Improvement of Literacy and Numeracy Abilities with Calistung Learning Using Card Media

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Abstract

SDN Blimbing is one of the primary schools in Blimbing village, Mojo sub-district, Kediri district. 90.90% of grade 1 students at SDN Blimbing experience difficulties in learning to read, write and count (Calistung). Low Calistung skills will reduce students' literacy and numeracy skills. To overcome this, it is necessary to provide Calistung learning program assistance to each student individually based on the level of difficulty and student needs. The type of research conducted is descriptive qualitative with Participatory Action and Learning (PALS) research and the learning strategy applied is collaborative learning, where the fun learning strategy is collaborated with the individual system and individualized educational program (IEP). This research activity was conducted through 4 stages: (1) Initial Data Collection, (2) Advocacy, (3) Assistance, and (4) Monitoring and evaluation. Based on the descriptive analysis conducted, it was found that the Calistung learning assistance program can improve the literacy and numeracy skills of grade 1 students of SDN Blimbing 1, Kediri District.

Keywords: Calistung, literacy, card media, numeracy

Abstrak

SDN Blimbing adalah salah satu sekolah dasar yang ada di Desa Blimbing, Kecamatan Mojo Kabupaten Kediri. Siswa kelas 1 SDN Blimbing sebesar 90,90% mengalami kesulitan dalam belajar membaca, menulis, dan berhitung (Calistung). Kelemahan Calistung yang rendah akan menurunkan kemampuan literasi dan numerasi siswa. Mengatasi hal tersebut, maka perlu adanya pendampingan program pembelajaran Calistung kepada setiap siswa secara individual berdasarkan tingkat kesulitan dan kebutuhan siswa. Jenis penelitian yang dilakukan adalah deskriptif kualitatif dengan penelitian *Participatory Action and Learning* (PALS) dan strategi pembelajaran yang diterapkan adalah kolaboratif learning, dimana strategi pembelajaran fun learning dikolaborasikan dengan sistem individual dan individualized educational program (IEP). Kegiatan penelitian ini dilakukan melalui 4 tahapan: (1) Pengumpulan Data Awal, (2) Advokasi, (3) Pendampingan, dan (4) Monitoring dan evaluasi. Berdasarkan analisis deskriptif yang dilakukan, ditemukan bahwa program pendampingan pembelajaran

Calistung dapat meningkatkan kemampuan literasi dan numerasi siswa kelas 1 SDN Blimbing 1, Kabupaten Kediri.

Kata kunci: Calistung, literasi, media kartu, numerasi

INTRODUCTION

Education is very important for the development of superior human resources, especially to improve Calistung skills and student learning motivation. However, there are still many students who experience learning difficulties, especially in basic Calistung skills and low student learning motivation. This condition is influenced by various factors, including: (1) low support and guidance from parents and teachers, (2) low internal motivation of students, (3) learning models and strategies that are less interesting and effective, and (4) limited learning facilities and infrastructure that support and are adequate. This results in many students struggling to achieve their best potential, especially in subjects that require skills and literacy, such as mathematics, Indonesian language, and science. Low student motivation to learn can affect students' loss of interest in learning at school, so it can be the initial cause of students dropping out of school (Luturmas, 2022).

The government always strives to improve the quality of education by launching educational programs that aim to improve and improve the quality of education in Indonesia. Equitable quality of education is pursued by the government not only in big cities, but in all regions of Indonesia. The results of the Political and Economic Risk Consullant survey in Musrifah state that the quality of education in Indonesia is ranked 12th out of 12 countries in Asia. In 2000, The Wold Economic Forum Sweden reported that Indonesia's competitiveness was low, which was ranked 37th out of 57 countries surveyed and had the title of not being a technology leader out of 53 countries in the world (Musrifah, 2021). In urban areas, improving the quality of education has been going well. However, it is not matched by an increase in quality in rural areas. This is influenced by many factors, one of which is the availability of adequate educational support facilities and infrastructure (sarpras), such as the availability of libraries. The limited library infrastructure can have an impact on the low demand for student reading. This condition is exacerbated by the ease of obtaining gadgets and internet access for anyone, including elementary school student. Currently, student were increasingly familiar with the internet and gadgets and the lack of parental supervision of gadget use activities in children, which has a negative impact on the quality of education they have. This condition makes the prospect of education in Indonesia needs greater attention. In addition to the availability of inadequate infrastructure facilities, based on observations in the field, it is found that the needs of educators are insufficient. This causes the

learning process to be constrained. Difficult road access and inadequate transportation result in a lack of government attention in efforts to improve education in the regions. Another factor affecting the quality of education is the condition of student who are still far from the expectations of the educational environment.

The Ministry of Education and Culture through Ministerial Regulation Number 23 of 2013 launched literacy activities in schools. This activity aims to foster interest in reading and writing in the school environment and outside school (Machromah, 2020). In 2016, the government increased efforts to implement a culture of literacy by launching the National Literacy Movement (GLN) which is the embodiment of Permendikbud Number 23 of 2015 concerning Cultivation of Budi Pekerti GLN. GLN in schools is called the School Literacy Movement (SLM) (Agustina, 2020). This literacy movement aims to increase students' interest in reading and improve students' reading skills and knowledge and foster character (Ekowati, 2019). Students' ability to read is the first step in understanding literacy, such as science literacy, numeracy literacy, digital literacy, cultural and civic literacy, and financial literacy (Fitriana, 2021). Literacy activities that can be implemented at the low-grade elementary school education level are numeracy literacy. Numeracy is the ability to solve contextual problems in everyday life by using the concept of thinking facts, procedures and mathematical tools to create individuals who can explain the use of mathematics in everyday life. Numeracy skills are needed in every aspect of life (Maulidina, 2019). The purpose of numeracy is to hone and strengthen students' ability to interpret numbers, tables, graphs, and diagrams (Latifah, 2022).

Reading, writing, and counting or often abbreviated as Calistung has begun to be applied to learning programs at the kindergarten level. This is still a pro and con among experts because early childhood is an age for play, socialization, and introduction to the environment (Ma'ruf, 2021). Those who support the implementation of the Calistung learning program in grade 1 elementary school are based on the consideration that children are in the golden age period, so it will be easy to learn and absorb the lessons given. During the golden age, the development of brain cells occurs very rapidly, so that children are easier to master multiple intelligences (Iswara, 2013). Reading, writing, and counting (Calistung) are basic skills that every student must have in taking the education level, because it is an important provision for student in supporting the learning process and student learning. However, there are still problems related to Calistung, especially at the elementary school level. To overcome this problem, efforts need to be made to improve Calistung skills and student learning motivation. The Calistung learning assistance program can be one of the solutions in degrading Calistung learning difficulties in student. In this program, student will be given tutoring (learning services) that provide opportunities for student to develop good learning attitudes and habits (Sormin, 2022). The assistance that will be provided in overcoming Calistung learning difficulties is carried out with a fun learning strategy so that student are motivated to learn (Niken, 2023). In the implementation of fun learning, student are invited to learn Calistung while playing and singing so that the learning atmosphere is more fun and student are more enthusiastic. In introducing Calistung to student, teachers and parents must still pay attention and monitor the abilities and interests of the child (Mustakin, 2022). This implies that in teaching Calistung to student, interesting methods should be used and there should be no coercion.

One of the primary schools in Mojo sub-district, Kediri district that has student with learning difficulties in Calistung is SDN Blimbing 1. This school is located in Blimbing village, Mojo sub-district, Kediri district. Regionally, this school is located in a highland area with access roads that are guite uphill. The availability of facilities, infrastructure, learning resources and human resources is limited. The geographical condition of the school is also a factor inhibiting the equal distribution of education. In addition, the social, economic, and educational background of the residents is also a supporting factor in increasing student learning difficulties. The majority of Blimbing villagers work as farmers with an income below the minimum wage, resulting in a low family economy. This is an obstacle for children to get adequate education. In addition, around 37.21% of Blimbing villagers are still illiterate. This is a factor in the low awareness of the importance of education, at least the ability to read, write and count, which are basic skills that must be mastered by everyone. The majority of Blimbing villagers are educated up to primary school, with a few continuing to junior and senior high school, and no one has yet reached university level.

Based on the results of initial observations and interviews with resource persons conducted by the research team, it is known that 90.9% of grade 1 student at SDN Blimbing 1, Kediri District, experience difficulties in learning Calistung. Calistung learning difficulties in student are caused by several factors, including: (1) Student lack motivation to learn Calistung, (2) Lack of availability of learning facilities such as letter cards, number cards, picture story books, or fairy tale books, (3) Lack of learning support from parents in helping Calistung learning difficulties in children, and (4) Environmental conditions that are less conducive in supporting student learning needs. Learning problems experienced by student can be minimized by providing assistance with the Calistung learning program. This is because learning assistance programs for student can help problems that exist in the education system, such as inequality of access and varying quality of education. This program can be useful in improving student Calistung skills and providing motivation to learn, so that student who experience learning difficulties can get learning assistance through learning assistance. The program provides the support and guidance needed by student. (Marlisa, 2016). The importance of Calistung learning assistance activities is one of the efforts in fulfilling student rights to get proper and appropriate education. The objectives of the Calistung

learning assistance program, namely: (1) overcoming problems and helping grade 1 student who have difficulty in the learning process of reading, writing, and counting; (2) helping student to be more proficient and fluent in reading, writing, and counting, (3) helping teachers in teaching Calistung to student, and (4) helping to ease the burden on parents in teaching Calistung to children at home.

Before teaching numeracy literacy to student, we must pay attention to several stages of children before they can read, namely: (1) reading readiness and ability, (2) foster children's curiosity, and (3) create an environment for reading (Marlisa, 2016). Writing activities in student are followed by reading and speaking, thinking, emotions, and motor skills. These are aspects of development that student can master through interesting activities with materials in the surrounding environment. Writing activities cannot take place naturally, but require motivation and encouragement from adults around them, such as parents and teachers. To improve writing skills in student can be done in various ways, including: (1) discussing letters by name and sound (pronunciation), (2) providing a literacy-rich environment, (3) rereading favorite stories, (3) involving student in language games, and (4) encouraging student to experiment with writing activities (Beaty, 2019).

Based on the above, in this numeracy literacy movement, student can practice writing, reading, and counting. Numeracy literacy activities in schools can be carried out in both intracurricular and extracurricular activities (Wulandari, 2021). To train numeracy literacy to student, an appropriate and interesting learning strategy is needed (Sinaga, 2022). An interesting learning strategy will motivate student to learn. In this activity, a fun learning strategy was chosen which is collaborated with the individual system and individualized educational program (IEP). In addition to the right learning strategy, appropriate learning media is needed. Learning media that can be utilized to teach numeracy literacy of student Calistung skills include letter cards, number cards, picture story books, and fairy tale books (Sari, 2019). Picture card media has been proven effective for improving student reading skills (Pertiwi, 2019) and can increase student interest in learning and learning concentration (Supriyati, 2022). In teaching Calistung to student through the Numeracy Literacy Movement, there are basic aspects of applying Calistung to student that must be considered, namely:

Table 1. Basic Aspects of Calistung Implementation (Kusuma, 2023)

Aspect	Literacy Implementation	Numeracy Implementation
Reading	Conducted face-to-face	Conducted face-to-face
	Using letter card media	Using number card media
	Activities respond well to reading	Reading numbers clearly and
	Using social, physical, and academic	correctly
	environments with a variety of	
	reading	

Aspect	Literacy Implementation	Numeracy Implementation
Writing	Conducted face-to-face Using notebooks and stationery Carry out habituation, development, and implementation well	Conducted face-to-face Using number card media
Counting	Conducted face-to-face Using number and number card media Reading basic arithmetic operations	Implemented face-to-face Using number and number card media Preparing basic arithmetic operations

In the implementation of education, parenting is one of the integrative holistic services that must be provided to children by all parties involved in the scope of education. The existence of parenting activities can provide benefits to the parties involved, including: (1) increasing parents' understanding of the development that has been and must be achieved by their children according to their age, (2) parents obtain information about the potential seen in children, so that the needs and rights of children to education are fulfilled, (3) increasing parents' confidence in educating their children, (4) establish a harmonious relationship between family members in accordance with their respective roles, (5) realize a family relationship between the community and the Education Provider Institution, (6) establish harmony and continuity between the material provided by the teacher and parents, and (7) develop all aspects according to the age level of the child (Rachman, 2019).

To improve students' Calistung skills to support students' literacy and numeracy skills, researchers want to carry out Calistung learning assistance activities for students who have difficulties. Assistance is carried out through a collaborative learning model, namely participatory action and learning and learning media by utilizing card media. The application of the participatory action and learning method aims to provide positive stimuli and equal opportunities for all students to be active in teaching and learning activities, so that students do not feel inferior to weaknesses in reading, writing, and counting. Card media is used to facilitate students in recognizing letters and numbers more easily and interestingly. This is because the card media is designed in an interesting way so that it can increase students' enthusiasm for learning. Based on research conducted by Suwarma et al (2023), it was found that structured mentoring and tutoring can significantly improve Calistung skills and learning motivation. Azzahra, et al (2021) also stated that the use of interesting learning media can increase students' Calistung learning motivation. Azzahra, et al (2021) utilized Upinca media as a Calistung learning media for students at SDN Bakung Turus. From the learning results of students at SDN Bakung Turus, there was a significant increase between the average pretest and posttest scores, namely 39.1 and 80.8. Research conducted by Chasanah (2022) states that the importance of providing guidance and counseling to low-grade students to learn Calistung well as a form of teacher support and encouragement for students to be ready to learn and be able to enter the next stage.

RESEARCH METHOD

This research uses descriptive qualitative research, where this research aims to describe the implementation of the Calistung program assistance in an effort to improve literacy and numeracy skills in student. The method used is the Participatory Action and Learning System (PALS) method, where the research subject is also the object of research. The learning strategy applied is collaborative, where the fun learning strategy is collaborated with the individual system and individualized educational program (IEP) with stages as shown in Figure 1.

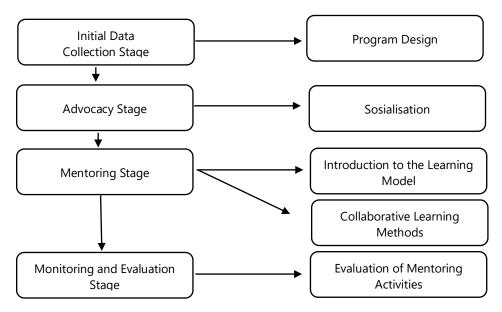


Figure 1: Research Stages

The research was conducted in August and September 2023 at SD Negeri Blimbing 1, Kecamaan Mojo, Kediri Regency. Data collection techniques used are observation, interviews, and documentation. Data analysis used is qualitative descriptive analysis. In this research activity, it was carried out in six stages, namely:

1. **Initial Data Collection Stage.** This initial data collection aims to find out the problems at SDN Blimbing 1, especially related to students' reading, writing, and counting (Calistung) skills. This was done because Calistung skills have an important influence on students' literacy and numeracy skills. Students

who have difficulty reading, will tend to have a low interest in reading, as well as students who are less able to count will affect numeracy skills. Good literacy and numeracy skills need to be possessed by all students and are needed in everyday life. To find out the initial ability of students' Calistung, observation, interview and documentation methods were used.

- 2. **Advocacy Stage.** The research team, together with the school, advocated for parents to pay more attention and help their children overcome learning difficulties. Advocacy activities aim to create a conducive learning environment for student.
- 3. **Mentoring Stage.** At this stage, the research team together with the teacher will assist the Calistung learning program individually to grade 1 student. This is done as an effort to overcome the learning difficulties faced by student. Assistance is carried out face-to-face by providing learning materials and learning aids to student in need tailored to the needs and level of difficulty of student. Assistance activities are carried out with collaborative learning strategies, namely fun learning strategies collaborated with individual systems and individualized educational programs (IEP). The mentoring material is focused on degrading Calistung learning difficulties in student and is adjusted to the level of difficulty and student needs.
- 4. Monitoring and evaluation of activities. Monitoring and evaluation activities are carried out at the end of each stage of the learning assistance program period. This activity aims to determine the level of effectiveness and success of the program. Monitoring and evaluation activities are carried out through Evaluation and Monitoring Sheets. Monitoring is carried out to determine the continuity and effectiveness of Calistung learning assistance activities to students, while the evaluation sheet is used to determine the final ability of students after Calistung learning assistance activities. The evaluation was carried out by giving reading, writing and counting tests after the mentoring was carried out.

RESULT AND DISCUSSION

The mentoring activity for the Calistung learning program at SDN Blimbing 1 was carried out for two months. In the initial stage, initial data collection was carried out through observation, interviews, and documentation. Observation activities were carried out to observe in detail and in more detail the process of implementing Calistung given to student in grades 1 and 2 of SDN Blimbing 1, Kediri District. Interviews were conducted directly with several resource persons, namely: (1) the principal, (2) grade 1 teachers, and (3) grade 1 student. Interview activities were used to obtain information related to the implementation of Calistung, obstacles faced, and solutions in improving student literacy and

numeracy skills. Meanwhile, documentation activities are known to find out the general description of the school to complete the data needed in the research. Based on this, the initial data on the implementation of Calistung for Grade 1 student at SDN Blimbing 1 in Kediri district before the mentoring activities were implemented can be seen in Table 2.

Table 2: Initial Data on Calistung Activities of Grade 1 Student before Assistance

Source of Information	Result	
Kepala Sekolah	Calistung implementation is carried out on Tuesdays, Wednesdays, and Thursdays after the learning and teaching process is complete. This activity is carried out for all student who have difficulty reading, writing, or counting. The majority of grade 1 student experience Calistung difficulties because they did not attend kindergarten. The majority of grade 1 student receive their first education at the elementary school level and at home do not have facilities and guidance for learning from parents. This is because there are parents who are illiterate, so they cannot teach their children to learn Calistung.	
Guru Kelas 1	Grade 1 teachers have implemented Calistung activities 3 times/week. Calistung implementation is carried out on Tuesdays, Wednesdays, and Thursdays after the KBM process is completed. Calistung activities are carried out for 15-30 minutes only. Teachers provide additions to student who have difficulty reading, writing, or counting. The method used in teaching Calistung is the contextual method. Calistung activities use blackboard media.	
Siswa Kelas 1	The process of implementing Calistung with the teacher using the blackboard media. Student will be guided personally or classically by the teacher in practicing reading, writing, or counting.	

Based on the initial research data obtained through observations, interviews, and documentation, the Calistung ability of grade 1 student before the assistance of grade 1 student of SDN Blimbing 1, Kediri District is shown in Figure 2. Based on the results of initial observations, interviews, and documentation conducted at SDN Blimbing 1, Kediri District, for grade 1 student, Calistung activities have been trained to grade 1 student to overcome student difficulties in reading, writing, and counting. However, in the implementation of activities, grade 1 teachers experience difficulties when teaching Calistung. This can be seen from Figure 1, where almost all grade 1 student have difficulty reading, writing, and counting, because 72.73% of grade 1 student did not take kindergarten education. In the 27.27% of student who took kindergarten education, student were not required to be able to read, write and count in order to graduate from kindergarten education and when registering to become grade 1 student, it was not

required that student must already be fluent in reading, writing and counting. Another obstacle faced by teachers when teaching Calistung to grade 1 student is the large number of students who are not yet fluent in Calistung, making teachers overwhelmed in teaching, so Calistung activities tend to be carried out classically with less attention to the needs of each student.

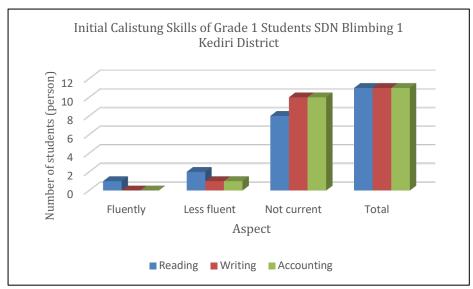


Figure 2. Initial literacy skills of grade 1 students

The obstacles faced by the teacher made researchers to provide assistance to student in Calistung activities to improve student literacy and numeracy skills. The Calistung Learning Program mentoring activities are carried out following the schedule that has been running. Teachers together with the research team provide learning assistance to grade 1 student. Assistance activities are carried out personally according to the difficulties experienced by each student. The Calistung learning method applied is scaffolding with collaborative learning strategies. Teachers together with the research team utilize learning media to help teach Calistung to student. The learning media used include letter cards, number cards, number cards, and counting aids.

The Calistung Learning Guide program is implemented for 2 months, namely in August-September 2023. In the mentoring program in the first month, each student will be accompanied by one learning assistant in learning Calistung in turn. For student who experience reading problems, they will be trained to recognize letters, then practice reading per letter, continue reading and combining letters into words and sentences. For student who have difficulty writing, an analysis of the difficulties faced is carried out, whether it is difficulty in recognizing letters or difficulty in writing the letters. For the solution of these obstacles, the program assistants train letter recognition to student who have difficulty recognizing letters and train writing for those who have difficulty writing. Writing exercises start from writing letters, words, and sentences gradually. Assistance for student who have difficulty counting, student are trained to recognize numbers first, then addition and subtraction counting operations are trained.





Figure 3: Calistung skills of grade 1 students at SDN Blimbing 1, Kediri

The results of monitoring and evaluation of the mentoring activities for the Calistung learning program for grade 1 student at SDN Blimbing 1, Kediri District, in the first month are shown in Figure 4.

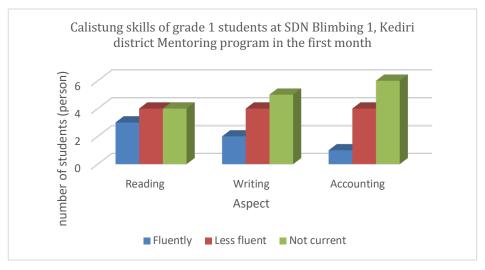


Figure 4: Calistung skills of grade 1 students at SDN Blimbing 1, Kediri district after the first month of assistance

Before entering the second month of the mentoring program, the research team together with the teacher and principal evaluated the activities to determine the progress of the mentoring activities in the first month and as a basis for making decisions whether the strategies used were appropriate. In the second month, based on the results of the evaluation of student reading, writing, and counting skills, it can be seen in Figure 2. In Figure 2, it is known that there has been an increase in student Calistung skills, although the improvement obtained is still not significant enough. Based on the evaluation results, the teacher and the team continued to assist the Calistung learning program for grade 1 student with the aim that all grade 1 student were able to read, write, and count well. Activities are carried out according to the schedule that has been running. Student are given more intensive motivation to be more enthusiastic about learning. The learning media used is the same as in the first month, but in the second month picture storybooks and fairy tale books are added to increase student reading literacy and numeracy. In this assistance activity, student were asked to take turns reading picture storybooks and the research team observed the student reading fluency level through the prepared observation sheet. After all students have finished reading in turn, the assistance continues with learning to count through illustrated math storybooks. Students are alternately asked to read, then work on arithmetic operation problems on the blackboard alternately. In this second month of activities, the results of improving student Calistung skills can be seen in Figure 5.

The results of monitoring and evaluation of the mentoring activities for the Calistung learning program for grade 1 student at SDN Blimbing 1 in Kediri District in the second month are shown in Figure 5.

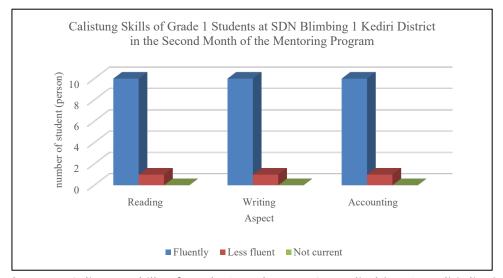


Figure 5: Calistung skills of grade 1 students at SDN Blimbing 1, Kediri district after the second month of assistance

In the second month of the mentoring program, an evaluation of activities was carried out between the research team, teachers, and principals where the results obtained were 90.9% (10 student) of student had improved their reading, writing, and counting skills and 9.09% of student were still not fluent in reading, writing, and counting. Based on interviews with the principal and teachers, these students are indeed student with special needs. From the results of the interview, further observations were made of the student to strengthen the results of the interview and several characteristics of children with disabilities were found, including: (1) difficulty in concentrating when participating in learning; (2) impulsive behavior, such as inattentiveness, interruptions, and impatience; (3) difficulty in restraining himself (hyperactivity); and (4) difficulty following instructions. However, these findings must be followed up and further examined by professionals so that the student can get fast and appropriate treatment.

Based on the research results obtained, it shows that Calistung learning assistance to students can improve students' learning abilities and motivation, so that it will improve students' literacy and numeracy skills. Learning assistance to students at SDN Blimbing 1 has been carried out, but is constrained by the number of mentors available, limited learning media so that learning is still carried out conventionally, and no evaluation of learning assistance activities that have been carried out. The results obtained by researchers are in line with research conducted by previous researchers, including research conducted by Suwarma, et al (2023), where researchers stated that providing structured mentoring and tutoring can significantly increase Calistung's ability and

student learning motivation. Azzahra, et al (2021) also stated that in learning, interesting learning media is needed. This can help increase student learning motivation, especially in learning Calistung. The Calistung learning media used by Azzahra, et al (2021) in improving the Calistung ability of students at SDN Bakung Turus is Upinca media. From the learning outcomes of students at SDN Bakung Turus, there was a significant increase, namely an increase in the average pretest score of 39.1 to 80.8 in the average posttest score. This is also in line with research conducted by Chasanah (2022), where it was found that the provision of guidance and counseling to lower grade students to learn Calistung well as a form of teacher support and encouragement for students to be ready to learn and able to enter the next stage.

CONCLUSION

Calistung Learning Program assistance can improve reading, writing, and numeracy skills in grade 1 students of SDN Blimbing 1. Increasing students' Calistung abilities will increase students' interest and literacy and numeracy skills. This is because students no longer experience obstacles and difficulties in reading, writing, and arithmetic, so students become more motivated to learn and improve their reading and numeracy skills. Increased interest in reading and numeracy will affect the improvement of students' literacy and numeracy skills.

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