Analysis of the Effectiveness of Financial Education for Students in Higher Education to Increase Financial Literacy (Case Study: Financial Planning Class in Maranatha Christian University)

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ABSTRACT
Financial literacy is a term that is currently used in many papers about a person's literacy in managing his / her finance. Someone is said to be financially literate when he or she is able to take advantage of financial institutions and manage his / her finance. The efforts to improve financial literacy, one of them is by utilizing the education on financial planning. Maranatha Christian University has been carrying out financial planning education since the 2007 curriculum was applied as one of the subjects mandatory in financial management concentration. The aim of this education is to increase financial literacy in the students' realm. The purpose of this research was to convey the educational result from the students in financial planning course to the behavior of financial literacy. The criteria of financially literate are a person can understand and practice financial management, saving/investing, insurance & estate planning, credit, and shopping. Therefore, further study is needed on whether or not there is a change in the understanding and the score of students in managing their finances because of financial planning education. The method for testing used in this paper was built by O'Neill, which was the Financial-Fitness Quiz (FFQ), to find out whether there is a difference among the students before and after taking the financial planning subject, by using Wilcoxon-Test. The data used in this research was a population of students who took the financial planning courses during the odd semester of 2017/2018 academic year as many as fifty-two persons consisting of twenty-two males and thirty females. The result showed significantly different score before and after undertaking the financial planning class. However, it has not been proven that the financial planning education is effective to increase Financial Literacy, especially in the Financial Management and Saving and Investment criteria.
Keywords: Financial Education; Higher Education; Financial Literacy; Financial Planning

1. RESEARCH BACKGROUND

Everyone certainly wants to be successful in his / her life. Success is determined by many factors, one of which is determined by having financial management intelligence or the current term is financial literacy. Intelligence factors in managing finance related to the knowledge in using money is supported by financial services such as banks, insurance, pawnshops, pension funds and others.

In 2014, the Board of Commissioners of the Financial Services Authority (OJK), Muliaman Hadad as Chairman, explained that the government through an inclusive program has expanded people's access to financial products and services to support financial literacy as a priority.

Muliaman also mentioned that from the survey results in Indonesia from 27 Provinces, at least 8,000 respondents had described the level of financial literacy. Based on the results, the banking sector was the largest market share in financial sector. He explained that 18% of people understood in the insurance sector and only 12% actually used insurance services, 50% of people already understood pawnshops but the utilization-rate was only 5%, and then 10% of people understood multifinance with 6% utilization-rate only. Furthermore, from 7% of people understanding pension funds, the utilization rate was 2%. Meanwhile from 2% of people understanding the capital market, only less than 1% used it.

From the results of this survey, it was revealed that there needs some efforts to increase literacy, or understanding, which is the first step, to expand access to improve the quality of financial products for social welfare.

Muliaman said that in the implementation, there are 3 main pillars: First, education and literacy campaigns for housewives, candidates and Indonesian workers, students, students, majelis taklim, pesantren, as well as Micro, Small and Medium Enterprises (MSMEs). Second, strengthening the infrastructure through regular surveys, integrated complaints and information services. OJK also prepares sites / websites, and prepares the financial cars (SIMON) which will operate in Indonesia and in areas that are difficult to access the information. Third, the development of financial products and services by developing affordable

public financial products and services and the empowerment.

By looking at the government's direction that is serious in dealing with this matter, the education to manage finance is very important. Therefore, a study was proposed to measure the role of financial planning education to find out about the changes in financial management behavior which ultimately increased financial literacy with case studies at Maranatha Christian University.

Financial literacy means having the knowledge and understanding about financial problems. The absence of financial literacy can lead to poor financial decisions that can have an adverse effect on the health of individuals' finance. The education on managing finance is very important in helping people with budgets to manage income, to save and invest efficiently, and to avoid being the victims of fraud. Financial education is increasingly needed for individuals, not only to ensure their own financial well-being, but also to ensure the smooth functioning of financial and economic markets. [1] Surveys in OECD countries showed that financial levels were especially low for certain groups, such as less educated, minorities, and people at the lower-end of income distribution. Financial education can help individuals to get out of poverty. Financial education can benefit consumers of all ages and income levels, such as being able to help young people who have just started their lives by providing basic tools for budgeting and saving to control their expenses and debts, being able to help workers to ensure sufficient savings to comfortably retire by providing information and skills to make wise investments for their pensions, and also being able to help families to obtain discipline in saving for their homes or education for their children. Financial education can help individuals and families continue their education. Education is a mean for people to get out of their poverty. The average of the overall Indonesian Financial Literacy Index (FLI) was 42.51 (on a scale of 0-100). Financial literacy correlates with income and education levels. The lower education or income level shows the lower the level of financial literacy. Based on the 2015 S & P Global FINLIT survey, worldwide, only 1-in-3 adults were financially literate. Not only is financial illiteracy widespread, but there were also large variations between countries and groups. The information about financial literacy based on questions was added to the Gallup World Poll survey, among more than 150,000 nationally representative adults and randomly selected in more than 140 countries interviewed during the 2014 calendar year. Then, the questions were developed to measure the four basic concepts for making financial decisions — basic counting, knowing interest, inflation, and diversifying risk. [2]

In addition, the country-wide survey of financial literacy ranging from 13% to 71% revealed that Indonesia was in the range of 25-34, while Japan was in the range of 45-54. This data explains that for younger generation in Japan, they had higher financial literacy compared to those in Indonesia. Young people must be equipped with the skills and information they need to make financial choices. Now financial literacy is a life skill that is more important than

before. While financial decisions have been faced by all generations in the past, both young people and adults today must make increasingly important and complex choices about consumption, saving and investment. Financial literacy will have impact on financial health of the nation's future. Therefore, the mapping of a comprehensive multigenerational community is very important to be developed in order to build financial capacity for life-long financial health. Mutual understanding and knowledge sharing between people will establish the findings of a solution to common problems in financial literacy to produce significant social change through fostering the process of mutual learning.

The problem that occurs is that there are still many students who feel difficulties in managing personal finance. They generally feel that they are still relying on parents, do not have steady income, and still feel young to think about financial management, so that in the end they do not feel that there is an interest in financial planning [3].

Looking at this gap of interest, it can be seen about the problems that exist, so it is very appropriate for the studies to be conducted on: Will financial planning education provide changes in financial management behavior? The purpose of this study was to determine whether there was a change in financial management behavior through financial planning education.

2. FINANCIAL LITERACY

Lusardi & Mitchell stated that financial literacy can be interpreted as financial knowledge, which has a goal to achieve prosperity. (Lusardi & Mitchell 2007) [4]. The definition of Financial Literacy is the ability to understand how money works in the world: how one manages to get or make money, how someone manages it, how he / she invests it (turns it into more) and how people contribute to help others [1].

In 2013, the Indonesia Financial Services Authority (OJK) conducted a survey on the level of financial literacy among the population in Indonesia. The result was: Well Literate (21.84%), which has the knowledge and confidence about financial service institutions and products, including features, benefits and risks, rights and obligations related to financial products and services, and has the skills to use the financial products and services; Sufficiently Literate (75.69%), which has the knowledge and beliefs about financial service institutions and financial products and services, including features, benefits and risks, rights and obligations related to financial products and services; Less Literate (2.06%), which only has the knowledge of financial services institutions, financial products and services; Not Literate (0.41%), which lacks the knowledge and confidence in financial service institutions and financial products and services, and does not have the skills to use financial products and services [5].

Financial Literacy has a long-term goal for all segments of society, namely to improve someone's literacy which previously was less literate or not literate to be well literate;

and increasing the number of users of financial products and services.

In order for the wider community to determine financial products and services that meet their needs, the community must understand the benefits and risks correctly, know their rights and obligations and believe that the selected financial products and services can improve people's welfare. For the community, Financial Literacy provides great benefits, such as being able to choose and utilize financial products and services that are suitable for their needs; having the ability to do financial planning better and avoid the investment activities in financial instruments that are not clear; getting an understanding of the benefits and risks of financial products and services. Financial Literacy also provides great benefits for the financial services sector. Financial institutions and communities need each other, so that in the higher level of public financial literacy, more people will use financial products and services [5].

Research conducted by Byrne stated that low-level of knowledge makes financial planning wrong and causes a bias in achieving welfare. Conversely, with a high level of financial literacy, MSME's entrepreneurs are expected to be able to estimate what parts are used for savings, business and investment [6]. In addition, there have been enough studies to measure the financial literacy level by Lusardi and Mitchell for various roles, housewives research conducted by Rita & Santoso, Zahroh. [7] [8] [9], that examined the level of financial knowledge, personal financial attitudes, and personal financial behavior of Management Department students of the Economics and Business Faculty in semester 3 and 7, showing the results that there were differences in behavior between students in semester 3 and 7. In addition, Rita and Santoso found that among 100 housewives who lived in Sidorejo Lor Village, Salatiga, the result of financial literacy level obtained in planning their children's education funds was high [8]. Behrman, et al examined how financial literacy affects the increase in wealth among households resulting that there was a positive relationship between financial literacy and wealth. Financial literacy increases the likelihood of communities contributing to their retirement savings indicating that this is a valuable pathway through which the increased financial literacy can build the household's net worth [10].

3. METHODOLOGY AND HYPOTHESES

3.1 Methodology

Financial-Fitness Quiz (FFQ) developed by Cooperative Extension consists of 20 practical financial statements covering five dimensions, namely: Financial Management (describing how financial management is carried out, there are 8 items of statement), Savings & Investing (a dimension that describes financial behavior in saving and investment, this dimension consists of 6 items of statement), Insurance & Estate Planning (this dimension describes financial

behavior in insurance and long-term planning, there are 2 items of statement), Credit (is a financial behavior dimension in debt management, consisting of 2 items of statement), and Shopping (a dimension that shows financial behavior in spending money consisting of 2 items of statements). To determine financial behavior measured by the total score obtained from these five dimensions, this provision was adopted from the O'Neill, whereas respondents were asked to choose the response that was most closely related to their current financial management practices. Financial-Fitness Quiz is used to get an idea of how well you have managed your money by choosing the score that best describes the frequency of his / her current financial management practices: 5 = always; 4 = usually; 3 = sometimes; 2 = seldom; 1 = never. When it is done, add up the scores for each of the 20 questions below. The summary at the end of the quiz tells how you are doing. Financial Management: 8 questions, Saving / Investing: 6 questions, Insurance & Estate Planning: 2 questions, Credit: 2 questions, and Shopping: 2 questions. The scoring for Financial-Fitness Quiz is as follows [11]:

1. 0-20 points: You need lots of help, but don't despair. It is never too late to take action to improve your finance.
2. 21-40 points: You are headed to financial difficulty. Now is the time to take action to reverse the trend.
3. 41-60 points: You are doing a fair job in managing your finance and have taken some steps in the right direction.
4. 61-80 points: You are doing a good job and are above the average in managing your finance.
5. 81-100 points: You are in excellent financial shape. Keep up the good work!

As the second methodology, we used Wilcoxon-Test, to test whether there was a difference before and after the training on financial education. The Wilcoxon-Test is a statistical method for testing the paired-data or data before and after the treatment in the same sample group. [12] [13].

3.2 Hypothesis

In this study, we attempted to find out whether there was a difference in financial literacy before and after the financial planning class taken from 52 respondents. The research hypothesis was:

H_0: There is no difference before and after joining the Financial Planning Class.
H_1: There is a difference before and after joining the Financial Planning Class.
Significance level: 5%
The data type was non-metric (ordinal), the tool used was non-parametric: Wilcoxon-Test (to test the paired data or before and after the treatment in the same sample group)

4. RESULT AND ANALYSIS

Based on descriptive statistics, the results were as follows: 42.3% male and 57.7% female; 75% did not work, it means that they still got support from their parents; 4 persons were

independent; and the highest percentage income was between IDR 2.000.000-3.000.000 per month. By using the Financial-Fitness Quiz (FFQ) distributed to 52 participants, this research revealed that before the training (as shown in Table 1a and 1b), the score 44 had the highest frequency, and no one had the score higher than 70. From Table 1b, 7.69% had the score 0-20, 46.15% had the score 21-40, 38.46% had the score 41-60, and 7.69% had the score 61-80. This condition showed that most participant needed help to undertand about financial planning. In other word, they needed more financial education.

Table 1a. The Score of Participants Before Joining the Financial Planning Class

Score		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20.00	4	7.7	7.7	7.7
	24.00	4	7.7	7.7	15.4
	28.00	4	7.7	7.7	23.1
	32.00	5	9.6	9.6	32.7
	36.00	6	11.5	11.5	44.2
	40.00	5	9.6	9.6	53.8
	44.00	8	15.4	15.4	69.2
	48.00	2	3.8	3.8	73.1
	52.00	6	11.5	11.5	84.6
	56.00	4	7.7	7.7	92.3
	64.00	2	3.8	3.8	96.2
	68.00	2	3.8	3.8	100.0
	Total	52	100.0	100.0	

Source: Data obtained from 52 Samples

Table 1b The Frequency and Percentage of Participants Before Joining the Financial Planning Class

Skor	Frequency	Percentage (%)
0-20	4	7.69
21-40	24	46.15
41-60	20	38.46
61-80	4	7.69
81-100	0	0.00

Source: Data obtained from 52 Samples

Table 2a The Score of Participants After Joining the Financial Planning Class

Score		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	28.00	2	3.8	3.8	3.8
	32.00	2	3.8	3.8	7.7
	36.00	1	1.9	1.9	9.6
	40.00	2	3.8	3.8	13.5
	44.00	1	1.9	1.9	15.4
	48.00	2	3.8	3.8	19.2
	52.00	3	5.8	5.8	25.0
	56.00	6	11.5	11.5	36.5
	60.00	4	7.7	7.7	44.2
	64.00	6	11.5	11.5	55.8
	68.00	1	1.9	1.9	57.7
	72.00	6	11.5	11.5	69.2
	76.00	6	11.5	11.5	80.8
	80.00	4	7.7	7.7	88.5
	84.00	3	5.8	5.8	94.2
	88.00	3	5.8	5.8	100.0
	Total	52	100.0	100.0	

Source: Data obtained from 52 Samples

Table 2b The Frequency and Percentage of Participants After Joining the Financial Planning Class

Skor	Frequency	Percentage (%)
0-20	0	0.00
21-40	7	13.46
41-60	16	30.77
61-80	23	44.23
81-100	6	11.54

Source: Data obtained from 52 samples

Table 2a and 2b showed the score from participants after joining the Financial Planning Class. The result revealed that the score had increased in mostly all participants. No one had the score for credit below 20, and only 7 persons had the score 21-40. Therefore for all criteria, more than 55% participants had the score in the range of 61-100.

Table 3 The Frequency of Participants' Score Before and After Joining the Financial Planning Class based on Criteria

Financial Management Before						Financial Management After					
Score		Frequency	Percent	Valid Percent	Cumulative Percent	Score		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	8.00	9	17.3	17.3	17.3	Valid	8.00	4	7.7	7.7	7.7
	12.00	9	17.3	17.3	34.6		12.00	3	5.8	5.8	13.5
	16.00	12	23.1	23.1	57.7		16.00	5	9.6	9.6	23.1
	20.00	9	17.3	17.3	75.0		20.00	8	15.4	15.4	38.5
	24.00	5	9.6	9.6	84.6		24.00	3	5.8	5.8	44.2
	28.00	6	11.5	11.5	96.2		28.00	13	25.0	25.0	69.2
	32.00	2	3.8	3.8	100.0		32.00	9	17.3	17.3	86.5
	Total	52	100.0	100.0			36.00	7	13.5	13.5	100.0
							Total	52	100.0	100.0	
Saving & Investment Before						Saving & Investment After					
Score		Frequency	Percent	Valid Percent	Cumulative Percent	Score		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6.00	16	30.8	30.8	30.8	Valid	10.00	7	13.5	13.5	13.5
	10.00	14	26.9	26.9	57.7		14.00	8	15.4	15.4	28.8
	14.00	13	25.0	25.0	82.7		18.00	16	30.8	30.8	59.6
	18.00	9	17.3	17.3	100.0		22.00	11	21.2	21.2	80.8
	Total	52	100.0	100.0			26.00	8	15.4	15.4	96.2
							30.00	2	3.8	3.8	100.0

			Valid	Cumulative					Valid	Cumulative
						Total	52	100.0	100.0	

Insurance & Estate Planning Before

Score		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	35	67.3	67.3	67.3
	6.00	17	32.7	32.7	100.0
	Total	52	100.0	100.0	

Insurance & Estate Planning After

Score		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	2	3.8	3.8	3.8
	6.00	13	25.0	25.0	28.8
	10.00	37	71.2	71.2	100.0
	Total	52	100.0	100.0	

Credit before

Score		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	43	82.7	82.7	82.7
	6.00	8	15.4	15.4	98.1
	10.00	1	1.9	1.9	100.0
	Total	52	100.0	100.0	

Credit After

Score		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	30	57.7	57.7	57.7
	6.00	15	28.8	28.8	86.5
	10.00	7	13.5	13.5	100.0
	Total	52	100.0	100.0	

Shopping Before

Score		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	14	26.9	26.9	26.9
	6.00	24	46.2	46.2	73.1
	10.00	14	26.9	26.9	100.0
	Total	52	100.0	100.0	

Shopping After

Score		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	14	26.9	26.9	26.9
	6.00	15	28.8	28.8	55.8
	10.00	23	44.2	44.2	100.0
	Total	52	100.0	100.0	

Source: Data obtained from 52 samples

Table 3 revealed that mostly in all criteria, before and after the treatment, had significant difference, especially for Financial Management and Saving and Investment, as well as Insurance & Estate Planning, Credit, and Shopping. Therefore, in Financial Management there were still several participants having the score 21-40. By comparing the results from two conditions in Table 1b, Table 2b, and Table 3, this study showed that there was a significant difference in financial understanding and knowledge among the participants who undertook the training about financial planning for students and individuals. The training on financial planning is part of the financial education. Researchers had temporary conclusions that financial education could increase financial literacy for the students and can also be applied for other participants as well. Therefore, to make sure the result is valid, this data had been tested by using the Wilcoxon-Test. Based on the result of Normality Test, it is known that the data was normally distributed, because the sig. values both were 0.808 and 0.348 (greater than 0.05).

4.1 Normality Test

Table 4. One-Sample Kolmogorov-Smirnov Test

		Before	After
N		52	52
Normal Parameters[a,b]	Mean	40.6154	63.1538
	Std. Deviation	12.87977	16.29794
Most Extreme Differences	Absolute	.089	.129
	Positive	.089	.064
	Negative	-.081	-.129
Kolmogorov-Smirnov Z		.639	.933
Asymp. Sig. (2-tailed)		.808	.348

a. Data distribution is Normal.
b. Calculated from data.
Source: Data Analysis using SPSS *Software*

For Normality Test, we used the One-Sample Kolmogorov-Smirnov Test.
The hypothesis was formulated as follow:
H_0: Residual data is normally distributed
H_1: Residual data is not normally distributed
Criteria:
Asympt. Sig > 0.05 □ H_0 is accepted
Asymp. sig ≤ 0.05 □ H_0 is rejected [14] [15]

4.2 Descriptive Statistics Test Results

Table 5 Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Before	52	40.6154	12.87977	20.00	68.00
After	52	63.1538	16.29794	28.00	88.00

Source: Data Analysis using SPSS *Software*

Based on Table 5, obtained from 52 participants, it can be seen about the descriptive statistics results, such as mean (average), std. deviation (standard deviation), minimum and maximum values for each variable, before and after the treatment. The highest score of the assessment is 5 and the lowest score is 1. Description: 5 = always; 4 = usually; 3 = sometimes; 2 = rare; 1 = never, in implementing the current financial management practices. The average score before undertaking the one-semester financial-planning class was 40.6154, which means that they 'rarely' implemented the financial management practices. On contrast, after undertaking the one-semester class of financial planning, the participants had obtained the average score of 63.1538, of which this was a significant result that they 'sometimes' implemented the financial management practices. However, the standard deviation became higher after the participants had undertaken the financial-planning class.

4.3 Hypothesis Test Result

Based on the Wilcoxon-Test results in Table 6, it is known that value of Asymp. obtained was 0.000, which is below the significance level of 5%. Therefore, it can be concluded that there was a significant difference before and after the participants undertook the training on financial planning.

Table 6. Test Statistics a

	Before - After
Z	-5.751[b]
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed-Rank Test
b. Based on negative ranks.
Source: Data Analysis using SPSS *Software*

5. CONCLUSIONS

In this study, it was found that there was a significant difference in the level of financial intelligence from the result of undertaking financial planning course in one-semester class taken from 52 sample data. There was an increase in the score of FFQ before and after the treatment. This result was similar to [7] [8] [9], that showed significant difference in the score of Financial-Fitness Quiz before and after undertaking the financial education. Finally, among 52 participants, no one had the score below 20, and there were 29 persons obtaining the score between 61 and 100.
Due to limitations of this study, it is necessary to re-carry out the data collection and samples from the students of Higher Education to further expand the efforts to increase

their financial intelligence. In addition, more in-depth-exploration is needed regarding the plan to provide training in the use of financial applications on mobile phones that will make it easier for participants to carry out financial practices.

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