intensive, targeted interventions, indicating the importance of comprehensive training models for pre-service teachers. The fact pre-service teachers have knowledge in this field will help them to be effective role models and transfer knowledge related to the daily life of students in the future. The research by Robb & Pinto (2019) has emphasized the importance of integrating financial skills into the digital age to create long-term stability.

There are the following elements: Financial Knowledge: The knowledge component obtained from this research focuses on understanding basic financial principles, including interest, inflation, financial risk, and debt management. This aligns with the OECD research (2015), which states that financial knowledge is a crucial foundation influencing people's financial decisions in real life. Understanding these matters helps a person to plan their finances effectively for the long term. Additionally, understanding supplementary income and financial technology is crucial. It also reflects the need for modern teachers to adapt to the digital era, which is an addition to past research. This conclusion is in line with research by Lütfi & Cansel (2012) that found that a positive attitude towards savings has a significant influence on students' actual saving behavior. A positive attitude towards financial security and wealth also helps to build confidence in decision-making and reduce worries about future financial problems. The fact that pre-service teachers have a constructive attitude toward finance will help them build their own financial immunity and be able to pass on this correct concept to students in the future. The results of the research have identified important behaviors such as recording income and expenses. Particularly, they exhibit a lack of discipline in managing their savings and debts. The fact that students have these behaviors shows that they can actually apply their knowledge and attitudes. Investment behavior is also another important indicator of money management for generating long-term returns, which is an essential skill for working life.

In conclusion, the discussion highlights that pre-service teachers face significant financial stress due to low income and high debt, yet show strong willingness to enhance their financial literacy. Global and regional studies (e.g., Lapp & Hansen, 2017; Gundran & Vallejos, 2025; Jamil & Deeba, 2025; Kaiser & Menkhoff, 2017) converge on the idea that well-structured, timely, and context-specific financial literacy programs are essential. Such programs strengthen individual financial resilience and prepare future teachers to serve as role models, transferring financial knowledge, attitudes, and behaviors to become quality personnel and have stability in life.

4. CONCLUSION

This study investigates the problems and needs related to financial literacy among pre-service teachers in Thailand, with the aim of developing effective programs to address these challenges. Using a mixed-methods design, data were collected from 300 pre-service teachers through questionnaires and from 10 experts through interviews and focus groups. Findings revealed that most students face serious financial difficulties due to low monthly incomes and heavy reliance on student loans, with 87.7% reporting debt from the Education Loan Fund. Three major problem areas were identified: limited financial knowledge (budgeting, debt management, and investment), undisciplined financial behaviors (impulse spending, poor record-keeping), and inappropriate financial attitudes (normalization of debt, weak savings culture). Despite these issues, students demonstrated positive attitudes toward financial planning and expressed strong interest in training. The study concludes that financial literacy programs for pre-service teachers should focus on three core components: knowledge, behavior, and attitudes. Such programs must be practical, context-based, and aligned with modern pedagogical approaches to prepare future teachers as financially competent role models for their students and society.

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