



Developing Test of Financial Literacy in the Context of Indonesia: Design and Evaluation

Leni Permana¹, Siti Parhah², Dadang Dahlan³

^{1,2,3} Universitas Pendidikan Indonesia, 40154 Bandung, Indonesia
permanaleni@upi.edu

Abstract. The escalating instances of financial fraud necessitate urgent and decisive intervention. This highlights the importance of increasing financial literacy in society. To measure the financial literacy level of young people in Indonesia, it is crucial to develop standardized financial literacy tests that comply with the country's regulations and conditions. This can help determine appropriate measures to improve their financial decision-making abilities. Using research and development methods, this research has created a financial literacy test that experts have validated. The empirical analysis shows that all items in the test fit the model and have good construct, material, and language aspects. All items have good content validity, and item reliability is in the reliable category. The difficulty level of the items is in the easy-to-complex categories.

Keywords: Test, Financial Literacy, Financial Fraud, Financial Decision, Methods

1 Introduction

Based on OECD data, Indonesian youth rank last in the financial literacy test [1]. This phenomenon occurs not only in Indonesia; another study conducted by Garg and Singh (2018) [2] also found the same thing in India. They stated that young people tend to have low scores in financial knowledge and financial literacy. Other evidence also shows the same thing. Sherraden et al. (2011) [3] found that although young people tend to make financial decisions, their financial literacy is poor. Even in the United States, the same thing happens, where young adults have a lower level of financial literacy than middle-aged or older people [4].

Many factors cause low financial literacy among young people. Researchers generally focus a lot on the socio-demographic aspects of where young people live. The main reason is that local cultural factors are very strong in influencing a person's behavior patterns, including in matters related to finances. Therefore, a new paradigm has emerged in measuring financial literacy: the instruments used should not refer to global instruments. This means that the instruments prepared must be adapted to the situations and conditions in each area, at least in each country. According to Huston (2010) [5], there are at least three things that make it difficult to uniformly measure financial

literacy, namely a weak common structure, a weak comprehensive set of questions to measure all components of financial literacy, and the third is weak guidance in interpreting the measurements made.

In this situation, several countries refuse to use the financial literacy test instrument prepared by the OECD. They argued that the validity and constructs built on the instrument were unsuitable for their country's conditions [6]. Anong et al. (2022) [7] also emphasize in the same situation that the uniqueness of financial practices in a country requires a customized approach. Likewise, Worthington and Marzuki (2022) [8] state that financial practices have special construction, so they require reframing.

Considering these conditions, in this study, we developed a new instrument to test financial literacy among young people in Indonesia. However, generally, the constructs we use still refer to the OECD. It's just that in the instruments we prepare, we consider trends in financial practices that apply in Indonesia. One of the reasons for the preparation of this instrument is the suspicion that there is a possibility that the low financial literacy score of young people in Indonesia is because the OECD instrument is not suitable for the financial practices that occur in Indonesia. If so, there is a possibility that the instrument will be biased, causing misdiagnoses in measuring financial literacy [9], [10].

This study's target group or population of interest is young people aged 15 to 18. This age group can be categorized as a group of teenagers. Determining the target population is very important in preparing an instrument because, according to Nicolini (2022) [9], this is related to the identification target that will be assessed.

1.1 Financial Literacy Measurement

To measure financial literacy among students, the OECD administers financial literacy tests to measure student performance in addition to reading, mathematics, and science literacy. Financial literacy measurement includes content, process, and context [1]. The content category consists of areas of knowledge and understanding regarding the essence of financial literacy. The content covers four areas, namely money and transactions, financial planning and management, risks and rewards, and the financial landscape. Meanwhile, in the process category, this category is related to cognitive processes. This category describes students' abilities to recognize and apply relevant concepts in a particular domain and understand, analyze, reason, evaluate, and provide solutions. Specifically, there are four categories in the financial literacy process phase in PISA: identifying financial information, analyzing information in a financial context, evaluating financial issues, and applying financial knowledge and understanding. The context category refers to situations in which financial knowledge, skills, and understanding can be used, from personal to global.

2 Methods

The design of the financial literacy instrument in this study refers to the core competencies compiled by the OECD in the PISA test for financial literacy. In this case, we use the design method to obtain a valid and reliable instrument. To validate the designed instrument, we use expert validation to justify that the instrument we have prepared meets the guidelines for preparing the instrument. In the next stage, we conducted a limited trial to determine the validity and reliability of the instrument we developed.

The instrument we designed will assess four important domains: content, processes, contexts, and non-cognitive factors. At the question design stage, we adapted the questions to the daily financial practices often carried out by the 15-18 year old age group. Then, the financial literacy measurement we developed includes aspects of skills, behaviors, confidence, and financial decision-making.

3 Results and Discussion

Based on The OECD Core Competencies Framework on Financial Literacy for Youth, the financial literacy test covers four main content areas: money and transactions, risk and reward, financial landscape, and planning and managing finances. Each content area is equally represented in the test. These four areas are crucial for improving the financial literacy of young people in Indonesia. Additionally, the test's content is tailored to fit Indonesia's local conditions and culture.

This financial literacy test evaluates four cognitive processes - identifying, applying, analyzing, and evaluating. These four processes are crucial for Indonesian youths to cope with financial developments in Indonesia and globally. The developed instruments measure higher-order thinking skills more than other cognitive processes. By creating better thinking skills, Indonesian youths can make sound financial decisions and avoid scams when using various financial products and services.

Young people are often inexperienced when using financial products and maybe just starting to handle financial transactions. They are also likely to face important financial decisions in the near future that are different from those faced by adults. Therefore, the proportion of individual context is greater than that of family, peers, and community. The reason is that they make more financial decisions on their own in their everyday life. If they understand the development of various financial products and services, it will be easier for them to deal with the broader context.

The financial literacy test uses three types of questions: simple multiple-choice, complex multiple-choice, and open-response. Each type of question is represented in almost equal proportion. This test aims to develop high-level thinking skills among Indonesian youths. These skills are essential to deal with the increasingly complex financial products and services that continue to emerge.

Through a qualitative analysis, it has been determined that 97% of the financial literacy test items are of good quality in terms of materials, while 96% of them are of good quality in terms of construction. Additionally, all items meet the necessary quality

criteria in terms of language. Furthermore, the validity of each item is determined by calculating the expert judgment results on each item using the Aiken index (V). The SMC, CMC, and OR questions ranged from 0.8 to 1.0. These results can be useful when testing test questions.

The financial literacy test was analyzed quantitatively based on limited trials conducted on young people aged 15 to 18 in Bandung, West Java. The study evaluated the suitability of the test items with the model, the reliability of the questions, and the difficulty level of the test items. The results of the item fit test showed that all 30 test items included in the model were suitable. The reliability test also indicated that all items were reliable. The difficulty level of the items is in the easy to difficult categories.

This study refers to the OECD standard [11] financial literacy must be measured based on three main dimensions: financial knowledge, financial behavior, and financial attitude. The results of this study support this model, which shows that these three dimensions are relevant in measuring financial literacy in Indonesia. These findings also support the competency-based financial literacy model described by Aprea et al. (2016) [12], which states that financial literacy includes conceptual understanding and metacognitive skills in financial decision-making.

The Indonesian context-based financial literacy measurement instrument that has been developed meets the standards of good content validity and high reliability. The results of this study are consistent with previous research that highlights the importance of a behavior-based approach in measuring financial literacy. Sabri et al. (2023) [13] found that financial behavior has a significant mediating effect on the relationship between financial literacy and financial well-being. Potrich et al. (2025) [14] found that 53.6% of financial literacy is influenced by financial behavior, while financial knowledge only accounts for 11.1%. A study by Bolognesi et al. (2020) [15] shows that only 19% of the younger generation truly understand basic financial concepts, even though 62% consider themselves to have a good understanding. These findings emphasize that behavioral aspects must be the main focus in evaluating and improving financial literacy. This is in line with the Behavioral Finance approach, which states that individuals often make financial decisions that are influenced by cognitive and heuristic biases, not just based on rational information [16]. Therefore, financial literacy education should emphasize the knowledge aspect and help individuals develop a healthy financial mindset and habits.

Some items in the developed instrument still need to be adapted to the Indonesian context because Indonesia's economic and social structure still has unequal access to formal financial products. A study by Xu & Zia (2012) [17] found that social and cultural factors greatly influence individual financial understanding, so international standards such as the OECD cannot always be applied universally. The findings of Fernandes, Lynch, & Netemeyer (2014) [18] also show that the effectiveness of financial literacy measurement instruments depends heavily on the validity of the context. Some countries, such as China and Brazil, have modified the OECD instrument to suit local financial customs better. Financial literacy differs in every country, and measurements that rely too heavily on international standards without considering local factors can produce biased results [19]. Meanwhile, Huston (2010) [5] argues that OECD standards can be applied widely with little adaptation. Aprea et al. (2016) [12]

emphasize that financial literacy must consider socioeconomic and cultural factors, so the measurement methods used in developed countries are not necessarily fully applicable in Indonesia.

4 Conclusion

The financial literacy test has been proven to be of good quality. The results of the item fit test demonstrate this. The model indicates that all test items, with good material and language aspects, fit the construct well. Furthermore, all items have good content validity. The reliability of the items falls within the 'reliable' category. The test items range in difficulty from easy to complex.

Other factors, apart from knowledge related to finance, can affect financial literacy scores. These results suggest that Indonesian youths may not be familiar with questions about higher-order thinking skills. Literacy and numeracy skills, such as the ability to read and count, can also play a significant role in determining financial literacy.

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