





Enhancing Personal Financial Literacy Among young Professionals: An Impact Study

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ABSTRACT

This impact study intends to determine the significant relationship between the posttest score and personal finance topic controlling for the pretest score. From 2019 to 2023, the Business Cluster initiated a program to enhance the Personal Financial Literacy of Young Professionals through the seminar-workshop using the Quasi pretest-posttest experimental design. The Analysis of Covariance (ANCOVA) results proves a significant relationship exists between the posttest score and finance topic controlling for the pretest score. Moreover, this study confirmed that the seminar-workshop creates an environment conducive to active learning and engagement, positively impacting personal financial learning outcomes. Using the posthoc test proves that Investment is significantly higher than Budgeting, Decision, and Insurance, suggesting that Young Professionals are more interested in increasing their financial literacy investment than in other financial topics.

RESUMO

Este estudo de impacto pretende determinar a relação significativa entre a pontuação do pós-teste e o tópico de finanças pessoais controlando a pontuação do pré-teste. De 2019 a 2023, o Cluster Empresarial iniciou um programa para melhorar a Literacia Financeira Pessoal de Jovens Profissionais através do seminário-workshop utilizando o desenho experimental Quasi pré-pós-teste. Os resultados da Análise de Covariância (ANCOVA) provam que existe uma relação significativa entre a pontuação do pós-teste e o controle do tópico financeiro para a pontuação do pré-teste. Além disso, este estudo confirmou que o seminário-workshop cria um ambiente propício à aprendizagem ativa e ao envolvimento, impactando positivamente os resultados da aprendizagem financeira pessoal. A utilização do teste post hoc prova que o Investimento é significativamente superior ao Orçamento, Decisão e Seguros, sugerindo que os Jovens Profissionais estão mais interessados em aumentar o seu investimento em literacia financeira do que noutros tópicos financeiros.

ARTICLE INFORMATION

Article process:

Submitted: 02/01/2024

Approved: 04/30/2024

Published: 05/01/2024



Keywords:

Personal financial literacy, Young Professionals, Seminar-Workshop, and ANCOVA

Keywords:

Alfabetização financeira pessoal, Jovens Profissionais, Seminário-Workshop e ANCOVA

Introduction

An individual who can manage their financial resources effectively is financially literate. Unfortunately, many young professionals lack the critical skills to make informed decisions about their finances, such as budgeting, saving, investing, and managing debt resulting in financial problems and stress. A lack of budgeting skills is common among young professionals forcing them to struggle with creating and maintaining a budget, leading to overspending and debt. The National Endowment for Financial Education study claimed that only 24 percent of millennials have basic financial literacy skills, including budgeting (NEFE, 2016). The limited knowledge of investing among young professionals prevents them from long-term wealth. A survey from the CFA Institute state that only 31 percent of millennials feel confident in their ability to invest (CFA Institute, 2018). Most young professionals lack adequate skills to manage their credit, such as on-time payment of bills and securing a good credit score. The Bank of America stated that only 16 percent of millennials have a credit score above 780, which is considered excellent (Bank of America, 2018). Financial stress is guaranteed later in life since young professionals lack sufficient retirement planning. TIAA found that only 17 percent of millennials are confident they will have enough money to retire (TIAA, 2017).

Personal financial literacy among young professionals has several benefits, such as improved financial stability. A financially literate person enhances their financial situation and reduces the risk of financial crisis. They competently create, manage, and save money (OECD, 2016). By understanding their finances and making informed decisions, individuals can feel more in control of their financial situation, reducing stress and improving their well-being (PwC, 2019). An advantage of financially literate individuals is their ability to build long-term wealth by investing in retirement accounts and making informed investment decisions that increase their financial security (Hanna & Lindamood, 2010). Practicing their skills, a financially literate individual makes better financial decisions making informed choices aligned with their long-term financial goals (Lusardi & Mitchell, 2014).

For financial stability and long-term success, it is critical among young professionals to increase personal financial literacy. Several proven techniques to increase financial literacy, such as the Financial Literacy Education program, furnish the appropriate knowledge and skills to manage finances effectively. These programs are offered in workplaces, schools, and community organizations (Fernandes et al., 2014). Also, some mobile applications are effective techniques to guide and monitor spending and set financial goals. Fintech companies offer mobile applications for financial management (Consumer Financial Protection Bureau, 2018). On the other side, getting the services of a financial counselor is also effective. Young professionals receiving financial counseling develop a personalized plan for managing their

finances. Counselors effectively guide individuals on debt management, investing, savings, and budgeting (Chang et al., 2018). Another proven technique is peer learning, which increases personal financial literacy—using peer groups to furnish support and encouragement, including opportunities to share experiences and knowledge (Kim et al., 2018).

The Financial Education Program, as an effective method of enhancing financial literacy, provides young professionals with the knowledge, skills, and attitude needed to manage their finances effectively. There are several advantages for any participant in a financial literacy program. Debt management, investment, savings, and budgeting are the topics covered in the financial literacy program which participants need to make informed financial decisions (Fernandes et al., 2014). Moreover, the program tends to improve the financial behaviors of young professionals. The presence of basic guidelines on financial management allows individuals to develop good financial habits and avoid common financial mistakes (Fernandes et al., 2014). Besides, developing good financial habits increases financial confidence. As the participants improve their financial skills, they feel more in control, leading to increased confidence and reduced financial stress (Huston, 2010). Acquiring more excellent financial stability is possible for those participating in a financial education program. They become competent in financial management, avoiding financial crises and maintaining financial stability over time due to the tools and resources they learned (Huston, 2010).

This study is based on behavioral economics and integrates psychological and social factors into an individual's decision-making, which deviates from rational economic behavior due to cognitive biases, emotional responses, and other non-rational factors. In the context of personal financial literacy, understanding these biases and heuristics assists young professionals in making better financial decisions. This theory implies that the effectiveness of the financial literacy program is based on focusing on the behavioral factors of learners based on tools and strategies to assist individuals in making better financial decisions (Thaler & Sunstein, 2008). Further, the theory claims that individuals rely on cognitive shortcuts or heuristics when making financial decisions, which can lead to errors in judgment. For instance, individuals may be overly influenced by recent events (recency bias) or be overly optimistic about future outcomes (optimism bias), leading them to take on excessive risk. Understanding these biases help individuals make more informed decisions about their finances (Thaler & Sunstein, 2008).

The theory inferred that how the information is presented and the choices are framed influences financial decisions. As observed, people are more likely to save money if given a default savings option rather than opt-in to a savings plan (Madrian & Shea, 2001). Understanding these framing effects help financial educators design programs encouraging

positive financial behaviors. The theory includes the influence of social and emotional factors on financial decisions. A sense of obligation or pressure compels individuals to save (Kahneman & Tversky, 1979). Also, strong emotions of fear and anxiety influence financial decisions forcing individuals to make suboptimal choices. A good financial education program can address these issues and facilitate individuals to make better financial decisions.

This study intends to determine whether the personal financial literacy seminar-workshop is effective in significantly improving personal financial decisions among young professionals controlling for the topics as a factor that might influence the outcome.

Method

The quasi-experimental design was used in the study to evaluate the effectiveness of the financial education program in increasing financial literacy due to its advantages over randomized control trials (RCT) and correlational studies. The quasi-experimental design applies to real-world settings, such as improving financial literacy where complications arise (Harris & Brown, 2010). Quasi-experimental designs allow researchers to evaluate the effectiveness of interventions in a seminar-workshop setting without the need for a control group. As an advantage, the quasi-experimental design has higher external validity than RCTs, as the intervention is conducted in a real-world setting with diverse subjects (Campbell & Stanley, 2015). The result of quasi-experimental is generalizable compared to requiring the conduct of RCT in a controlled laboratory setting. Besides its greater practicality and feasibility than RCTs, it does not require the expensive procedure to recruit and randomize subjects aside from the requirement of fewer resources and less time needed (Harris & Brown, 2010). Moreover, the quasi-experimental design is helpful in the pretest-posttest where RCT is not ethical to conduct the Finance Literacy Education Program that has clear potential benefits for the subjects (Campbell & Stanley, 2015).

As a typical quasi-experimental research design used to assess an intervention's effectiveness, such as a financial education program, the pretest-posttest measures the participants' knowledge, attitudes, and behaviors before and after the seminar-workshop to determine whether the intervention has an impact. The pretest-posttest design measures the intervention's effectiveness by comparing the scores (Collins & Krentz, 2017). Unlike in the experimental design, the pretest-posttest requires no randomization element. Instead, the selection of participants is based on convenience or availability, which fit the need of the study (Shadish, Cook, & Campbell, 2002). As a quasi-experimental design, the pretest-posttest provides some control over internal validity (Shadish, Cook, & Campbell, 2002). It is

permissible for the researchers to measure whether improvements in financial literacy are attributed to the seminar-workshop through the result before and after the intervention. However, the limitation of the pretest-posttest design is that it does not account for potential confounding variables that may affect the study's results (Collins & Krentz, 2017). The design assumes that the pretest and posttest measures are equivalent, which may not always be accurate.

The seminar-workshop method is a commonly used approach in financial education programs designed to increase personal financial literacy among young professionals. The method combines theoretical and practical elements, providing participants with the knowledge and skills to manage their finances effectively. The seminar-workshop required participants to engage in active learning, an effective way of improving knowledge retention and skill acquisition (Freeman et al., 2014). Engaging participants in hands-on activities and exercises, financial education programs facilitate individuals to apply learning to financial situations. There are instances when participants need to join group learning which provides them with opportunities to learn from others and share their experiences and perspectives (Barkley et al., 2014). Specifically, effective among participants with various levels of financial knowledge and expertise. The seminar-workshop is specifically designed to meet the needs and interests of young professionals. The program's design focuses on specific topics or areas of personal finance such as planning, budgeting, insurance, saving and investment, and common situations of young professionals' financial knowledge and experience (Lusardi et al., 2008).

The Professional Schools Business clusters conducted five (5) seminar-workshop among selected young professional volunteers in the Personal Financial Literacy Program to improve their financial decision. From 2019-2023, five seminar workshops were conducted with the following topics: financial planning, budgeting, insurance, financial decision, and investment. One-hundred fifty-three young professionals participated in the study.

The pretest-posttest technique was used to determine the effectiveness of the seminar workshop in improving personal financial literacy. As such, the researcher used the pretest result as a covariate in comparing the posttest among the four personal financial literacy topics, financial decision, budgeting, insurance, and investment. Thus the one-way Analysis of Covariance (ANCOVA) with the posttest as the dependent variable, the four personal financial literacy topics as the independent variable, and the pretest as the covariate.

The ANCOVA was used to determine the significant difference between the four topics on personal finance deployed to young professionals participating in the four seminar-

workshop activities (Senn, 1994; Overall, 1993). The pretest-posttest analysis used the technique (Bonate, 2000) common in non-experimental research and quasi-experiments.

Result and Discussion

This study aims to determine the significant relationship between the posttest score and personal finance topic controlling for the pretest score. From 2019 to 2022, four personal financial literacy topics were deployed in the seminar workshop for young professionals to enhance their financial decision. The highest posttest score was on the Investment topic ($M = 66.63$, $SD = 22.95$), and the lowest was on the Finance decision ($M = 51.38$, $SD = 13.81$).

Table 1.

Dependent Variable: Posttest scores

Topic	Mean	Std. Deviation	No. of items N
Budgeting	56.14	30.01	8
Decision	51.38	13.81	8
Insurance	64.63	12.45	15
Investment	66.83	22.95	18
Total	61.89	20.65	49

The ANCOVA results revealed several important findings. Firstly, there was a significant main effect of the covariate, the pretest score on the dependent variable, and the posttest score ($F(1) = 63.241$, $p < 0.01$). This suggests that the pretest score significantly impacted the posttest score, indicating the need to control for its influence.

Secondly, after controlling for the covariate, the significant difference between the two groups remained statistically significant ($F(3) = 6.932$, $p < 0.01$). This implies that even when accounting for the effects of the pretest score, there was still a significant difference in the means of the two groups on the posttest score.

Table 2.
Tests of Between-Subjects Effects

Dependent Variable: posttest						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	12765.797 ^a	4	3191.449	18.242	0	0.624
Intercept	3186.695	1	3186.695	18.215	0	0.293
Pretest	11063.8	1	11063.8	63.241	0	0.59
Topic	3638.003	3	1212.668	6.932	0.001	0.321
Error	7697.668	44	174.947			
Total	208150.5	49				
Corrected Total	20463.47	48				

^a R Squared = .624 (Adjusted R Squared = .590)

Table 2 informs that the different seminar workshops were statistically significantly different, having adjusted for the covariate, the pretest scores. Once their means had been adjusted for pretest scores, there was an overall statistically significant difference in posttest scores between the different interventions (topics).

The results of the ANCOVA provide valuable insights into the relationship between the posttest score and the topics while considering the influence of the pretest score. The significant main effect of the pretest indicates that it substantially impacts the posttest score. This emphasizes the importance of controlling for the pretest when evaluating the relationship between the posttest score and topics. Furthermore, the finding that the significant difference between the pretest and posttest remains after adjusting for the pretest score suggests that the topics fully account for the observed discrepancy. The significant mean difference suggests the seminar workshop contributes to the disparity between the pretest and posttest scores.

Several underlying reasons for the posttest scores relationship to the finance topic were attributed to the initial knowledge and understanding of the participants before any intervention or instruction. Prior knowledge is critical to learning outcomes (McDaniel et al., 2007). Young professional participants in the seminar workshop already possess basic knowledge in finance topics which likely explains a better performance on the posttest. The pretest score measures the participant's cognitive abilities and thinking processes. Since all Participants are college graduates, they are expected to perform well on the pretest due to their

better critical thinking, problem-solving, and information-processing capabilities. These cognitive processes contribute to understanding and applying finance concepts, leading to higher posttest scores (Borelli et al., 2016).

It is also possible for participants, due to the practice effect become familiar with the test format, questions, and topics during the pretest administration. This familiarity improves their performance on the posttest due to reduced test anxiety and increased comfort with the material (Duff et al., 2013). As a covariate, the pretest control for individual differences that influence the posttest score. Controlling the pretest score, the analysis isolates and examines the seminar-workshop's specific effect on the posttest score, thereby providing a more accurate understanding of the impact of the finance topic (Judd & McClelland, 1989).

The vital role of seminar-workshop contributes to the relationship between the posttest score in personal financial literacy and the finance topic, which is significantly controlled by the pretest score. The seminar-workshops extended to the young professionals involve interactive sessions, group activities, and hands-on exercises. These active learning strategies promote engagement and enhance their understanding and retention of the finance topic. Active learning has positively impacted knowledge acquisition and application (Prince, 2004), which is reflected in higher posttest scores.

The design of the seminar-workshops provides structured and focused instruction on specific finance topics. Through expert facilitation, participants receive targeted content, explanations, and practical examples that aid in their comprehension and application of financial concepts. Effective instructional design is linked to improved learning outcomes (Mayer, 2014), which may translate into higher posttest scores. Participants attending the seminar-workshop practice and apply their knowledge through simulations, case studies, or real-life scenarios. Young professionals better understand the topic when they apply financial concepts and problem-solving skills and strengthen their ability to apply that knowledge in practical situations. The hands-on approach positively influences their posttest performance (Bennett et al., 2016).

Seminar workshops create an environment for participants to interact with peers, share experiences, and discuss financial concepts. Peer learning improves understanding and delivers alternative perspectives, improving learning outcomes (Chi et al., 2018). Engaging in discussions and collaborative activities positively impacts participants' posttest scores. The pretest score acts as a covariate, controlling for participants' baseline knowledge and skills before attending the seminar workshop. By controlling for individual differences, the analysis

isolates the impact of the seminar-workshop itself on the posttest score, providing a more accurate assessment of the workshop's effectiveness (Judd & McClelland, 1989).

Pairwise comparison was used to compare multiple finance topics. It allows researchers to determine the relative differences between each pair of topics discussed in the seminar-workshop and identify which are significantly different.

Table 3.
Pairwise Comparisons of Personal Financial Literacy Topics

Dependent Variable: posttest						
(I) topic	(J) topic	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
Budgeting	Insurance	-15.122*	5.85	0.013	-26.913	-3.332
	Investment		-25.298*	5.913	0	-37.215
Decision		-15.518*	5.62	0.008	-26.845	-4.191
Insurance		-10.176*	4.732	0.037	-19.712	-0.64

Based on estimated marginal means

* The mean difference is significant at the .05 level.

^b Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

This study compared the effectiveness of four topics (decision, budgeting, insurance, investment) in improving personal financial literacy—the collected data on the posttest scores of participants who participated in the seminar workshop. The hypothesis is that at least one topic is more effective than the others. Table 3 reflects that the mean difference between Budgeting and Insurance is -15.122, with a p-value of 0.013. Since the p-value is less than 0.05, it is concluded that Budgeting and Insurance are significantly different from each other in terms of their effect on personal financial literacy. Also, the mean difference between Budgeting and Investment is -25.298 with a p-value of 0; the mean difference between Decision and Investment is -15.518 with a p-value of 0.008. The mean difference between Insurance and Investment is -10.176 with a p-value of 0.037. The insurance topic post-test score is significantly higher than the posttest scores in Budgeting, Decision, and Insurance. The result of a significantly higher posttest score in personal financial literacy on the investment topic. Young professionals are more interested in personal financial literacy topics related to investment than budgeting and insurance due to several reasons. However, it is essential to note that individual preferences differ, and not all young professionals do not align with these general trends. Young professionals, typically in the early stages of their careers,

have long-term financial goals such as wealth accumulation, retirement planning, or building financial security for the future. Investment topics, such as stocks, mutual funds, and real estate, are perceived as opportunities to grow wealth over time (Klapper & Panos, 2011). As a result, young professionals are more interested in learning about investment strategies and opportunities that align with their long-term financial objectives.

Conclusion and Recommendation

The seminar workshop plays a significant role in the relationship between the posttest score in personal financial literacy and the finance topic, which is significantly controlled by the pretest score. The seminar workshop provides a structured and interactive learning environment that promotes active engagement, effective instructional design, skill development, and social interaction. These factors contribute to participants' improved understanding, application, and retention of financial concepts.

Statistically controlling for the pretest score proves that the observed improvements in the posttest scores are attributed to the seminar-workshop rather than the participants' initial knowledge levels. This control allows for a more accurate assessment of the workshop's effectiveness in enhancing personal financial literacy. The PS Business cluster program should deploy the Personal Financial Literacy program through the seminar-workshop to professional associations and organizations.

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