

The Impact of Financial Literacy of Elementary School Teachers on Financial Literacy Education

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Abstract. Using unique data from a sample of Taiwanese elementary school teachers, this paper examines the impact of financial literacy on teachers' financial literacy education. Results indicated that there is a positive correlation between financial literacy and financial literacy education. Furthermore, elementary school teachers underlying this study, as a group, show medium-high levels of financial literacy. Teachers generally believe that current elementary school textbooks cannot cultivate sufficient financial management knowledge in elementary school students, suggesting the unsuitability of financial management education curricular materials for elementary school teachers. Finally, the results showed that elementary school teachers did not demonstrate significant differences in "education," "college major," "number of years teaching social studies," or "school location" in terms of financial literacy as well as financial literacy education.

Keywords: Financial Literacy, Financial Literacy Education, Elementary School

1. Introduction

Experts in investment and financial management often say that ignorance is the greatest risk in investment and financial management. Thus, it is known that when carrying out financial management there should be considerable cultivation of financial management knowledge. Jump\$Start Coalition (2007) in the United States has pointed out that financial literacy is the usage of knowledge and capabilities to effectively manage an individual's financial resources, in turn achieving the purpose of financial security in life. Financial management literacy is the knowledge, capabilities, and decision-making ability of an individual in money management. Financial literacy and money values do not just influence personal life, but also affect national economic and social stability. In 2005, OECD published a book about the enhancement of personal economic security consciousness and financial management responsibilities. The book points out that elevation of personal financial literacy can lower the personal risk of poverty, as well as promote national economic development. Bakken (1967) also argued that lack of financial literacy in students is because they have not received good financial management education. Greenspan (2002), former chairman of the United States Federal Reserve, and Hsueh (2007), current chairman of the Taiwan Stock Exchange, both suggested that students should enhance education of financial literacy for students, so they can better understand financial management problems, and to prevent incorrect financial decisions in the future.

To better enhance financial literacy of citizens, many advanced countries have already begun financial management education for their citizens and students. For instance, the United States Department of the Treasury established Office of Financial Education in 2002, which has not only worked hard for promoting financial management education to adults, but have also promoted financial management education for students, even hosting stock market simulation competitions and courses from elementary school to university starting in 1977. In addition, the private organization Jump\$Start Coalition has actively promoted financial curricular guidelines from kindergarten to high school (K-12). In financial management education in Japanese schools, Japan Securities Dealers Association and Tokyo Stock Exchange Group provided

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financial management instructional materials for students in elementary school through university, and in 1996, released an investment competition simulation course to enhance students' financial literacy.

To conclude, from other countries to Taiwan, from scholars, experts, to government officials, almost everyone affirmed the importance of financial management education, and believe that the government should play the role of active intervention, incorporating investment and financial management into the official curriculum starting in elementary school, and train students to have good financial literacy by cultivating their money management and usage concepts. Even though the Ministry of Education of Taiwan began incorporating financial management education into elementary school curriculum guidelines in 2011, past empirical studies have indicated that elementary and junior high school teachers also have the problems of insufficient financial management knowledge and few opportunities for on-the-job study and advancement. As such, the present study inferred that the financial literacy education of teachers may be affected by their personal financial literacy. In this study, elementary school teachers in Taiwan were used as research subjects to examine the impact of financial literacy on teachers' financial literacy education. Results indicated that there is a positive correlation between financial literacy and financial literacy education. These results can add to work in this area and can serve as a reference for later policies established by the government.

2. Literature Review

2.1 Financial Literacy

Rejda and McNamara (1998) suggested that financial management is the establishment of comprehensive plans based on definitive financial objectives in order to achieve them. Chen and Volpe (1998) mentioned that the content of financial literacy should be divided into the four areas of general financial management knowledge, savings and loans, insurance, and investment. Financial Service Authority (2006) divided financial literacy into four types of budget, expenditure, products, and information. Widdowson and Hailwood (2007) indicated that financial literacy includes basic computation ability, understanding the yields and risks of financial decisions, familiarity with basic financial management concepts, knowing the channels for consultation and assistance, and the ability to understand the content of suggestions. In sum, financial literacy includes the following three areas: general financial management knowledge, the ability to search for and understand financial management information, and the decision-making and responsibility in financial management.

2.2 Financial Literacy Education

Construct refers to an individual's perceptions, ideals, and values in regards to something and its associated traits, as well as the role and behavioral inclinations in which the individual engages. The construct of financial literacy education of teachers refers to the perceptions, ideals, and actual actions of individual teachers in regards to financial literacy education. Prior literature points out that financial literacy education of teachers may be affected by demographic variables (e.g., gender, age, education, college major, subject currently teaching, and socioeconomic status).

3. Methodology

3.1 Measures

This study used the self-compiled "Financial Literacy and Financial Literacy Education Questionnaires" as the measurement tool, and collected data on variables in three parts: demographic variables (including gender, age, education, college major, number of years teaching, number of years teaching social studies, school location, and school size), elementary school teacher financial literacy questionnaire, and elementary school teacher financial literacy education questionnaire. Questionnaire design is based on literature review and reference to questionnaires in related studies to establish the questionnaire's content validity. In addition, related scholars and experts were invited to evaluate and modify the questionnaire content to establish expert validity. The questionnaire used Likert 5-point scale to record points to the responses. This study first carried out a pre-test, and then analyzed the items and made related changes. Results of reliability analysis showed that the two Cronbach α values for pre-test questionnaires of both financial literacy and financial literacy

education are over 0.9 (high reliability), thereby sufficing to serve as the basic framework of the official questionnaire.

With regard to questionnaire construct validity, the values of KMO and Bartlett's sphericity test (chi-square) for "Financial Literacy Questionnaire" and "Financial Literacy Education Questionnaire" are significantly different from zero, suggesting they are suitable for conducting factor analysis. Factor analysis is conducted using principal component analysis, and Varimax method is used to conduct orthogonal rotation, using the extraction principle of eigenvalue greater than 1 to extract the dimensions, and variables with factor loading greater than 0.4 were used as the considerations in naming dimensions.

"Financial Literacy Questionnaire" consists of 31 question items divided into 6 factors: financial planning and responsibility (6 items), banking-related business (6 items), issues in economic policy (8 items), tax and insurance planning (5 items), investment, insurance, savings (3 items), consumer finances (3 items). The individual explained variances are 13.5%, 11.6%, 11.2%, 11%, 7.3%, 6.4%, the total explained variance is 61%, showing that the extracted factors have sufficient representativeness. The questionnaire's overall reliability Cronbach's $\alpha=0.95$, which is high reliability. "Financial Literacy Education Questionnaire" consists of 28 question items divided into 3 factors: importance of financial education (12 items), instructional design and evaluation (11 items), accommodating financial education (5 items); the individual explained variances are 26.3%, 21.7%, 9.6%, the total explained variance is 57.6%; the questionnaire's overall reliability Cronbach's $\alpha=0.9$.

3.2 Sample and Data Collection

This study treated 400 public elementary school teachers each in Taipei City and Yuanlin County as research subjects, and used convenience sampling to release the questionnaires. A total of 800 questionnaires were released, and 515 were retrieved. After eliminating invalid questionnaires, the number of valid questionnaires was 494, with valid retrieval rate of 62%. After encoding and filing, the valid questionnaires were analyzed using descriptive statistics, factor analysis, validity analysis, reliability analysis, *t*-test, one-way ANOVA, and canonical analysis.

4. Empirical Results

4.1 Results of Descriptive Statistical Analysis

4.1.1 Results of Analysis of Sample Demographic Variables

Most of the teachers under study are female, primarily in the age group 30-40; the education of most is a non-social studies education major in teaching colleges and universities; the number of years teaching and number of years teaching social studies for most are between 6-10 years and under 5 years; in terms of occupation, most are purely homeroom teachers; most work in schools with between 25-48 classes.

4.1.2 Analysis of Elementary School Teachers' Financial Literacy

In the 31 items on financial literacy questionnaire, the top three items with the highest scores are "I know that financial management tools with higher yield would also have higher risks," "I know about different savings methods, such as: certificates of deposit, small savings for lump sum withdrawal, and others," and "I understand how to maximize the value of money through comparative shopping." The bottom three items with the lowest scores are "I understand the meaning of the Wholesale Price Index published by the Directorate General of Budget, Accounting and Statistics)," "I understand the meaning of monitoring indicators published monthly by the Council for Economic Planning And Development," and "I understand the various financial management information in financial newspapers and magazines."

4.1.3 Elementary School Teachers' Financial Literacy Education

In the 28 items on financial literacy education questionnaire, the top three items with the highest scores are "Financial education can let students understand the importance of increasing earnings and decreasing spending," "Financial education is also a part of character education," and "Financial education can help students adapt to an increasingly diverse living environment." The bottom three items with the lowest scores are "Current elementary school textbooks are sufficient in increasing students' financial literacy," "I have the

ability to develop suitable instructional cases for financial education,” and “I can use information technology to construct a sharing forum for financial education (i.e.; class web page).”

4.2 Results of Difference Analysis

4.2.1 Difference Analysis of Demographic Variables and Teachers’ Financial Literacy

In exploring whether elementary school teachers with different demographic variables differ in terms of financial literacy, results of the *t*-test show that: “gender” reaches a significant difference level in “financial planning and responsibility” and “banking-related business,” and “school location” does not reach the level of significance in any dimension. Results of one-way ANOVA show: dimensions of “age” reaches the level of significant difference in “banking-related business,” “issues in economic policy,” “tax and insurance planning,” and “consumer finances”. In “number of years teaching,” other than “financial planning and responsibility” does not reach the level of significance, all other dimensions show a significant difference. “Occupation at school” shows a significant difference in “issues in economic policy,” and other dimensions do not reach the level of significance. “School size” shows a significant difference in “financial planning and responsibility” other dimensions do not reach the level of significance. “Education,” “college major,” and “number of years teaching social studies” do not reach the level of significance in any dimension.

4.2.2 Difference Analysis of Demographic Variables and Teachers’ Financial Literacy Education

In exploring whether elementary school teachers with different demographic variables differ in terms of financial literacy education, results of the *t*-test show that: “gender” reaches a significant difference level in “the importance of elementary school financial management education,” and “school location” does not reach the level of significance in any dimension. Results of one-way ANOVA show that dimensions of “age” reaches the level of significant difference in “accommodating financial education.” “Education,” “college major,” “number of years teaching,” “number of years teaching social studies,” “occupation at school,” and “school size” do not reach the level of significance in any dimension of teacher financial literacy education.

4.3 Results of Canonical Analysis

In order to verify the relationship between financial literacy and financial literacy education, this study carries out canonical analysis. Results of dimension reduction analysis show that the predictor set’s four dimensions of financial literacy affect the criterion set’s three dimensions of financial literacy education through two pairs of canonical factors that show significant difference. These two pairs of canonical factors can explain 67% and 7% of total variance in financial literacy education. Since the predictor set and criterion set have the same canonical component loading signs, the null hypothesis is thus supported.

5. Conclusions

Using data from a sample of Taiwanese elementary school teachers, this paper examines the impact of financial literacy on teachers’ financial literacy education. This study used the two methods of literature analysis and questionnaire surveys, with public elementary school teachers in Taipei City and Yunlin County as research subjects for analysis. In addition, in view of the fact that current literature in Taiwan has not compared the urban-rural differences in this research issue, this study should be able to supplement this gap in the literature.

Using descriptive statistics, factor analysis, validity analysis, reliability analysis, *t*-test, one-way ANOVA, and canonical analysis, the empirical results showed that there is a positive correlation between financial literacy and financial literacy education, which means that if elementary school teachers have high financial literacy, they would also have high financial literacy education. These results can add to work in this area and can serve as a reference for later policies established by the government. Furthermore, this study found that elementary school teachers, as a group, show medium-high levels of financial literacy, with the highest score in “Investment, insurance, and savings.” Teachers generally believe that current elementary school textbooks cannot cultivate sufficient financial management knowledge in elementary school students, suggesting the unsuitability of financial education curricular materials for elementary school teachers.

Finally, the results the results showed that elementary school teachers did not demonstrate significant differences in “education,” “college major,” “number of years teaching social studies,” or “school location” in terms of financial literacy as well as financial literacy education.

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