



Implementation of Numeracy Literacy through Economics Learning in Elementary School

Althafia Siti Aishalya¹, Asep Bayu Dani Nandiyanto^{2,}, Tedi Kurniawan³, Muhammad Roil Bilad⁴*

¹Departemen Akuntansi, Universitas Pendidikan Indonesia, Indonesia

²Departemen Pendidikan Kimia, Universitas Pendidikan Indonesia, Indonesia

³Community College of Qatar, Qatar

⁴Faculty of Integrated Technologies, Universiti Brunei Darussalam, Brunei Darussalam

Correspondence: E-mail: nandiyanto@upi.edu

ABSTRACTS

Numeracy literacy is intended so that students can solve practical problems related to numbers in daily life. The purpose of this study was to determine the knowledge that students have about economics learning applied to numeracy literacy. The subjects taken in this study were students of fifth-grade Elementary School, Bandung, Indonesia. The data collection instrument used a pretest-posttest which was made in the Quizizz Application. The results of this study state that the average student still didn't understand numeracy literacy. Students' understanding of the material for numeracy literacy can be improved by providing economics material via PowerPoint or YouTube which is done online from using the zoom application with educators. The results of the research show that the average post-test score for all of the sample students is 90.6% greater than the average pre-test score of 56.6% so the difference is 34%. Therefore, learning economics can be improving their numeracy literacy students' skills.

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1. INTRODUCTION

Improving the quality of human resources, since 2016 the Ministry of Education and Culture has attempted to create a literacy culture by creating the National Literacy Movement (GLN) program as part of the implementation of the Minister of Education and Culture Regulation Number 23 of 2015 concerning the Growth of Character. The School Literacy Movement is a movement to cultivate student character which aims to make students have a culture of reading and writing to create lifelong learning. Based on the PISA assessment of education in Indonesia, numeracy literacy has poor results compared to the other 2 (two) main aspects in the PISA assessment. In addition to schools, there is a need for reaffirmation regarding the National Literacy Movement program to families and the wider community as supporters in realizing this literacy culture (Teguh, 2017).

Many studies discuss the importance of numeracy literacy. This literacy includes skills in applying mathematical concepts and rules in everyday situations. The results of this study indicate that with the Indonesian Realistic Mathematics approach, students can understand numeracy-based learning (Maghfiroh et al., 2021). In a study, it was explained that numeracy literacy in the unstructured solution states that students can analyze the information obtained from then use analytical interpretations to predict and draw conclusions (Mahmud & Pratiwi, 2019). Constraints experienced by students are the difficulty in understanding reading comprehension skills, difficulties in building settlement strategies, and difficulties in concluding. The key that the obstacle experienced when teaching numeracy literacy is that students have not been able to understand the problem because students are not accustomed to solving literacy-based problems (Perdana & Suswandari, 2021). It is stated that the obstacle to implementing numeracy literacy is the lack of student's understanding of basic mathematics and innovation of learning materials by teachers (Pangesti, 2018; Ekowati et al., 2019).

Based on previous research, we conducted research that was the implementation of numeracy literacy through economics learning. Numeracy literacy skills are explicitly taught in mathematics, but students are allowed to use mathematics outside of mathematics in various situations. Economics education is important to be taught in early childhood. Because economic activity will not be separated from human life. Therefore, we researched with the aim that students can understand numeracy literacy through economics learning. The type of research method used a quantitative approach using a pre-experimental method in the form of a one-group pre-test-post-test design. The results showed an increase after the material was given in the form of power points and YouTube.

2. THEORETICAL FRAMEWORK

The Ministry of Education and Culture explained that numeracy literacy is knowledge and skills in using various kinds of numbers and basic mathematical symbols to solve practical problems in everyday life which then analyses information displayed in various forms and interprets the results of the analysis to predict and make decisions. In simple terms, Purpura explained that numeracy can be defined as the ability to apply number concepts and arithmetic operations skills in everyday life. This ability is demonstrated by being comfortable with numbers and being able to use mathematical skills practically to meet the demands of life. The development of literacy and numeracy is interrelated. According to Munn, simultaneous development of literacy and numeracy skills can only be done in formal schools (Mahmud & Pratiwi, 2019). Explicitly, numeracy literacy skills are taught in mathematics, but students are allowed to use mathematics outside of mathematics in various situations. Using

math skills across the curriculum enriches learning in other subject areas and contributes to broadening and deepening understanding of numeracy. In addition to learning in theory, numeracy literacy also needs to be practiced by students through daily activities to deepen their understanding of literacy.

One of the non-mathematical subjects that can be done is numeracy literacy in economics learning. In early childhood, economics education is very important to learn because it is in daily life. The importance of economic literacy material is given to early childhood because in daily life some activities carried out by a person are almost inseparable from economics. This is because humans are faced with various needs that are always increasing and changing and must be met but faced with the problem of limited means of satisfying needs so that humans are faced with making decisions and determining choices to fulfil needs. For this reason, in determining decision making related to meeting needs, knowledge of economics or economic literacy is needed which can be obtained through economic education in the family and economic education in schools so that the decisions made are rational, efficient, and have valuable benefits (Permata *et al.*, 2017).

3. METHODS

The 2021 community service program activity will be held at an elementary school, starting on August 26, 2021, until September 26, 2021. The type of research method used a quantitative approach using a pre-experimental method in the form of a one-group pre-test-post-test design. Sources of data used in this study are primary data and secondary data. Primary data sources are data information that is carried out directly by being obtained from the original data source. The data used comes from direct documentation carried out by us in the field. While secondary data sources are data collection obtained indirectly through the information that is already available or also called information that has been processed by other people. The secondary data used refers to journals that have been researched and processed by others.

The subject in this study was all students in class 5-A elementary school Dian Kencana, Bandung, Indonesia. The sample used in this study was 15 people from all students in class 5-A elementary school in Bandung. This study was divided into 2 sessions, the first was to do a pre-test before the material is delivered and the second was to do a post-test after the material is delivered to find out the extent of understanding the material via Quizizz Application. The instrument design is in the form of a two-choice Likert scale (yes and no). The data obtained will be processed and then compared until finally the results will be concluded.

4. RESULTS AND DISCUSSION

4.1. Demography

This research was conducted at an elementary school. The first step in this study was to conduct interviews with the principal regarding the grade level that supports numeracy literacy through economics learning. Then talk about the class that will be appointed by the principal as the subject of research. We selected a sample from the population and obtained as many as 15 with details of male as many as 46.6% (7 students) and female as many as 53.3% (8 students). The selection of the sample was based on the lack of students in answering questions by looking at aspects of speed and accuracy. This is because students lack literacy and numeracy practice.

4.2. Pre-test and post-test results

The importance of economic literacy material is given to early childhood because in daily life some activities carried out by a person are almost inseparable from economics. This is because humans are faced with various needs that are always increasing and changing and must be met but faced with the problem of limited means of satisfying needs so that humans are faced with making decisions and determining choices to fulfil needs. For this reason, in determining decision making related to meeting needs, knowledge of economics is needed which can be obtained through economic education in the family and economic education in schools so that the decisions made are rational, efficient, and have valuable benefits.

Table 1 shows the questions asked in the pre-test and post-test. The first questionnaire that was distributed was a pre-test questionnaire with a sample of 15 students from grade 5-A elementary school, which aimed to determine the understanding of numeracy literacy through economics learning by filling out 10 questions. After that, we gave treatment to students through learning videos from YouTube and explained basic economics material using power points. After conducting treatment, we were distributed a questionnaire (post-test) again with the same questions to determine students' understanding of numeracy literacy through economics learning.

Table 1. Students' pre-test and post-test results.

Number	Questions	Pre-test	Post-test	Gain
1.	Jennie and her mother are going to the store to shopping to fulfil school needs. For that, her mother gave the money of Rp. 20,000 to Jennie. Looking at the contents of Jennie's basket, it turns out that there are several items: -Stationary Rp 5.000 -Candy Rp 5.000 -Books Rp 7.000 -Teddy Bears Rp 10.000 -Foods Rp 8.000 Is the money that Jennie has enough for the price of the goods she is going to spend?	66.6%	100.0%	33.4%
2.	Based on questions number 1, are all the things that Jennie buys for school needs?	66.6%	93.3%	26.7%
3.	Based on questions number 1, if Jennie decides to spend stationery and books, is the money that Jennie has to spend on these items?	46.6%	86.6%	40.0%
4.	Based on questions number 1, are candy, teddy bears, and foods a school necessity?	66.6%	93.3%	26.7%
5.	Two days ago, Budi took Rp 70.000 from his piggy bank for school purposes. Today, August 31, he has spent Rp 35.000 and plans to buy a new bag for Rp 45.000. Can Budi buy the bag?	53.3 %	86.6%	33.3%
6.	Mom planned a Jarjit birthday party for Rp 300.000. She has spent the money as much as Rp 210.000 for the purchase of balloons, cake, and goodie packs. On the way, Jarjit saw a bicycle and he wish he could get that as a birthday gift from his Mom and Dad for Rp 150.000. Can Jarjit buy the bike?	66.6%	93.3%	26.7%

Table 1 (continue). Students' pre-test and post-test results.

Number	Questions	Pre-test	Post-test	Gain
7.	Mail sells a package of fried chicken rice for Rp 15.000. If in a day, he can sell 30 packages, then the money that Mail gets from the sale is Rp 500.000?	46.6%	86.6%	40.0%
8.	Lisa is buying candy at a shop near her house. She brought money as much as Rp 5.000. If the price of candy purchased by Lisa is Rp 2.500, then the money that must be returned by the seller is Rp 2.500?	66.6%	100.0%	33.4%
9.	Rose wants to buy a new bicycle because the bicycle that Rose has can't longer be used. Every day, she will savings her daily money to her piggy bank of Rp 5.000. Today, on April 21, Rose counted the money in her piggy bank as much as Rp 175.000. If the price of the new bicycle needed by Rose is Rp 250.000, then Rose thinks that she should save for 15 days later? Is she?	26.6%	73.3%	46.7%
10.	Based on question number 9, does the financial plan help Rose in managing her finances?	60.0%	93.3%	33.3%

The results show several discussion points:

- (i) For questions number one, two, three, and four, the result increased quite significantly in each question sequentially by 33.4, 26.7, 40, and 26.7% when the material of needs and wants were given.
- (ii) For questions number five, six, nine, and ten, the result increased in each question sequentially by 33.3, 26.7, 46.7, and 33.3% when the material of basic financial budget was given.
- (iii) For questions number seven and eight, the result increased in each question sequentially by 40%, and 33.4% when the material of buying and selling activities was given.

From the results of the pre-test, it can be seen that of all the questions asked, questions about saving and buying and selling activities got low results, respectively 26.6% and 46.6% because the questions asked were rarely done in their daily life. While the questions asked about simple discussions such as buying one or several items related to their needs, students completed faster. After being given treatment through economics learning both theoretically and practically, the post-test results showed that students were faster at working on the questions given. From the pre-test 26.6% (saving) to 73.3% and for buying and selling activities from 46.6% to 86.6%. This indicates that when involving children in economic activities, the more it helps them to solve numeracy literacy problems. This is because fifth graders, who are 10-12 years old on average, are in the concrete operational phase, where they can acquire logical and rational strategies. Their characteristics need to be directed at dynamic learning. The selected stimulus should be contextual, interesting, and should be contemporary so that it stimulates students' curiosity (Perdana & Suswandari, 2021).

5. CONCLUSION

This study concludes that students understand numeracy literacy more quickly through economics learning which they have done in daily activities such as buying candy at the store, shopping for school needs, and planning finances to fulfil their dream goods. From the results of the pre-test, it can be seen that of all the questions asked, questions about saving and buying and selling activities got low results, respectively 26.6% and 46.6% because the questions asked were rarely done in their daily life. While the questions asked about simple discussions such as buying one or several items related to their needs, students completed

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7. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

8. REFERENCES

- Ekowati, D. W., Astuti, Y. P., Utami, I. P., Mukshlishina, I., and Suwandayani, B. I. (2019). Literasi numerasi di SD Muhammadiyah. *Elementary School Education Journal*, 3(1), 93-103.
- Maghfiroh, F. L., Amin, S. M., Ibrahim, M., and Hartatik, S. (2021). Keefektifan pendekatan pendidikan matematika realistik Indonesia terhadap kemampuan literasi numerasi siswa di sekolah dasar. *Jurnal Basicedu*, 5(5), 3342-3351.
- Mahmud, M. R., and Pratiwi, I. M. (2019). Literasi numerasi siswa dalam pemecahan masalah tidak terstruktur. *Jurnal Pendidikan*, 4(1), 69-88.
- Pangesti, F.T.P. (2018). Menumbuhkembangkan literasi numerasi pada pembelajaran matematika dengan soal HOTS. *Indonesian Digital Journal of Mathematics and Education*, 5(9), 566-575.
- Perdana, R., and Suswandari, M. (2021). Literasi numerasi dalam pembelajaran tematik siswa kelas atas sekolah dasar. *Absis: Mathematics Education Journal*, 3(1), 9-15.
- Permata, B., Wahyono, H., and Wardoyo, C. (2017). Pengembangan bahan ajar berbasis cerita untuk menanamkan literasi ekonomi pada siswa sekolah dasar Kabupaten Situbondo. *Jurnal Pendidikan*, 2(3), 356-362.
- Pratiwi, I. (2019). Efek program PISA terhadap kurikulum di Indonesia. *Jurnal Pendidikan dan Kebudayaan*, 4(1), 51-71.
- Teguh, M. (2017). Gerakan literasi sekolah dasar. *Jurnal Pendidikan Dasar*, 1(2), 18-26.