

## **The Effectiveness of Campus Teaching Programs in Improving Students' Literacy and Numeration**

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**Abstract:** The teaching campus is one of the programs run by the government in an effort to improve the literacy and numeracy skills of students in Indonesia. This research aims to determine the effectiveness of campus teaching programs in improving students' literacy and numeracy skills at the elementary school level. To realize this goal, experimental research was applied in this research. This research was conducted at SDN 11 Praya and SDN Tapon. The number of samples in this study was 57 students, with details of 27 students at SDN 11 Praya and 20 students at SDN Tapon. The sample in this study was taken using a simple random sampling technique. There are two instruments used in this research, namely literacy and numeracy ability test instruments. This test instrument has been prepared by the campus teaching team and is used externally in Indonesian schools. The test was carried out twice, namely at the beginning of the program (pretest) and at the end of the program (posttest). The test is carried out online using a computer and/or cellphone. The research data was then analyzed using normalized gain calculations (N-gain). Based on the results of data analysis, it was found that the Teaching Campus program was effective in increasing students' literacy and numeracy. The effectiveness of the teaching campus program in improving the literacy skills of students at SDN 11 Praya is in the medium category with an N-gain score of 0.59, while the effectiveness of the teaching campus program in improving the numeracy skills of students at SDN Tapon is in the high category with an N-gain score of 0.78.

**Keywords:** Literacy, Numeracy, Teaching Campus.

## **INTRODUCTION**

The era of globalization is marked by demands for every society to have various competencies to face increasingly complex challenges and life problems. One of the basic abilities that every individual must have in the current era of globalization is literacy and numeracy skills. Literacy and numeracy are two basic abilities that students must have, especially at the elementary school level, in order to adapt to various life contexts, both personal, social, and professional. Gee explains that literacy is a person's skill through thinking and reading activities (Lestari et al., 2019) while numeracy is the skill and knowledge of using various types of symbols and numbers related to basic mathematics to help students solve problems in everyday contexts. -day, as well as analyzing various data or information displayed in the form of tables, graphs, and charts as a reference for

students in determining answers to the problems given (Kemendikbud, 2021).

Literacy and numeracy skills are currently a trend that is the main focus of learning in several developed countries in the world. Several developed countries such as the United States, Canada, New Zealand, and Australia place these two competencies in their educational curriculum. Considering the importance of literacy and numeracy skills, several assessment programs at the international level include these two abilities in their main assessments, including the PISA and TIMSS International Student Assessment Programs. Based on the data released by these two studies, shows that the average score for Indonesian students' literacy skills is always below the international average score and tends to continue to decline. The average reading literacy score of students in Indonesia based on the latest PISA results in 2022 is 476 (average international score is 500). When compared with

the results of the previous test in 2018, the literacy score in 2022 tends to decrease because, in the previous year, the reading literacy score of students in Indonesia was 485. Likewise, numeracy skills, based on the latest PISA results in 2022, shows that numeracy skills students are still below the international average, namely 472 (international average score 500). When compared with the PISA scores in the previous test period (2018), the numeracy ability scores of students in Indonesia have decreased. The PISA score for numeracy skills in 2018 was 487 Kemendikbudristek (2023). At the same time, the Trends in International Mathematics and Science Study (TIMSS) held in 2015 showed that the literacy and numeracy of Indonesian students was still low. Indonesian students' mathematical literacy is only ranked 44th out of 49 countries, with a score of 397 still below the international average score of 500 (Hadi & Novaliyosi, 2019).

Apart from that, several previous research results also show that the literacy and numeracy skills of Indonesian students are still low. This is proven by the research results of Son et al., (2023); Yustinaningrum, (2021); Rizki, et al., (2022); and Kalsum, & Sulastri, (2023) show that the literacy and numeracy skills of students in Indonesia are still low. The results of this research indicate that the learning activities implemented in schools so far have not been able to improve student's literacy and numeracy skills. Therefore, there needs to be extra treatment apart from learning in class.

Strengthening literacy and numeracy among students requires the involvement of various parties, from the central, and regional, to educational units. This effort also consolidates all policy stakeholders to mutually map their roles. Strengthening literacy and numeracy is a program in the world of Indonesian education that will be sustainable. The Ministry of Education and Culture encourages increased literacy and numeracy in various ways, one of which is through the Teaching Campus program. In this program, the Ministry of Education and Culture sends selected students to elementary schools with the aim of helping with four things, namely literacy, numeracy, technology adaptation, and administration. Students placed in elementary schools become collaboration partners for teachers at those schools. The criteria for elementary schools chosen as places to teach students are schools that are accredited C or B with a small number of students or are located in

the 3T (frontier, outermost, underdeveloped) areas.

Currently, the Teaching Campus Program has been implemented for 7 (seven) classes or 3.5 years since this program was launched in 2021. Various opinions and responses from academics, lecturers, and teachers regarding this program. Some of these responses are positive and some are negative. Those who have a negative view of this program are pessimistic that this program will be able to improve the literacy and numeracy of students in schools. Most of them reasoned that how could students who had no experience in teaching be able to improve the literacy and numeracy of students at school if they worked with teachers who had been teaching at school for a long time? This research aims to determine the effectiveness of campus teaching programs in increasing the literacy and numeracy of students at school.

## METHODS

This research is quantitative research with a one-group pretest-posttest design (Frankel, et al., 2012). This research did not use a comparison class but the research subjects were given a pretest-posttest so that the magnitude of the influence of the campus teaching program on increasing students' literacy and numeracy could be known for certain. The design of this research can be seen in Table 1.

Table 1. Research design

<i>Pre-test</i>	<i>Treatment</i>	<i>Post-test</i>
x	Teaching Campus Program	x

This research was conducted in two different schools in Central Lombok district, namely at SDN 11 Praya, and SDN Tapon. Activities were carried out for 16 (sixteen) weeks. The sample from this research was 57 grade 5 elementary school students (27 students at SDN 11 Praya and 20 students at SDN Tapon). Sampling used a simple random sampling technique. Simple random sampling is taking samples from a population at random without paying attention to the strata in the population and every member of the population has the same opportunity to be sampled (Sugiyono, 2012).

There are two main instruments used in this research, namely standard literacy and numeracy test instruments. These two test instruments have been prepared by the Teaching

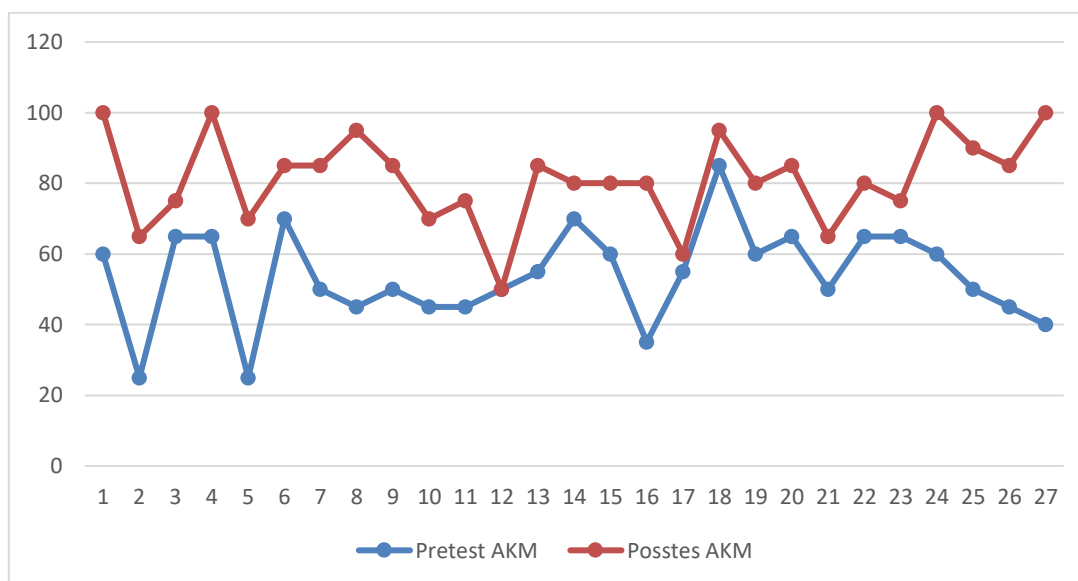
Campus team and the test method is computer-based. The research data was then analyzed using normalized gain calculations (N-gain). The average normalized gain is a comparison of the average actual increase (gain) with the average maximum increase that may be achieved by students. The equation for calculating the average normalized gain  $\langle g \rangle$  is as follows (Hake, 1999).

$$\langle g \rangle = \frac{(S_{post} - S_{pre})}{(S_{max} - S_{pre})} \quad \dots (1)$$

The calculation results are then interpreted using Hake's (1999) criteria, namely;  $\langle g \rangle < 0.3$  (Low);  $0.3 \leq \langle g \rangle \leq 0.7$  (Medium); and  $\langle g \rangle > 0.7$  (high)..

## RESULTS AND DISCUSSIONS

Based on the results of data analysis, data obtained from the pretest and posttest results of students' literacy abilities at SDN 11 Praya are as follows.

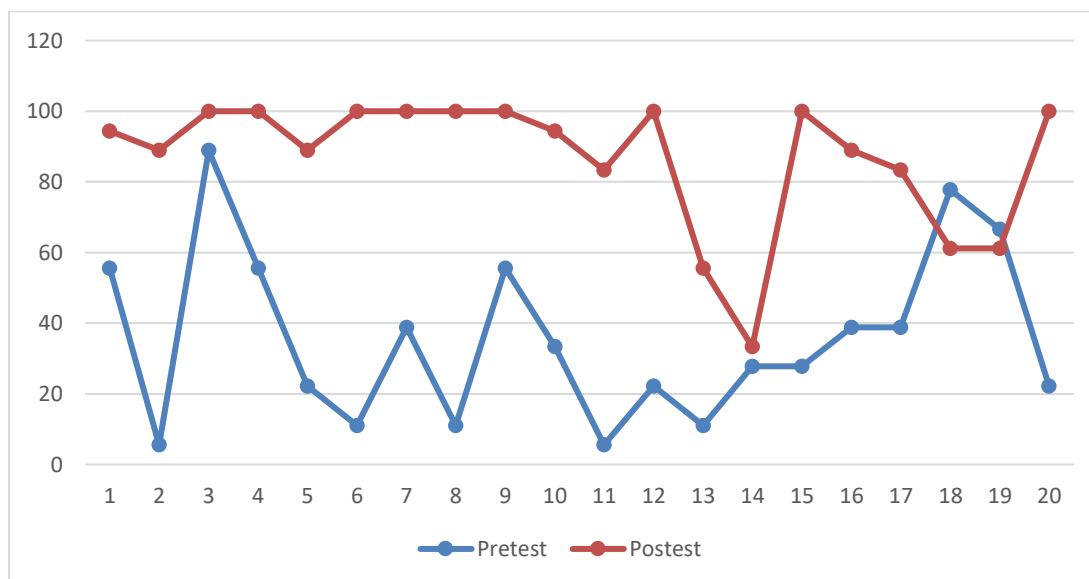


**Figure 1.** Pretest and posttest results of students' literacy skills at SDN 11 Praya.

From the graph above, it can be seen that the average literacy score of students before being given treatment was 53.88. The average literacy score of students increased at the end of the program to 81.30. This means that the campus teaching program run by students during sixteen weeks of activities at school can improve students' literacy skills. Various programs are carried out by students during their activities at SDN 11 Praya, including teaching assistance activities. Teaching assistance activities are students' activities to help teachers teach in class, starting from designing, and implementing, to evaluating learning outcomes at school. While providing teaching assistance at school, students teach in class using a variety of innovative learning methods in the form of educational games. Apart from that, students also provide additional classes to students who have below-average literacy and numeracy skills. This activity is carried out outside class hours after students return home from school. This activity is carried out in coordination with related parties

such as the school principal, tutors, teachers at school, school administrators, and students' parents. Apart from that, during their activities, students also created a good atmosphere by creating a reading corner and revitalizing the school library. The reading corner and school library are then used as a place to build students' literacy and numeracy skills. This is what makes the literacy skills of students at SDN 11 Praya increase significantly.

Next, to find out the level or extent of the increase in students' literacy skills after carrying out this campus teaching program, an N-gain calculation was carried out. Based on the results of the N-gain calculation, it was found that the average N-gain score for students' literacy skills at SDN 11 Praya was  $\langle g \rangle = 0.59$ . The results of this calculation indicate that the level of improvement in literacy skills of participants at SDN 11 Praya is in the medium category. Based on the results of data analysis, data obtained from the pretest and posttest results of students' literacy abilities at SDN 11 Praya are as follows.



**Figure 2.** Pretest and posttest results of students' numeracy abilities at SDN Tapon

From the graph above, it can be seen that the average percentage of students who answered correctly increased significantly. On average, it increased from 35.83% at the start of the activity to 86.67% at the end of the campus teaching activity. From the graph above, it can be seen that the average literacy score of students before being given treatment was 35.83. The average literacy score of students increased at the end of the program to 86.67. This means that the campus teaching program carried out by students during sixteen weeks of activities at school can improve students' numeracy skills. Various programs are carried out by students during their activities at SDN Tapon, including teaching assistance activities. While providing teaching assistance at school, students teach in class using a variety of innovative learning methods in the form of educational games. Apart from that, students also provide additional classes to students who have below-average literacy and numeracy skills. This activity is carried out outside class hours after students return home from school. This activity is carried out in coordination with related parties such as the school principal, tutors, teachers at school, school administrators, and parents of students. Apart from that, during the activities, students also created a good atmosphere by creating a reading corner. This reading corner is then used as a place to build students' literacy and numeracy skills. This is what makes the numeracy skills of students at SDN Tapon increase significantly.

Next, to find out the extent to which the level of increase in students' numeracy skills after carrying out this campus teaching program, an N-gain calculation was carried out. Based on the results of the N-gain calculation, it was found that the average N-gain score for students' literacy skills at SDN Tapon was  $\langle g \rangle = 0.78$ . The results of this calculation indicate that the level of improvement in participants' numeracy skills at SDN 11 Praya is in the high category. Based on the results of the analysis that has been carried out, it can be concluded that the campus teaching program is effective in improving the literacy and numeracy skills of students in elementary schools. The results of this research are in line with the research results of Pepayosa & Bataha, (2022); Rahim & Suryani, (2022); Rismauli et al., (2022); Firjatullah et al., (2023); and Anjelika et al., (2024) who stated that campus teaching programs are effective in increasing the literacy and numeracy of students in schools.

## CONCLUSION

Based on the results of data analysis, it was found that the Teaching Campus program at SDN 11 Praya and SDN Tapon was effective in increasing students' literacy and numeracy. The effectiveness of the campus teaching program in improving the literacy skills of students at SDN 11 Praya is in the medium category with an N-gain score of 0.59. The effectiveness of the campus teaching program in improving the

numeracy skills of students at SDN Tapon is in the high category with an N-gain score of 0.78. The results of this research can be used as empirical evidence about the effectiveness of campus teaching programs in improving the literacy and numeracy skills of students at the elementary school level.

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