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台灣理財教育課程綱要之發展芻議

ESTABLISHING THE FINANCIAL EDUCATION CURRICULUM GUIDELINE IN TAIWAN - A PROPOSAL FOR DISCUSSION

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摘要

理財教育是全球化教育的共同趨勢，其實施經證實能幫助大眾提升經濟邏輯思維，促進經濟的發展與社會的安定，為國家未來奠定紮實的人力資源基礎。此外，近年來國人投資行為日趨熱絡，提升理財教育品質可回應當前市場需求，因應國際情勢快速轉變，令國人可順利與國際金融時代接軌並開拓國際視野。本研究將 AHP 層級分析法應用於理財課綱之權重排序，以處理課程綱要專家意見的量化問題。權重結果中，「擬定個人或家庭理財目標與決策」被廣泛認為最具重要性。學者認為擬定理財目標與決策是理財規劃最基礎與重要的步驟，藉由建立個人與家庭的財務目標，來實現

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理想生活。若採取精確且系統化的理財課程設計，令人們普遍接受理財教育，可以實現個人理想，提升生活品質，豐富家庭生活的目標，亦可降低整體社會成本，促進經濟成長。

關鍵字：理財課程、理財教育、理財規劃、財務福祉

ABSTRACT

Financial education has become a common global trend in education. Its implementation has been shown to enhance individuals' economic reasoning, promote economic development and social stability, and lay a solid human capital foundation for national development. In recent years, individual investment activities in Taiwan have become increasingly active. Therefore, improving the quality of financial education can respond to current market needs, help individuals adapt to the rapidly changing international financial environment, and broaden their global financial perspectives. This study aims to develop a proposed financial education curriculum guideline for Taiwan. Drawing on international financial education frameworks and local educational needs, the proposed curriculum consists of seven topics: Spending and Accounting, Income and Employment, Saving and Investment, Credit and Borrowing, Protection and Insurance, Financial Planning, and Financial Landscape. This study further applies the analytic hierarchy process (AHP) to rank the relative weights of the curriculum topics and standards, thereby quantifying expert opinions on curriculum design. The results show that Financial Planning receives the highest weight among the seven curriculum topics. At the curriculum-standard level, "setting personal or household financial goals and making financial decisions" is ranked as the most important criterion. This finding suggests that goal-setting and decision-making are fundamental steps in financial planning. Through precise and systematic financial education, individuals and households may better achieve personal goals, improve quality of life, and enhance financial well-being. At the broader level, financial education may also reduce social costs, promote economic growth, and contribute to long-term social and economic stability.

Keywords: Financial Curriculum, Financial Education, Financial Planning, Financial Well-Being

1.Introduction

Demand for saving and investment has emerged following the economic growth, and the various financial products have been proposed in response this trend. Nonetheless, financial decision-marking, such as credit card usage and mortgage loaning, is confusing if holding insufficient financial knowledge and literacy. The Organization for Economic Cooperation and Development (Organization for Economic Co-operation and Development [OECD], 2017) investigated financial literacy levels across 30 countries in 2016, and had discovered that only 48% of the adults were able to answer financial knowledge questions correctly. Such survey results indeed revealed the necessity for improvement through systematic financial education. In 2018, the investigation was repeated focusing on 26 countries, and the result suggested that population averagely still holding insufficient financial literacy. Aside from the 52% of adult interviewees who self-evaluated to have average level of financial knowledge, only 17% of them were confident with financial knowledge they hold; moreover, 26% of them acknowledged to be incapable. (Organization for Economic Co-operation and Development [OECD], 2020). While economy is well-developed in most countries in this modern era, to improve population's financial knowledge has become essential; therefore, governments and experts in the field have now been aware of the urgency to develop a comprehensive system of financial education. In June, 2012, the importance of financial literacy had been officially approved in the Group of Twenty (G20) Leaders' Summit, and the collaborative promotion of financial education was launched (Russia's G20 Presidency & Organization for Economic Co-operation and Development [OECD], 2013). Gradually, personal financial management has been included as a part of standard school curriculum for the purpose of delivering comprehensive financial knowledge.

Financial education provides multiple benefits from the micro- to the macro-economy, its functionality has been academically proven (Lusardi & Mitchell, 2014). Financial knowledge and skills delivered through comprehensive financial education curriculum are beneficial for the young individuals to develop informed financial literacy and make wise financial decisions. Therefore, as the economy and financial markets evolve, a comprehensive financial education curriculum is fundamental, and the instructional effectiveness should be repeatedly assessed; furthermore, the curriculum structure should be timely adjusted to correspond with the dynamic changes in economy. To satisfy the demand for financial knowledge and skills, properly promoting the financial education should be implemented by governmental organizations, policy makers, educators, enterprises, and consumer groups. In the US, the Department of the Treasury has established the Office of Financial Education (OFE), which focuses on promoting financial education at the national level; the Jump$tart Coalition for Personal Financial Literacy (Jump$tart) concentrates on the personal financial management curriculum. Similar institutions and curriculums are widely established in other countries.

With abundant financial knowledge and comprehensive skills, apart from wealth accumulation, personal value and self-esteem can be attained; furthermore, the economic strength of a country can be enhanced (Hayhoe, Leach, & Turner, 1999). Following the economic growth and the corresponding public expectations, individuals nowadays bear greater responsibility for their own financial management, and financial knowledge can be beneficial for achieving their financial goals, such as home ownership, children's education, and pension preparation. Western nations (particularly developed economies) have been attaching importance to financial education, and have put it in practice systematically (Orton, 2007); in contrast, more efforts are needed in Taiwan, which serves as the focus of this study.

Current financial education in Taiwan, which follows the 2019 Curriculum Guidelines of 12-Year Basic Education, adopts an integrated teaching approach in the secondary school system (excluding Technical and Vocational Education and Training). Specifically, learning areas are unitary and the curriculums are not subject-oriented. Financial concepts are not presented in dedicated chapters; instead, they are integrated into civic education within subjects such as economics, home economics, etc. Under such mechanism, course instructors should include supplemental instruction in their teaching materials; however, the effectiveness of this approach remains to be evaluated.

The importance of financial knowledge and literacy can be attributed to social needs, where well-established one benefits nation and society fundamentally, and it is believed to be more essential than ever in recent years. Since the outbreak of the COVID-19 pandemic, the global economic system has been damaged. Amidst excessive inflation and stagnant income growth, individuals have actively engaged in investment to increase their income, particularly as robust stock market performance was observed. This situation is universal, according the data observed by Taiwan Depository & Clearing Corporation, in 2020 (the first year of the COVID-19 pandemic). The number of first-time investors tripled compared to the 10-year average; furthermore, 60 percent of those freshman investors are at the age of 20 to 39 years old. Unlike the US, who has been dedicated in establishing financial education for more than a decade, Taiwan's efforts remain in their early stages. Therefore, the financial education in Taiwan should be promoted and established more conscientiously for the sake of confronting future uncertainty.

This study, modeled after frameworks such as the Jump$tart Coalition in the US, presents a systematic framework for financial literacy education. The scope of this curriculum ranges from elementary to higher education. It also proposes a curriculum outline specifically for college and university students. The goal and expected contribution of this study is, by following the redundancy principles, to develop a financial education curriculum guideline that can be specifically and comprehensively beneficial for students at all education stages in Taiwan. Apart from referencing international curriculum guidelines, expert input from university professors was integrated through questionnaire investigations to ensure coherence, cohesion, and localization. The preliminary version of the curriculum guideline was finalized after gradual adjustments based on valuable advice given. This research constitutes a minor segment of curriculum policy research, exploring financial curriculum content, academic significance, and operational mechanisms, without addressing national curriculum guidelines or policy-related impacts. This study expects to provide valuable references for any party with demands, such as governmental institutions, financial and educational institutions, and seeks to contribute to future establishment of quality financial education curriculum in Taiwan.

2.Cross-Country Comparisons Among Concepts and Curriculum Guidelines

Various versions of curriculum guidelines of financial education have been developed in different countries, this study focuses on the US experiences due to its representativeness and comprehensiveness. The curriculum guidelines of financial education in the US were established by states and non-governmental organizations rather than at the national level. Among those organizations, the representative ones are the Jump$tart and the Council for Economic Education (CEE). The Jump$tart first established the “National Standards Financial Education” in 1998. In 2021, the new edition of “National Standards in K-12 Personal Finance Education” was published, which covers six major topic areas, and the corresponding curricular standards in each topic were specified (Council for Economic

Education [CEE] & Jump$tart Coalition for Personal Financial Literacy [Jump$tart], 2021). The CEE has been dedicated to promote economic education for a long time, its publication “National Standards for Personal Financial Education” also covers 6 financial-related topic areas, and is also designed for K-12 education (CEE & Jump$tart, 2021). 5 similarities can be noticed in the comparison between the publications of the Jump$tart 2015 and CEE & Jump$tart 2021; however, the structures and compositions are distinct and warrant detailed discussion.

In June 2012, G20 (Group of 20) national leaders convened to recognize the importance of financial literacy and collaborated with the OECD to develop national strategies for financial education. They jointly proposed concrete methods to promote the development of financial education (Russia’s G20 Presidency & OECD, 2013). Currently, more than 20 countries have implemented national strategies and are vigorously promoting financial education. However, the legitimacy of financial education as a field/discipline still merits further discussion. The OECD has established the “Core Competencies Frameworks on Financial Literacy for Youth” curriculum in 2015, comprising four thematic areas (As shown below in Table 1.). Within each area, foundational outcomes were determined and specified across three literacy dimensions: (1) awareness, knowledge and understanding; (2) confidence, motivation and attitudes; and (3) skills and behaviour. Such curriculum guideline structure and contents are extensive and comprehensive as financial literacy education, and the OECD has emphasized the importance of early financial education among youth.

The core competencies indicator correspondence of four highly-representative organizations regarding their determination of financial topic areas is shown in Table 1 below, and the financial education guidelines of various countries are also roughly similar to this framework design (Russia’s G20 Presidency & OECD, 2013). The financial framework of the U.S. Department of the Treasury is the most concise, comprising five fundamental cores: earning, spending, saving, and borrowing. The Jump$tart Coalition offers the most detailed and comprehensive classification; it combines "saving" and "spending" while establishing independent categories for "credit and debt," "risk management and insurance," and "investing," and additionally adding "financial decision-making" to emphasize the capacity for choice and planning. The CEE similarly covers earning, spending, saving, credit management, and investing. Its distinct feature lies in specifying "borrowing" as "managing credit" and treating "investing" as a primary independent category.

Table 1 Core Competencies Indicator Correspondence Table

<table>
<tr><th>Topic Area</th><th>The US Department of the Treasury</th><th>Jump$tart</th><th>CEE</th><th>OECD*</th></tr>
<tr><td>Income and Employment</td><td>Earning</td><td>Employment and Income</td><td>Earning Income</td><td>Money and Transactions</td></tr>
<tr><td>Spending and Accounting</td><td>Spending</td><td rowspan="2">Spending and Saving</td><td>Spending</td><td rowspan="3">Planning and Managing finances</td></tr>
<tr><td>Saving</td><td>Saving</td><td>Saving</td></tr>
<tr><td>Credit and Borrowing</td><td>Borrowing</td><td>Credit and Debt</td><td>Managing Credit</td></tr>
<tr><td>Protection and Insurance</td><td>-----</td><td>Risk Management and Insurance</td><td>-----</td><td>-----</td></tr>
<tr><td>Investing</td><td>-----</td><td>Investing</td><td>Investing</td><td>-----</td></tr>
</table>

Note: *Organization for Economic Co-operation and Development (OECD, 2015).

The OECD's classification method is more macro-oriented and integrated. It consolidates individual actions such as "spending, saving, and borrowing" under "financial planning and management," and specifically introducing the theme of "Financial landscape" to focus on the impact of the overall economy and external factors on personal finance. Furthermore, among Asian countries, the Central Council for Financial Services Information in Japan released new financial education competency indicators in 2015, consisting of four major categories: life planning and household management, financial and economic structures, consumer life and prevention of financial distress, and career educatio n. Japan's thematic classification emphasizes "daily life integration," incorporating life planning, household budget management, consumer life, prevention of financial distress, and career education into real-life scenarios to enable students to better connect these concepts with their daily lives (Chang & Tseng, 2020).

3.The Importance of Establishing Financial Education Curriculums

The importance of financial education is widely recognized internationally; nonetheless, debates persist in Taiwan. Hence, it is necessary to address these ambiguities to support the rationale of this study with advanced international literatures and discussions.

3.1 Clarifying Misunderstandings Towards Financial Education

The most common misconception is viewing financial education solely as investment instruction, leading the public to believe that it focuses only on teaching students how to invest. Due to the speculative nature of certain investments, providing students with such techniques is often considered unnecessary and should be avoided. Such a misunderstanding misrepresents the essence of financial education while simultaneously narrowing its scope. In fact, investment instruction is only a part of financial education. As shown in Table 1, although negligible differences in classifications can be noticed, the 5 core competencies of earning; spending and saving; borrowing; protection and insurance; and investment are adopted as foundations of financial education by the US Department of the Treasury, the Jump$tart, and the CEE. As savings are accumulated, investment becomes essential for achieving financial sufficiency, particularly prior to retirement. Furthermore, noticing from the contents of esteem curriculum guidelines of financial education across countries, the purpose of investment instruction is to foster correct investment concepts rather than encourage practical speculative behaviors. Hence, it can be determined that financial education certainly is not for the purpose of speculation. Meanwhile, to align with common international curricula and integrate localized concepts for the purpose of enhancing students' practical planning abilities, this model incorporates two additional major sections beyond the standard international financial themes. which are Financial Planning and Financial Landscape.

Confusion regarding the independence of financial education from economic education often occurs and leads to misconception that financial education is not essential to be taught at school level. The CEE in the US has been engaging in economic education for nearly a century, as the content of their published curriculum guideline of financial education has explained in 2013, financial education can be considered the practical application of economics (Council for Economic Education [CEE], 2013). Providing academic and theoretical structure for making decisions regarding budgeting, saving, and investing, economic education plays an essential functional role in the modern financial market.

Remmele and Seeber (2012) had indicated that the dimensions of financial literacy and civic competence, should both be considered composition in integrative concept of economic education.

Concerns that financial education leads to students' inappropriate debt usage and subsequent over-indebtedness are also prevalent. Various empirical studies have been conducted to clarify this misidentification. Borden, Lee, Serido, and Collins (2008) had discovered that financial education through discussion method is beneficial in increasing students' financial knowledge and their sense of responsibility towards debts. Brown, Grigsby, van der Klaauw, Wen, and Zafar (2016) indicated that financial knowledge learned from financial education improves repayment behaviors and credit management among young individuals, significantly lowering default rates on mortgages, auto loans, and credit cards. Artavanis and Karra (2020) had stated that only with insufficient financial knowledge, students are more susceptible to debt risk as they underestimate future loan repayment; therefore, financial education empowers individuals to be more cautious with debt use.

It is indisputable that students should not be overburdened with excessive course loads; however, establishing financial education has now been an acknowledged international educational trend. The purpose of financial education is to enable students to establish proper financial management concepts. Whether students possess sufficient financial knowledge is decisive for fostering independence and career development; furthermore, it is essential in strengthening economic development of a country (Grable & Joo, 1998). Financial education curricula should be designed coherently to deliver comprehensive concepts through a spiral curriculum pattern to ensure both breadth and depth, including the domestic socioeconomic characteristics and the prevailing international landscape. For course instructors (especially for ones in elementary school and junior high school), their own financial knowledge and ability must be ensured. Beyond that, educational authorities should be deeply committed to the implementation of comprehensive financial education establishment.

3.2 Understanding the Importance of Financial Education

As the importance of financial education has been widely recognized, it has become a subject of extensive academic discussion, as summarized below.

In 2006, the OECD indicated that individuals are assuming greater risks regarding financial decision-making, particularly concerning saving and investment; children's education; mortgage loans; and pension preparations. Unfortunately, many individuals possess insufficient financial knowledge to navigate complex financial market and its routine; moreover, individuals usually overestimate their relevant ability and hence underestimate the coming risk. For emerging countries, the financially educated consumers indeed contribute to real economic growth, where poverty can also be alleviated for developing countries, financial education ensures that consumers maintain sufficient savings for quality retirement life, and avoid being over-indebted and bankruptcy. In 2007, the Commission of The European Communities has announced to promote financial education for European citizens' direct interest including steady consumer market and better financial services. By providing sufficient financial education to all individuals regardless of their differences in age, pay grade and occupation, social well-being can be ultimately achieved. In 2016, The European Banking Federation considers financial literacy as an essential skill for living, which helps the young to increase financial management ability and to avoid financial distress (usually occurs when own repayment capacity has been overestimated). Furthermore, by the connections between people, the positive influence may spread to whole generation.

Hogarth (2006) observed that the importance of financial education is most evident when financial distress becomes prevalent. For example, excessive debt accumulations and bankruptcy usually come with poor debt repayment and pension. Conversely, for financially literate individuals, proper saving behaviour and asset management are fundamental literacy. Lusardi and Mitchell (2011) highlighted the interrelationship between financial knowledge and proper financial planning, and indicated that holding sufficient financial knowledge leads to better saving habits and investment skills; hence living quality can be more guaranteed. Remmele and Seeber (2012) emphasized the necessity to educate students to become rational consumers, if financial knowledge gained during the school year is insufficient or incapable, future financial issues may become insurmountable. Since the current environment requires citizens to possess civic competence, this should be viewed as a component of an integrated economic education framework. Finally, Hastings, Madrian, and Skimmyhorn (2013) had used a simple two-period model to measure consumers' expected utility facing intertemporal choices and uncertainty, and had indicated that optimal outcomes are generated if holding a minimum level of financial knowledge; namely, understanding the definitions of basic financial terms such as interest rate, inflation…etc. Without sufficient knowledge, individuals cannot maximize their overall well-being. Academia frequently cites the definition of "Financial Well-Being" provided by the

Consumer Financial Protection Bureau (CFPB), which encompasses having control over day-to-day finances, the capacity to absorb a financial shock, being on track to meet financial goals, and having the financial freedom to make life choices. Based on this framework, many scholars have developed various measurement indicators (Lusardi, 2019).

4.The Establishment of Taiwan’s Curriculum Guidelines of Financial Education

From the perspective of curriculum theory, this study constructs the content of the financial curriculum and the selection and sequencing of financial knowledge. Additionally, from the viewpoint of competency-based education (CBE), it adopts competency as the unit of learning to ensure that student learning outcomes are explicit and observable. Specifically, the CBE theory served as the primary selection criterion for developing the AHP criteria hierarchy in this study. When reviewing international curriculum guidelines (such as those from Jump$tart, CEE, & OECD), items overly focused on abstract economic theories were excluded. Instead, only learning objectives that translate into "observable financial behaviors" and "actionable decisions" (e.g., executing a budget plan, analyzing a loan contract) were retained to construct the final 7 curriculum topics and their corresponding standards. This ensures that the proposed AHP hierarchy is grounded in theoretical applicability rather than mere conceptual adoption. This study has extensively synthesized financial education curricula published by organizations such as Jump$tart, the CEE, member countries of the OECD, and various state educational institutions in the US. Considering the international trend towards financial education and the actual circumstances of local national conditions, it has also sought the opinions of elementary, junior high, high school, and university teachers with practical experience in financial education. After numerous revisions, a curriculum has been compiled to meet the needs of students at different ages and educational stages, thereby extensively and deeply enhancing students' financial literacy.

The Ministry of Education in Taiwan has not established financial education as a subject or a key educational theme; instead, it is sporadically covered in subjects like social studies and home economics at the junior and senior high school levels. The Financial Supervisory Commission once compiled a learning framework for basic financial education and conducted campus outreach. However, the implementation of financial education requires the development of a comprehensive financial education curriculum to align Taiwan's financial education with international standards. This is the goal that this study aims to achieve. Financial education is yet to be considered as an essential curriculum in Taiwan. The relevant contents are delivered in the courses of civic education, economics, and home economics…etc. Although the Financial Supervisory Commission of Taiwan had compiled the learning structure for basic financial education, and had popularized in campus. However, to effectively implement financial education, a comprehensively structured curriculum is needed. The goal of this study is to promote this concept and to provide a pathway for connection of financial education between Taiwan and the world. Based on a framework similar to Jump$tart Coalition for Personal Financial Literacy (2015), Taiwan's curriculum guidelines of financial education should be organized into three components: (1) the curriculum topic, (2) the curriculum standards, and (3) the learning competence indicators. This curriculum outline adopts the principles of deepening and widening to ensure that all competency indicators are coherent and consistent. This approach facilitates students in acquiring a complete financial education and serves to strengthen the current deficiencies in the financial education curriculum.

4.1 The Curriculum Topics - Why These Terms Should Be Taught to Students?

This study proposes a tripartite curriculum structure to comprehensively and profoundly establish financial education on the basis of economic studies (as shown in Figure 1). First, the "curriculum topics" are the seven module topics mentioned earlier. Prior to reaching financial independence, children's financial responsibilities are primarily managed by parents; at this stage, proper financial management skill been cultivated gradually. Therefore, spending money rationally has become the first lesson; thus, the first module topic of this curriculum is "Spending and Accounting". The goal of this module topic starts with expecting elementary students to have proper values and the rational spending behaviours, and to identify how money inflow (family income) and outflow (cost of living and tuition fee). Thereafter, while being financially independent; namely, sustainable income can be made, waste of money can be avoided. How income source can be expanded relies heavily on one's financial knowledge and literacy. Therefore, the second module topic is determined to be "Income and Employment".

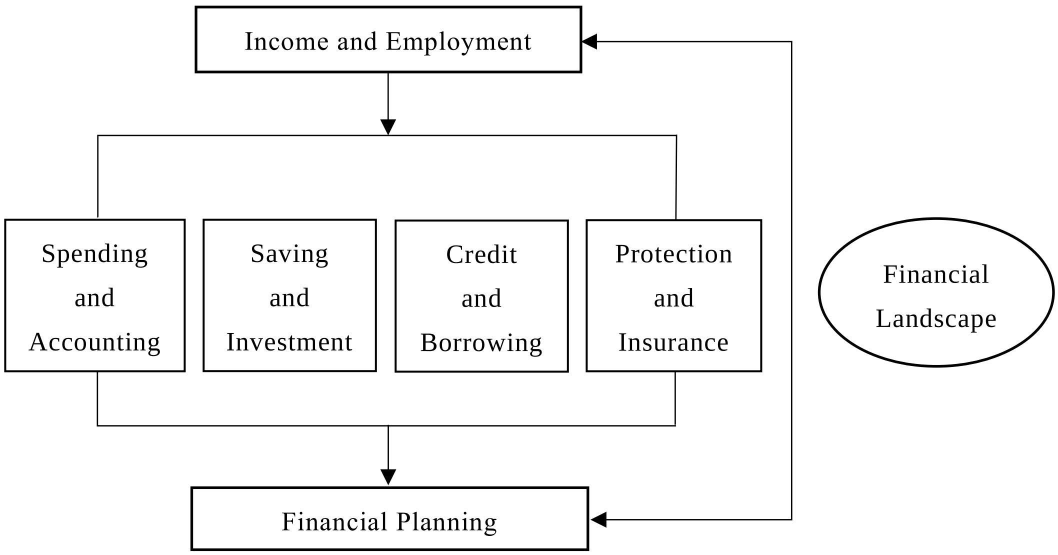

Figure 1 The Relevance Between 7 Module Topics

With stable income source as basis, in order to further accumulate wealth and reach financial goals, the cost-benefit of assets should be well-evaluated; future expenditures should be well-organized and prepared; moreover, the opportunity of creating passive income should be captured. Therefore, the third module topic is determined to be "Saving and Investment" for the purpose to achieve status mentioned above. Besides fixed incomes and investment profits, individual's financial liquidity can be enhanced through prudent debt management; namely, careful self-evaluations of credibility and repayment capacity are needed. As proper debt management leads to solid financial bases, the fourth module topic is "Credit and Borrowing". The fifth module topic is "Protection and Insurance", the goal of this unit is to let students understand their potential insurance needs. Insurance products in Taiwan are numberless, including life insurance, health insurance, disability insurance, accident insurance, mortgage insurance, car insurance, etc.; furthermore, tax mitigation can be achieved through leaver insurance portfolio. The sixth module topic is "Financial Planning", which teaches students how to dynamically engage in financial planning skills in order to better prepare for the future. The seventh and the final module topic is "Financial Landscape". Since students nowadays are living in a sophisticated financial ecosystem, they should understand the functions of it including financial products and services. In addition, students are expected to understand the connection between personal finance and macro-economy, such as government policy, economic growth, consumer protection…etc.

The ultimate purpose of the seven modules is to create “net wealth” and actualize financial independence for individual and household “through financial management”. In addition, the breadth and depth of curriculum design regarding different school ages has also been considered, and explained in detail in the next section.

4.2 The Curriculum Standards - The Compositions of Each Module Topic

Second, under each of the modules, different “learning competence indicators” were provided, which expected to be gradually improved in the future following the process to deepen and widen. In addition, the indicators should be tailored from elementary level to university level coordinating the seven curriculum topics. The curriculum for the university stage is intended for students who are not in business-related fields since it is meant to follow on from the high school curriculum. The curriculum is positioned as a general education course on financial knowledge at the university, ensuring continuity and consistency with the broader curriculum framework, which is distinct from the specialized courses of study in professional subjects. Consequently, the learning of these modules - Spending and Accounting, Saving and Investment, Credit and Borrowing, Protection and Insurance, and Financial Planning - facilitates the enhancement of financial well-being.

4.3 The Learning Competence Indicators - How Learning Competence Indicators Should be Measured?

Professors and experts were invited to assess the content validity, and rank the importance following the analytic hierarchy process (AHP), with is introduced in the next section.

5.Empirical Analyses Among the 7 Curriculum Topics and Standards

5.1 Qualitative Investigation - Assessing the Content Validity of Curriculum Standards

Based on the purposes, five to seven standards were organized under each curriculum topics, the draft of the questionnaires were preferentially sent to eight university professors with professions of economics or finance and ten high school teachers for editing, hence sufficient, credible, and independent inputs are guaranteed. The investigation in this part eliminates the inappropriate curriculum standards, the reserved ones (which approved by all professors and teachers) are listed in Table 2 below, where five curriculum standards are finalized in the first six curriculum topics, and six standards are listed in the seventh topic. By using the AHP method, the importance rankings are observed for the curriculum topics and the curriculum standards under each topic with the AHP method.

5.2 Quantitative Analysis - The Analytic Hierarchy Process (AHP) Method

The AHP method is a systemized and hierarchical design of Multiple Criteria Decision Making (MCDM) method, and the qualitative and the quantitative analysis can be jointly measured (Alsamaray, 2017；Saaty, 1980). The AHP process decomposes the influencing factors into multiple evaluation criteria. To begin with, the factors in the first level of criteria hierarchy have to be decomposed regarding their characteristics and corresponding goals to achieve; furthermore, based on the inter dependences under each criterion, sub-criteria are further decomposed as the second level of criteria hierarchy. Successively, a hierarchical structure with order factorial can be built. By the matrix analysis, the weights, which indicating the importance level, of each criterion (curriculum topic) and sub-criteria under (curriculum standard) can be calculated. Thereafter, the basis for property evaluations and alternatives can be obtained for curriculum design (Saaty, 2008).

Table 2　Proposed Curriculum Topics and Standards

Topics	Standards
I. Spending and Accounting	1. Understanding the value of money and usage of it. 2. Engaging in making choices. 3. Understanding the cost and expenditure for daily livings. 4. Identifying the causes of expenditure. 5. Using tools and skills to record and preserve financial condition.
II. Income and Employment	1. Identifying different types of occupation and business. 2. Comparing and contrasting the income source from different occupation or staring own business. 3. Understanding that professional trainings are different regarding different occupation. 4. Understanding employees' welfare, rights and interests, and responsibilities. 5. Using resource for business planning.
III. Saving and Investment	1. Understanding purpose and features of saving and investment. 2. Understanding the nature and the trading mechanism of investment products. 3. Evaluating benefit-risk for different types of investment products. 4. Achieving financial goals by saving and investment. 5. Obtaining sufficient information for investment decision-making.
IV. Credit and Borrowing	1. Understanding features and benefits of different types of debt and credit. 2. Understanding authority and responsibility as the borrower. 3. Identifying the methods of application, repayment, and the cost of different of types debt and credit. 4. Organizing the repayment plan properly based on the determined financial goals. 5. Adopting regulations and instruments for dent repayment and dispute resolution.
V. Protection and Insurance	1. Identifying causes and possible consequences of risks generated. 2. Understanding the type and the features of various insurance products. 3. Overviewing the application method, coverage, cost, and payment of insurance products. 4. Reducing risk by using proper financial strategies. 5. Understanding insurance products and services provided by financial institutions.
VI. Financial Planning	1. Identifying different factors and influences affecting financial planning. 2. Understanding that financial planning is affected by financial literacy. 3. Delivering financial goals and decisions for individuals or households. 4. Using financial skills to budget; and to evaluate and revise repeatedly. 5. Donating to charity, public welfare or social organizations.
VII. Financial Landscape	1. Understanding financial services provided by financial institutions. 2. Understanding public services taxation system of the government. 3. Evaluating how government policies influence economic conditions. 4. Identifying financial frauds and illegal actions and respond wisely. 5. Understanding laws and resources to protect consumer rights. 6. Understanding how financial planning is influenced by domestic and international economic changes.

By enumerating and hierarchizing relevant influencing factors, the AHP method structuralizes the evaluation process of complex decision making; meanwhile, factors in each level of criteria hierarchy are provided with independence. While evaluation is being proceeded, the absolute measurement scale can be transformed in to relative measurement scale, and comparison matrices of different evaluations and alternatives can be built. After the pairwise comparisons (of matrices) haven been done, through the positive reciprocal matrices, the assessed values of each property and alternative regarding their relative importance weights can be calculated. Finally, after solving the matrix’s eigenvalue λ_max and the eigenvector W=(w_1,w_2,…w_n), a consistence test has to been proceeded. (Lee, Chen, & Chang, 2008；Saaty, 1980) The formulations regarding the matrix are written as follows:

$$W = \begin{bmatrix} w_1/w_1 & w_1/w_2 \dots w_1/w_n \\ w_2/w_1 & w_2/w_2 \dots w_2/w_n \\ \dots & \dots \quad \dots \quad \dots \\ w_n/w_1 & w_n/w_2 \dots w_n/w_n \end{bmatrix} \begin{bmatrix} w_1 \\ w_2 \\ \dots \\ w_n \end{bmatrix} \tag{1}$$

$$(A - nI)W = 0 \tag{2}$$

$$\lambda_{max} = \frac{1}{n}\left(\frac{W_1^{`}}{W_1} + \cdots + \frac{W_n^{`}}{W_n}\right) \tag{3}$$

Where A is the comparison matrix; W is the eigenvector; W' is a new eigenvector solved from AW. As the purpose of this study is identify the importance ranking among the curriculum topics and standards in Taiwan’s financial education, the adoption of the AHP method is appropriate since such methodology not only highlights the concepts and suggestions provided by professors and experts, it is beneficial for organizing materials for curriculum developers and course instructors under limitation of resource. If learning objectives can be properly assigned along with curriculum design and execution, the establishment of financial education can be more efficient.

The importance ranking is examined by pairwise comparison in the AHP method, and works as basis to calculate the “weights” of each curriculum topic and standard. For each sample under same level of criteria hierarchy, through the Normalization of the Geometric Mean of the Rows (NGM), the weights corresponding each topic can be calculated. Thereafter, by further calculating the geometric mean for each weight, the weight portfolio for whole sample can be observed and be the basis for importance ranking. If any estimated importance ranking from interviewees has changed, the weight portfolio might be miscalculated which leads to biased importance ranking; therefore, to proceed the consistence test is considered necessary (Alsamaray, 2017；Saaty, 1980). The consistence test adopts the consistency index (CI) and the consistency ratio (CR) as the standard to examine the consistency of the importance ranking among interviewee responses. If the CR value is less than 0.1, the responses are determined “consistent”; on the contrary, if the CR value is larger than 0.1, the responses are determined “inconsistent.”

To rank the importance of criteria in the financial education curriculum, a two-stage expert consultation was implemented in this study.

First, in the qualitative phase, the content validity and practical feasibility of the initial curriculum standards were evaluated. 10 high school teachers and 8 university professors were invited to review and refine the proposed standards. Their feedback ensured that the finalized curriculum standards (as shown in Table 2) were highly applicable to actual teaching environments.

Subsequently, in the quantitative phase, a questionnaire for the AHP analysis was designed to determine the relative importance weights of the established criteria. To manage manuscript length and respond to reviewer suggestions, a condensed sample of the AHP pairwise comparison questionnaire is provided in the Appendix. From left to right, the intensities of importance given orderly are: <Extreme important>: 9 points for the left; <Very strong more importance>: 7 points for the left; <Essential of strong importance>: 5 points for the left; <Moderate importance of one over another>: 3 points for the left; <Equal importance>: 1 point for both sides; <Moderate importance of one over another>: 3 points for the right; <Essential of strong importance>: 5 points for the right; Very strong more importance>: 7 points for the right; <Extreme important>: 9 points for the right.

In the purposive sampling for the AHP phase, 30 questionnaires were distributed exclusively to academic experts specializing in economics and finance across various universities in Taiwan. Among the 25 questionnaires returned, 2 failed the consistency test and were removed, resulting in an effective sample size of 23 academic experts (as shown in Table 3). The Consistency Ratio (CR) values for these respondents fall between 0.052 and 0.098, indicating that the consistency of the matrices is within an acceptable range and the weight calculation results are valid.

Table 3 Summary Table of Respondent Information (N=23)

Institutions	Economics Expertise	Financial Expertise	Current Position
National University / National University of Science and Technology	6	6	Professor Associate Professor Assistant Professor
Private University / Private University of Science and Technology	5	6	Dean Department Head Professor Associate Professor Assistant Professor

This specific sample composition focuses on establishing a rigorous theoretical foundation for the curriculum through expert academic judgment. While the practical feasibility was ensured in the preceding qualitative phase, the AHP weighting was specifically conducted by senior scholars to ensure the academic soundness and systematic integration of the curriculum modules. As a large sample size is not deemed to be necessary to properly estimate with the AHP method according to the advanced literatures (Teng, 2005；Schmidt, Aumann, Hollander, Damm, & Schulenburg, 2015), a sample size of 23 is considered sufficient and effective from the viewpoint of this study. A summary table of respondent information is offered in the following.

5.3 Empirical Results - From the AHP Analysis

(1) The Importance Ranking of the 7 Financial Education Curriculum Topics

The importance ranked by university professors is listed below in Table 4, the weights (importance) of the 7 curriculum topics orderly are: “Financial Planning (15.9%)”, “Saving and Investment (14.9%)”, “Protection and Insurance (11.9%)”, “Income and Employment (9.5%)”, “Credit and Borrowing (9.1%)”, “Spending and Accounting (8.6%)”, and “Financial Landscape (7.6%).” Regarding the educational implications of this ranking, first, the significance of financial planning education lies in guiding students to view income, spending, saving, investment, credit, and insurance as an integrated system. It teaches them how to set goals for various life stages and formulate specific financial strategies, which is why it is the focal point mutually recognized by experts. Second, saving and investment cultivate future-oriented thinking, where current consumption is foregone for the sake of future goals; this trains learners to establish a habit of "futuristic" thinking. Third, protection and insurance foster risk management, which represents education on "uncertainty". It helps students recognize that life is full of risks (such as accidents and illnesses) and that insurance is a tool to transfer risk through a "mutual aid" mechanism to protect oneself and loved ones.

Furthermore, income and employment link personal value with social contribution. The goal of this education is to guide students to perceive "income" as a reward for the value their skills, knowledge, and labor provide to society, thereby helping them explore future career interests and life planning. While the financial landscape provides knowledge and spending management involves operational skills, only financial planning serves as a decision-making framework. It determines short, medium, and long-term goal setting, asset allocation directions, life stage transition strategies, and the prioritization of choices. Without a planning framework, knowledge merely becomes fragmented information. Therefore, the differences in importance among these topics are clearly understandable.

The result suggests the most and the second-most important topics are “Financial Planning” (15.9%) and “Saving and Investment” (14.9%). This empirical finding strongly aligns with the theoretical assertions of Lusardi and Mitchell (2011), who emphasize that financial knowledge must be actively integrated into "planning behaviors" to effectively generate household financial well-being. While “Financial Planning” is a lifetime skill that does not fade through time, “Saving and Investment” is essential for building financial basis. Bernheim, Garrett, and Maki (2001) had denoted that, for adult individuals, if financial knowledge was obtained during their student period, accumulations of wealth and savings are easier to be made. Volpe, Chen, and Liu (2006) also indicated that sufficient funds are essential for long run allocation. Also, “Credit and Borrowing” usually has been discussed together. Brown, Collins, Schmeiser, and Urban (2014) pointed out that if students have been financially well-educated in high-school-period, their credit scores are significantly higher, where default rates are lower. Although Peng, Bartholomae, Fox, and Cravener (2007) suggested no significant relation between financial knowledge and high school financial education, its relationship with university financial education is significant and prominent. And the difference regarding this phenomenon caused by whether students have been financially independent or not. Proportionally, more university students make money from part-time or intern jobs; therefore, the saving habits and other financial management skills and knowledge are needed more.

Table 4 Importance Ranking of Proposed Financial Curriculum Topics

Topic	Geometric Mean	Ranking	Max.	Min.	S.D.
Spending and Accounting	8.6%	6	0.40	0.02	0.13
Income and Employment	9.5%	4	0.38	0.02	0.10
Saving and Investment	14.9%	2	0.37	0.05	0.10
Credit and Borrowing	9.1%	5	0.30	0.03	0.08
Protection and Insurance	11.9%	3	0.40	0.05	0.10
Financial Planning	15.9%	1	0.43	0.05	0.09
Financial Landscape	7.6%	7	0.37	0.02	0.11

The bottom two topics are “Spending and Accounting” and “Financial Landscape” (7.6%). Regarding these lower-ranked topics, the ranking reflects the CBE principle of prioritizing actionable skills over abstract knowledge. Hastings et al. (2013) emphasize that financial literacy is closely related to individuals’ ability to manage personal financial resources and make effective financial decisions, including understanding financial products, inflation, compounding, diversification, credit scores, and financial planning. From this perspective, experts may reasonably assign higher priority to foundational, actionable personal finance skills than to broader macro-level financial knowledge in a basic financial education curriculum.

Their higher standard deviation values imply that interviewees’ opinion are divergent. For “Spending and Accounting”, in Taiwan, traditionally it is believed to be enough for students to be taught from parents and public influence; however, the world experience has proven that it is insufficient. “Financial Landscape” includes advanced economic and financial concepts, such as economic structure, government tax policy, interest rate mechanism, fiscal and monetary policy, which can correctly learned from professional education, but the necessity to include them in a standardized financial education curriculum seems to be arguable.

(2) The Importance Ranking of the Proposed Financial Education Curriculum Standards Under Each Topic.

I. Spending and Accounting. From the empirical results, “Understanding the value of money and usage of it.” is the most important sub-criterion under this topic (as shown in Table 5 below in the middle section) with the 19.7% weight, suggesting that building understands and responsibilities towards money is a basic but most essential literacy. The second important sub-criterion is “Using tools and skills to record and preserve financial condition” with a weight of 18%. In other words, students are expected to monitor and manage their financial activities such as saving and consuming.

II. Income and Employment. “Understanding that professional trainings are different regarding different occupation” is the most important sub-criterion under this topic with 23.3% weight. For recent graduates, occupation selection certainly matters; regardless of which, being adequately prepared before graduation is paramount. Second, “Understanding employees’ welfare, rights and interests, and responsibilities” is the second important sub-criterion with 19.6% weight. Understanding the concepts of this sub-criterion is helpful for students to avoid being treated unfairly in the workplace. In fact, students must understand essential legal protections and redress for self-protection.

III. Saving and Investment. The invited university professors suggest that “Obtaining sufficient information for investment decision-making” is the most important sub-criterion; whilst, “Understanding the nature and the trading mechanism of investment products” is the least important one. For students or any individual who invest, to obtain sufficient information and to carefully evaluate are the priorities. Cole, Paulson, and Shastry (2012) had suggested that knowledge delivered from financial education increases investment earning, and also brings efficient financial management skills. Nevertheless, understanding complex trading mechanisms may be strenuous for non-specialists and disconnected from daily life; thus, this sub-criterion is considered less critical.

IV. Credit and Borrowing. The two most important sub-criteria are “Understanding authority and responsibility as the borrower” and “Organizing the repayment plan properly based on the determined financial goal” with 21.5% and 17.6% weights. In fact, these sub-criteria are interrelated. Following the “Principle for Financial Service Industries to Treat Clients Fairly”, financial institutions should legally, properly, and fairly provide loans to borrowers. Conversely, borrowers must understand factors like interest rates and repayment capacity. To maximize the utility of loans, fund flow should be monitored; financial management ability should be enhanced; and the most important of all, debt problems of all kinds must be avoided. Hirad and Zorn (2001) had discovered that consulting course provided prior to real estate purchasing for households are effective in decreasing default rate; similarly, the credit counseling improves loaning behaviours and increasing credit scores.

V. Protection and Insurance. In the internet era, consequences of risk and corresponding strategies can be easily obtained, where proper solutions and strategies can be made in advance. University professors therefore think that the most important sub-criterion is "Reducing risk by using proper financial strategies" instead of "Identifying causes and possible consequences of risks generated."

VI. Financial Planning. The "Financial Planning" is considered the most important curriculum topic than six others, which works as a behaviour guidance, includes the abilities of comprehensively absorbing and organizing information, strategy making, and goal setting, etc. "Delivering financial goals and decisions for individuals or households" is the most sub-criterion in this topic with 28.1% weight. For most individuals, responsibility to family fund grows through time; therefore, their skills and techniques regarding financial management, such as evaluation based on information received and account balancing, should be repeatedly practiced and improved. Thus, "Using financial skills to budget; and to evaluate and revise repeatedly" is the second most important sub-criterion determined under the topic.

VII. Financial Landscape. Financial frauds and crimes are common in recent years, and have been evolving and become harder to identify and avoid through time. Hence, students are expected to preferentially accomplish the criterion of "Identifying financial frauds and illegal actions and respond wisely." As Taiwan's economy is highly integrated with other countries, to understand economic changes either domestically or international, and to broaden the global perspectives should be fundamental for students. "Understanding how financial planning is influenced by domestic and international economic changes." Is also considered an important criterion.

Table 5 Importance Ranking of Financial Standards Under Topics I~VII

Topic	Standards	Individual		Overall	
		Geometric Mean	Ranking	Geometric Mean	Ranking
I	1. Understanding the value of money and usage of it.	0.20	1	0.02	15
	2. Engaging in making choices.	0.09	5	0.01	34
	3. Understanding the cost and expenditure for daily livings.	0.15	3	0.01	21
	4. Identifying the causes of expenditure.	0.14	4	0.01	23
	5. Using tools and skills to record and preserve financial condition.	0.18	2	0.02	17
II	1. Identifying different types of occupation and business.	0.08	5	0.01	33
	2. Comparing and contrasting the income source from different occupation or staring own business.	0.14	3	0.01	20
	3. Understanding that professional trainings are different regarding different occupation.	0.23	1	0.02	7
	4. Understanding employees' welfare, rights and interests, and responsibilities.	0.20	2	0.02	13
	5. Using resource for business planning.	0.12	4	0.01	26
III	1. Understanding purpose and features of saving and investment.	0.12	4	0.02	14
	2. Understanding the nature and the trading mechanism of investment products.	0.08	5	0.01	25
	3. Evaluating benefit-risk for different types of investment products.	0.17	3	0.03	5
	4. Achieving financial goals by saving and investment.	0.19	2	0.03	4
	5. Obtaining sufficient information for investment decision-making.	0.22	1	0.03	3

Continued the following Table

Continued Table 5

IV	1. Understanding features and benefits of different types of debt and credit.	0.12	4	0.01	27
	2. Understanding authority and responsibility as the borrower.	0.22	1	0.02	11
	3. Identifying the methods of application, repayment, and the cost of different of types debt and credit.	0.13	3	0.01	22
	4. Organizing the repayment plan properly based on the determined financial goals.	0.18	2	0.02	16
	5. Adopting regulations and instruments for dent repayment and dispute resolution.	0.12	5	0.01	28
V	1. Identifying causes and possible consequences of risks generated.	0.18	2	0.02	8
	2. Understanding the type and the features of various insurance products.	0.16	3	0.02	12
	3. Overviewing the application method, coverage, cost, and payment of insurance products.	0.12	4	0.02	18
	4. Reducing risk by using proper financial strategies.	0.21	1	0.03	6
	5. Understanding insurance products and services provided by financial institutions.	0.10	5	0.01	24
VI	1. Identifying different factors and influences affecting financial planning.	0.13	4	0.02	10
	2. Understanding that financial planning is affected by financial literacy.	0.13	3	0.02	9
	3. Delivering financial goals and decisions for individuals or households.	0.28	1	0.05	1
	4. Using financial skills to budget; and to evaluate and revise repeatedly.	0.22	2	0.03	2
	5. Donating to charity, public welfare or social organizations.	0.06	5	0.01	30

Continued the following Table

Continued Table 5

VII	1. Understanding financial services provided by financial institutions.	0.13	4	0.01	32
	2. Understanding public services taxation system of the government.	0.08	6	0.01	36
	3. Evaluating how government policies influence economic conditions.	0.09	5	0.01	35
	4. Identifying financial frauds and illegal actions and respond wisely.	0.19	1	0.01	19
	5. Understanding laws and resource to protect consumer rights.	0.13	3	0.01	31
	6. Understanding how financial planning is influenced by domestic and international economic changes.	0.14	2	0.01	29

(3) The Summative Importance Ranking of the Proposed Financial Education Curriculum Standards Across All Topics.

Calculating the global weights (using geometric means) of each curriculum standards and their affiliated topics, the summative importance ranking across all curriculum standards were calculated and listed in the right section of Table 5 below. The topic VI - "Financial Planning" is considered as the most important curriculum topic by the invited university professors. The two most important curriculum standards within are "Delivering financial goals and decisions for individuals or households" and "Using financial skills to budget; and to evaluate and revise repeatedly", the total weights are 4.5% and 3.4%, respectively. The results suggest that systematic goal-setting and planning are the fundamental but essential in financial management. Beginning with understanding own financial conditions and discovering items in the balance sheet that needed to be adjusted, the individual financial goal may gradually connect household financial goals. Through proper financial planning, such rational use of income and efficient allocation of assets, financial goals are easier to be actualized.

In the modern society, individuals and households are more obligated to ensure their own financial conditions; for example, relying only on social benefits, company welfare, and pension plan, personal financial well-being for retirement life cannot be promised (Lusardi, 2015). According to Life-Cycle Permanent Income Model proposed by Malley and Molana (2002), decision-making on money usages is a life-time assignment; specifically, the preparations for pension and retirement are complex and time-consuming. Individuals should start planning preferentially, absorption for all relevant information, confirmation of necessary skills and knowledge, should all be learned.

The 3rd to the 5th curriculum standards are all affiliated with each other under the topic III - “Saving and Investment”, which orderly is “Obtaining sufficient information for investment decision-making”; “Achieving financial goals by saving and investment”; and “Evaluating benefit-risk for different types of investment products.” To achieve financial goals, accumulating wealth by investing on earning assets is considered feasible. Nonetheless, relevant risks, evaluations, and the source of profit must all be carefully assessed. Above all, for the purpose of achieving ideal lives, all relevant actions have to be taken.

In fact, financial knowledge and financial planning are significantly affiliated as well since basic financial knowledge works as the foundation stone to plan on savings, investments, and preparations for future lives (Lusardi & Mitchell, 2011). Such statement is supported by the empirical results of this study, considering that the topic III and the topic VI are the two most important curriculums advised.

In the topic VII - “Financial Landscape”, the two curriculum standards,” Evaluating how government policies influence economic conditions “and “Understanding public services taxation system of the government”, are over theoretical; isolated from real-life experience; and too strenuous for students and non-specialists. Therefore, such governmental concept-like curriculums are the least important, whether they are essential for students to learn in school education is arguable.

6.Conclusion and Recommendations

In this study, after integrating the opinions of multiple experts and considering the localization characteristics, the designed financial education curriculum includes seven topics with detailed standards, which is expected to be a guideline for comprehensive financial education establishment in Taiwan. By the AHP method, the results based on the opinions of invited university professors and experts indicate that “Delivering financial goals and decisions for individuals or households” and “Using financial skills to budget; and to evaluate and revise repeatedly” are the two most important curriculum standards; namely, financial goal-setting and planning are considered fundamental but prior for students to learn, to ultimately achieve financial well-being either as an individual or a household. In the future, not only the learning competence indicators can be deepened and widened by inviting teachers of all levels for investigation. Ultimately, the curriculum outline can be more comprehensive and applicable to more levels of study, where national financial literacy can be improved. The primary objective of this study is limited to the development of a financial education curriculum guideline; it does not involve the incremental construction across various educational stages. While such an undertaking requires substantial human and material resources, it is a task of paramount importance and represents a crucial direction for future research and development. Furthermore, distinct weighting designs should be developed for different educational stages, complemented by tailored course hours and content to meet the specific needs of students at each level. This also constitutes a primary objective for future research.

Establishing financial education has now been acknowledged as an educational trend worldwide, and has been proven to effectively deliver trainings of logical thinking and integrative economics concept to populations (Remmele & Seeber, 2012). If economic development and social stability can be improved, social cost can also be reduced (Hogarth, 2006). As decent financial literacy eventually improves national quality regarding human resource, national competitiveness can be strengthened (Bernanke, 2012；Lusardi & Mitchell, 2014). Pioneering financial education can be dynamically adjusted corresponding global economy changes, and hence to broaden society’s global perspectives. To accomplish this goal, relevant authorities should be dedicated to the establishment, the promotion, and the policy making for better financial education quality.

The above AHP analysis only ranks the importance of the overall curriculum. Future research can involve university professors and teachers at various levels to evaluate and rank the curriculum across different age groups, conduct cross-age thematic analyses with the Financial Supervisory Commission's financial courses, focus on the differences between age groups, and present an age-appropriate curriculum framework.

The survey respondents of this study are primarily concentrated among university professors and some secondary school teachers, which results in strengths such as a strong theoretical orientation and an emphasis on conceptual integrity. However, this approach lacks observations regarding student learning motivation, comprehension levels, classroom time constraints, the operability of teaching materials, and the ability to distinguish between correct and incorrect practical decisions. Furthermore, issues regarding external validity may arise. These are all challenges that need to be addressed in future research. While comprehensive financial curriculum outline is essential, well-choreographed teaching materials, professional and enthusiastic instructors are certainly indispensable to actualize the so-called “quality education”. In addition, advanced education and training of financial theory and practice can be established for instructors as well. Specifically, a platform where instructors may gain more knowledge from experience exchanges can be built. Meanwhile, further study loads for students should be avoided.

There are numerous constraints in the implementation of the financial education curriculum, which this study discusses from four perspectives. First, at the institutional level, existing subject hours are highly saturated, and the exam-oriented orientation of the education system often compresses the content of non-exam subjects. Consequently, financial education is frequently categorized as a "supplementary" or "integrated" topic, making it difficult to implement the curriculum systematically. Second, regarding curriculum positioning, financial education may be placed within civics, integrated activities, home economics, or mathematics. The lack of a clear lead subject leads to the fragmentation of instructional content. Third, at the policy priority level, current educational policies do not list financial education as one of the core competencies; thus, there is a lack of support for the development of teaching materials and insufficient assessment mechanisms. Finally, the insufficient financial literacy of teachers is one of the most critical bottlenecks. Most teachers did not receive systematic financial education during their university or teacher training stages. If teachers themselves are unfamiliar with concepts such as investment, insurance, and planning, they will be unable to conduct in-depth case studies or answer students' spontaneous questions, thereby failing to help students establish correct financial concepts. Only by overcoming these constraints related to systems, people, and resources can financial education truly transition from a slogan into a core competency for students.

If consistent implementation can begin from the junior high school stage, emphasizing student understanding and practice, the teaching of financial education can be effectively realized. Literature has confirmed that financial attitudes influence financial behaviors; thus, financial education aims not only to increase students' financial knowledge but also to cultivate correct attitudes, including perspectives on money, consumption, and debt. Therefore, through well-designed curricula and scales, combined with the implementation of practical teaching materials, progress can gradually be observed. If quality financial education can be received by the general public, whose financial knowledge and literacy can be fostered, the benefits are shared by more than individuals, household finance and even national economy can be strengthened gradually. Not only can financial distress be avoided if holding decent financial management skill, social cost can be reduced as individuals’ and households’ wealth can be accumulated through proper investment strategies and pension preparations. Ultimately, as many advanced researchers have indicated, social and economic stability can be achieved.

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Appendix: Condensed Sample of the AHP Questionnaire

(Note: This appendix presents a condensed sample of the 15-page AHP pairwise comparison questionnaire used in this study. The complete instrument applies this identical structure across all 7 main topics and their respective sub-criteria.)

Part I: Instruction and Assessment Scale

This questionnaire was developed based on the Taiwan Financial Education Curriculum Guidelines. Please refer to the attachment for the contents of the curriculum guidelines. The items listed on the left and right sides represent major topic areas or curriculum standards. For each pairwise comparison, please indicate which item you consider to be more important. In each pairwise comparison, different weights are assigned to reflect the relative importance of the two items. Four levels of importance are used: 3, 5, 7, and 9. If the two items are considered equally important, a weight of 1 should be assigned. If the item on the left is more important, please select the corresponding weight on the left side. If the item on the right is more important, please select the corresponding weight on the right side. For example, when comparing “Topic I: Spending and Accounting” with “Topic III: Saving and Investment,” if you believe that “Topic III: Saving and Investment” is more important and that it is strongly more important in relative terms, please select the third option on the right-hand side, corresponding to a weight of 5.

Scale: 1 = Equal Importance; 3 = Moderate Importance; 5 = Strong Importance; 7 = Very Strong Importance; 9 = Extreme Importance.

Part II: Sample Pairwise Comparison of the 7 Main Topics (Level 1 Hierarchy)

(Instruction: Please evaluate the relative importance between Topic I and Topics II-VII.)

Appendix Table 1 Sample Pairwise Comparison of the 7 Main Topics

Criterion A	9	7	5	3	1	3	5	7	9	Criterion B
Spending and Accounting	□	□	□	□	■	□	□	□	□	Income and Employment
Spending and Accounting	□	□	□	□	□	■	□	□	□	Saving and Investment

(Note: The full 15-page questionnaire follows this identical structure for all pairwise comparisons across the 7 topics and their respective sub-criteria.)

Part III: Sample Pairwise Comparison of Curriculum Standards within a Topic (Level 2 Hierarchy)

(Instruction: Please evaluate the relative importance between the curriculum standards within "Topic III. Saving and Investment".)

Appendix Table 2　Sample Pairwise Comparison of Curriculum Standards within a Topic

Standard A	9	7	5	3	1	3	5	7	9	Standard B
1. Understanding purpose and features of saving and investment.	□	□	□	□	□	■	□	□	□	2. Understanding the nature and the trading mechanism of investment products.
1. Understanding purpose and features of saving and investment.	□	■	□	□	□	□	□	□	□	3. Evaluating benefit-risk for different types of investment products.
(...Remaining standard comparisons omitted for brevity...)										

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