

Sorogan-Based Learning to Stimulate Early Counting Skills

Osfir Candikia Rara Komara¹, Sumaji^{2*}, Wahyudi³, Ahmad Azzam Al Qoyyimuddin⁴ 

^{1,2,3} Mathematics Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Ponorogo, Ponorogo, Indonesia

⁴ Learning Centre Permai, Penang, Malaysia

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ABSTRAK

Kemampuan awal berhitung merupakan kemampuan dasar yang penting bagi siswa untuk dapat menjawab dan memahami permasalahan matematika lebih lanjut, termasuk pengenalan bilangan dan konsep dasar matematika. Permasalahan yang dibahas disini adalah upaya untuk mengubah metode pembelajaran konvensional (ceramah) pada tahap pembelajaran awal berhitung menuju pendekatan pembelajaran yang dapat lebih memfasilitasi kebutuhan belajar anak dan menciptakan pembelajaran bermakna. Penelitian ini bertujuan untuk menganalisis penerapan metode sorogan berbantuan Lembar Kerja Siswa (LKS) bertingkat dalam menstimulasi keterampilan berhitung siswa di kelas Calistung. Metode penelitian yang digunakan adalah deskriptif kualitatif, dengan pendekatan studi kasus. Penelitian ini dilakukan dengan melibatkan siswa kelas Calistung B yang terdiri dari 5 orang anak sebagai subjek penelitian. Teknik penelitian yang digunakan adalah observasi, wawancara, dan dokumentasi. Hasil penelitian menunjukkan bahwa metode sorogan berbantuan LKS bertingkat mampu memberikan kontribusi positif dalam menstimulasi keterampilan berhitung permulaan siswa. Komponen-komponen seperti apersepsi awal, latihan soal, diskusi, dan refleksi yang diterapkan dalam kegiatan pembelajaran sorogan berperan penting dalam mendukung terbentuknya pemahaman yang mendalam. Proses pembelajaran metode Sorogan yang berpusat pada siswa, yang mengutamakan fokus pada eksplorasi aspek individualitas, didukung dengan penggunaan LKS bertingkat, secara bertahap membantu siswa memahami konsep berhitung, sehingga menjadi landasan bagi pengembangan keterampilan berhitung secara berkelanjutan. Metode ini dapat menjadi alternatif bagi pendidik untuk meningkatkan kualitas pembelajaran berhitung dini.

ABSTRACT

Beginning counting ability is an important basic ability for students to be able to answer and understand further mathematical problems, including the introduction of numbers and basic mathematical concepts. The problem discussed here is an attempt to change the conventional teaching method (lecture) at the beginning counting learning stage towards a learning approach that can better facilitate children's learning needs and create meaningful learning. This study aims to analyze the application of the Sorogan method assisted by graded student worksheets (LKS) in stimulating student's counting skills in Calistung class. The research method used is descriptive qualitative, with a case study approach. This research was conducted involving Calistung B class students consisting of 5 children as research subjects. The research techniques used were observation, interview, and documentation. The results showed that the Sorogan method assisted by graded worksheets was able to make a positive contribution in stimulating student's beginning counting skills. Components such as initial apperception, practice problems, discussion, and reflection applied in Sorogan learning activities play an important role in supporting the formation of deep understanding. The student-centered learning process of the Sorogan method, which prioritizes a focus on exploring aspects of individuality, supported by the use of graded worksheets, gradually helps students understand numeracy concepts, thus becoming the foundation for the continuous development of numeracy skills. This method can be an alternative for educators to improve the quality of learning early counting.

1. INTRODUCTION

Education plays a central role in shaping the knowledge and skills base of human life. As a guide in individual development attempts, education is the foundation for the development of every human being. Generally, through education, a person can gain extensive knowledge and provide opportunities for comprehensive self-development. To develop oneself, several basic skills must be mastered (Firda et al., 2019; Yuliana et al., 2022). These basic skills include reading, writing, counting, and other basic skills that can provide benefits for children in the future. Counting is a fundamental mathematical skill that can have a significant impact on child development. Counting skills are not just about recognizing and manipulating numbers, but also bringing mathematical concepts into everyday life (Suprpto, 2020; Valentina & Wulandari, 2022). By understanding basic principles such as counting operations, children can build a strong foundation for more complex mathematical abilities in the future. In addition, counting skills also play a key role in the development of children's logical intelligence (Febrizalti & Saridewi, 2020; Rahayu, 2018). The process of learning to count at an early stage, which is then referred to as beginning counting, is generally obtained in the lower-grade group. Counting in the lower grades begins with the introduction of numbers and basic mathematical concepts, where children learn to recognize numbers, perform simple operations such as addition and subtraction, and understand the relationship between quantities and surrounding objects. So that students master the ability to count correctly as a foundation and basis for students to follow the learning process and answer further math problems. Low-grade students who are experiencing development in their level of thinking require guidance to better understand the material in the beginning counting lesson. Therefore, support is needed by adults in the form of assistance, stimuli, guidance, and positive treatment (Fatimah & Santiana, 2017; Febriani et al., 2022).

Until now, the diversity of learning methods in education has increased, providing opportunities for educators to polish learning strategies that are effective, conducive, and fun. However, there is a fact that the conventional method more commonly known as the lecture method is still widely used. Some of the reasons why the lecture method is still used include because it is more practical (does not require a lot of equipment), efficient, and effective in delivering material (Krismayani et al., 2021; Wirabumi, 2020). However, it usually makes learning only run in one direction and teacher-student interaction is minimal. As is the case based on the results of observations made at the Permai Penang Guidance Studio in learning counting, especially in Calistung B class, it has not been running optimally with the lecture method still being applied, one of which is because learning is too dominated by the teacher. Conditions like this can have an impact on the helplessness of students who have low counting skills. They do not have enough space to express their answers and sometimes feel neglected, so the learning process becomes less meaningful (Hoffmann & Pfeiffer, 2022; Isna et al., 2021). This will also have an impact on decreasing student interest in the learning process so that students tend not to focus and the material cannot be embedded properly. Thus, the learning activities applied in Calistung B class have not been able to stimulate students' counting skills, considering the minimal involvement of students during learning activities.

Counting learning activities will run well and optimally if the teacher can organize learning strategies appropriately. Therefore, it is necessary to present a condition where mathematics learning is not only teacher-centered which only makes students passive subjects but meaningful and student-centered learning (Fathonah & Yudhawati, 2019; Padallingan, 2022). The possibility for students to be more active in the learning process than teachers is being facilitated by the shifting orientation of learning from teacher-centered to student-centered. This student involvement can provide support for the development of their counting skills (Firdaus & Mariyat, 2017; Yusuf et al., 2022). For this reason, educators need to integrate learning methods that are more dynamic, encourage active student participation, and ensure that every student has the opportunity to develop. So in this study, researchers emphasize attempts to see the results of applying a learning model that can meet student's learning needs, involving student's roles in the learning process as a whole, so that student's initial counting skills can improve.

One of the learning methods that can be applied is the Sorogan learning method. The Sorogan method is not a new teaching method, it is a learning approach that has been deeply rooted and has become part of the Indonesian educational tradition, especially in the scope of Islamic boarding schools or pesantren. Sorogan method is the active involvement of students in the learning process. Students are not only passive recipients of information but also play an active role in discussing and listening to the books or the work they bring, which is then known as "menyorog" (Albab et al., 2022; C. Anwar, 2019). Each student has the opportunity to deal directly with the teacher, bringing the book that is the focus of learning. From this description, it can be concluded that learning using the Sorogan method can create space for direct exchange of ideas and knowledge between teachers and students. This is in line with the

opinion which states that the ability to communicate well between students and teachers can help in achieving learning objectives (Retnowati & Ekayanti, 2020). Student activeness in discussing learning materials is the core of this method in cultivating a critical and collaborative spirit in the learning process.

The Sorogan method is a learning approach that emphasizes in-depth exploration of the learning needs of each individual. By providing space for questions, students are invited to be active in the learning process and encourage them to be able to understand concepts in depth. In its implementation, this method requires effective tools to guide students in responding to questions and investigating the material. Therefore, student worksheets are needed as supporting instruments that can guide students to achieve better understanding (Afif, 2019; Amelia et al., 2020). The use of graded worksheets can help students develop their skills gradually, starting from basic understanding to complex levels. The Graded Worksheet used consists of 5 levels, where at each level there are 3 stages of counting problems with different concepts (Adding numbers, completing number sentences, and determining the decomposition of integers). Number decomposition is the mathematical concept of decomposing whole numbers into smaller parts. This stems from the opinion of study state that developing early counting skills in early childhood, can be started by giving simple examples so that they are easier to understand (Fauzan et al., 2022; Susi & Umi, 2022). The indicators of early counting skills used as a reference in this study include the ability to count, identify the order of numbers, determine the sum of numbers, mention at least three decompositions (decompose) of a number, and provide illustrative examples of the use of counting operations in everyday life.

The collaboration between the application of the Sorogan method and the graded worksheets forms a strong foundation for continuous learning activities. If the Sorogan method tends to be an approach used in overcoming problems in practice, then theoretically the graded worksheet will support the development of student's concept understanding gradually, the levels in the worksheet allow students to understand basic concepts before moving on to more complex levels. The combination of the Sorogan method and the graded worksheets becomes a strong synergy in bringing together practical and theoretical approaches in the learning process. Both complement each other in creating a learning environment and supporting the development of student's understanding as a whole.

Previously, many attempts have been made to enhance student's understanding of learning early counting (Ahmad, 2021; Aunio & Räsänen, 2016). In addition, previous research results were also studied related to improving student's understanding of mathematical concepts through the Sorogan method (Adedoyin & L.A., 2018). The novelty of this study lie on the implementation of Sorogan method of low grade students, there are still few specific studies related to stimulating the abilities of low-grade students in learning beginning counting skills through the integration of the Sorogan method assisted by graded LKS. Thus, there is still a void of research that analyzes the application of the sorogan method assisted by graded worksheets in stimulating the ability to count beginning in the low grades. Therefore, this research can be an alternative as an additional perspective in stimulating students' counting skills through the sorogan method assisted by graded worksheets.

2. METHOD

The research was conducted to explain how the implementation of the Sorogan method in stimulating early counting skills in Calistung B class at Learning Centre (SB) Permai Penang, Malaysia. The research method used is descriptive qualitative, where this research is included in case study research. Case study is one of the research designs used to describe a condition and development of a learner in depth to overcome the problems they experience to obtain better development (Luthfiya, 2017). Thus, research using this method is carried out by collecting as much information as possible and in detail, then describing it in the form of narrative text so that it can provide a complete picture of how the role of the Sorogan method in stimulating the numeracy skills of students in Calistung B class of SB Permai Penang.

The subjects in the study were 5 students of Calistung B class of Learning Centre Permai. In this study, data source triangulation was used to provide a more comprehensive understanding of the research findings, including data from practice tests, observations, and interviews. Techniques used to collect data include observation, interviews, and documentation of student learning outcomes using student worksheets (LKS) distributed during the activity. In this case, the researcher acts as an observer and accompanying teacher. In its implementation, the Sorogan method is structured in five main steps, namely, First, opening and apperception, namely activities to condition students to be ready to learn, followed by linking new learning material with previous knowledge or experience that students have, such as by counting activities doing mini-games etc., as an effort to build a strong foundation and facilitate a better understanding of counting concepts for students. Second, working on practice problems (LKS) given by the teacher. Third, measuring and testing each student's understanding is done by the teacher

during the highlighting activity. Fourth, skills or practice, namely discussing difficulties encountered by students and familiarizing students with numbers. Then, at the end of the learning activity, there was a reflection or review of the discussion of counting material, and students were given counting questions and evaluation practice questions as assignments and to be studied again.

The assessment instrument applied is an interview conducted during sorogan activities to measure the completeness of student understanding based on 5 indicators of numeracy comprehension. Thus, in analyzing the data, descriptive analysis was used using simple statistical data, namely the percentage of indicator achievement which was then translated into sentence form. The data used is primary data obtained from the scores of learning outcomes on the LKS and student understanding in question-and-answer sessions during Sorogan activities. Then the total score was obtained using simple percentage formula (Sukmawati et al., 2021). After the acquisition of individual scores, each student is then categorized according to the achievement of their learning outcomes, using predetermined criteria (Aneka et al., 2022).

After grouping based on the above categories, it can be analysed and concluded about the development of the achievement of the completeness of student's arithmetic learning outcomes with the application of the Sorogan method assisted by Graded LKS. The data analysis used is First by collecting data, this is the initial stage where researchers collect various qualitative data, which can be in the form of interviews, observations, documentation, or other forms of qualitative data sources. Then the data obtained is reduced to sort and focus on which data is more important to use. After data reduction, the data is presented in a structured and categorized form, and finally, a conclusion can be drawn (Tomaszewski et al., 2020).

3. RESULT AND DISCUSSION

Result

This research seeks to convey thoroughly how the sorogan method is applied in stimulating numeracy skills, assisted by graded student worksheets in the form of practice problems with 3 different working models arranged based on basic competencies and indicators of numeracy understanding, including (1) basic counting skills, (2) identifying the order of numbers, (3) determining the result of adding numbers, (4) mentioning at least three decompositions of a number, and (5) providing illustrative examples of the use of arithmetic operations in everyday life. The student's counting ability can be known from the results of the exercise questions that have been done. Then, to identify the extent to which students understand the concept of counting or basic arithmetic can be seen from the completeness of the indicators of understanding counting itself.

Learning activities begin with counting numbers sequentially forward and backward in turn, this is done with the aim of familiarizing students with numbers as a first step in overcoming student difficulties before operating numbers, then the activity continues by giving practice problems to students to do. Students are given the freedom to work individually or discuss with their friends, as long as they can understand the flow of the solution. After completing the problem exercises, students came forward one by one to proofread their answers to the teacher and continued with questions and answers while being discussed and evaluated personally. Worksheets that have received corrections are then returned to the students to be corrected until the worksheets for each level are completed. The process is like a ladder, where each step guides the child to develop their understanding and numeracy skills according to their ability level. In addition to describing the flow of implementation of the sorogan method used to stimulate student's counting comprehension, this study conducted interviews or question and answer sessions based on indicators of counting comprehension to see how students develop and find out the extent of their understanding. Furthermore, the results of the application of Sorogan method in stimulating students' counting comprehension at an early stage are show in Table 1.

Table 1. Achievement of Counting Comprehension Indicators Meeting I

Student's name	Completeness				
	Indicator 1	Indicator 2	Indicator 3	Indicator 4	Indicator 5
AI	60%	60%	53%	40%	34%
DN	60%	53%	60%	60%	40%
NN	40%	53%	53%	20%	20%
PT	60%	60%	60%	53%	60%
RK	80%	73%	73%	80%	60%
Average	60%	60%	60%	50%	43%

Based on [Table 1](#), it is found that the overall average obtained is still at a percentage of 54.6% or still at the lower limit of the Growing as Expected category, with the average student having completed level II LKS (counting operations under 10). The highest percentage is found in the indicator of the ability to count, identify the number after or before a number, and determine the result of the addition which got a percentage of 60% but this still does not meet the expected achievement. Conversely, the lowest percentage was found in the indicator of implementing the use of arithmetic operations in everyday life with a percentage of 43%. Meanwhile, in the indicator of determining the decomposition of numbers, the percentage of achievement was 50%. This shows that students begin to master the basics of counting, namely in recognizing numbers, but in the phase of analyzing and applying it, students still have difficulties. Other factors such as lack of accuracy and low mastery of some concepts of the properties of arithmetic operations are also obstacles to student learning activities. Interviews with students like NN revealed that they struggled with identifying numbers after a given number, despite showing proficiency in basic counting. In overcoming these obstacles, an activity reflection was then carried out to make adjustments and evaluate the implementation so that the next learning activities could be carried out well, effectively, and optimally. Regarding the results of the next meeting, the achievement of student's understanding of counting after the application and adjustment of the previous meeting is show in [Table 2](#).

Table 2. Achievement of Counting Comprehension Indicators Meeting II

Student's name	Completeness				
	Indicator 1	Indicator 2	Indicator 3	Indicator 4	Indicator 5
AI	80%	73%	73%	73%	73%
DN	80%	67%	80%	80%	73%
NN	60%	53%	60%	53%	53%
PT	100%	87%	93%	100%	87%
RK	100%	100%	100%	100%	100%
Average	84%	76%	81.2%	81.2%	77.2%

Based on [Table 2](#), it can be seen that the overall average obtained is at a percentage of 79.8% or in the category of Developing Very Well. The highest percentage is still found in the ability to count indicator with a percentage of 84%, followed by the indicator of determining the result of addition and decomposition of a number with a percentage of 81.2%. This is supported by student's understanding of the commutative concept, this knowledge is obtained during the learning process that has been done before. On the other hand, the higher the range of numbers given, it seems that students begin to feel indecisive and less confident in identifying numbers after or before a number, but still reach a percentage of 76% or fairly. Meanwhile, in implementing the use of counting operations in daily life, the percentage of achievement was 77.2%. PT and RK consistently achieved high scores in all indicators, indicating that they are beginning to understand the concept of early counting with the effective application of the Sorogan method and can already receive advanced arithmetic learning. Meanwhile, AI, DN, and NN showed moderate progress with some improvement still needed, especially in identifying number sequences, addition exercises, and implementing. Interviews with students like DN that he said with this sorogan method, the teacher can help him personally in breaking down the difficulties faced step by step. Continuous qualitative assessments need to be more conducted to understand students' individual challenges and motivations and maximize each student's learning potential. Furthermore, at meeting III, the results of student's counting comprehension achievement are shown in [Table 3](#).

Table 3. Achievement of Counting Comprehension Indicators Meeting III

Student's name	Completeness				
	Indicator 1	Indicator 2	Indicator 3	Indicator 4	Indicator 5
AI	90%	87%	100%	93%	93%
DN	100%	87%	93%	100%	93%
NN	80%	73%	80%	73%	67%
PT	100%	93%	100%	100%	93%
RK	100%	100%	100%	100%	100%
Average	94%	88%	94.6%	93.2%	89.2%

Based on [Table 3](#), it can be seen that the overall average obtained is at a percentage of 91.8%, including in the Very Good Developing category. Where the highest percentage is in the number addition

indicator with a percentage of 94.6%, followed by the numbering indicator and determining the decomposition of numbers which is only 0.8% adrift. Meanwhile, student's ability to identify numbers after or before a number is at a percentage of 88% or can still be improved by doing a lot of practice, as well as the ability to implement the use of counting operations in everyday life which reaches a percentage of 89.2%. This shows that student's sensitivity to numbers is starting to develop very well, realized by the reduction of student's doubts in mentioning the number after or before the given number. On the other hand, students begin to understand the concept of number decomposition and the implementation of counting operations. From the overall data, we can see the development of student's abilities after applying the sorogan method which can be seen in [Table 4](#).

Table 4. Percentage of Progress in Counting Skills

Indicator	Meeting I	Meeting II	Meeting III
Pronunciation in counting	60%	84%	94%
Identifying number sequences	60%	76%	88%
Determine the result of addition	60%	81.2%	94.6%
Number decomposition	50%	81.2%	93.2%
Implementing	43%	77.2%	89.2%
Overall Average	54.6%	79.8%	91.8%

Base on [Table 4](#) show the use of the sorogan method with the help of graded LKS applied in learning counting in Calistung B class of Learning Centre Permai can work properly. The results showed that there was a progression in student's counting ability indicators, indicating that the sorogan learning method applied was effective or able to have a positive impact. The teacher of Calistung B class at Learning Centre Permai started the learning activities by familiarizing the children to count numbers sequentially forward/backward or conducting mini-games such as mentioning the numbers after/previous to the number that was given, this is an apperception that is done to build number sensitivity in children by training their intuitive thinking power towards numbers.

Discussion

The use of apperception at the beginning of learning plays an important role in ensuring children's readiness before participating in the core learning process. The learning continued with the teacher providing practice problems on level 1 LKS that must be completed by students. Students work around the addition problems given individually or in discussion, students may discuss with friends as long as they understand what they are writing ([Saidah et al., 2021](#); [Setyaningsih & Ekayanti, 2019](#)). Afterward, students came forward one by one to the teacher to highlight their work to get corrections and test their numeracy understanding based on indicators, besides that they were also asked to explain the path they took in finding answers to the exercise questions. At this stage, the teacher as a motivator and facilitator should be able to develop enthusiasm and interest and facilitate student's learning needs ([Mustofa & Muadzin, 2021](#); [Tokmak et al., 2013](#)). Thereafter, the worksheet is returned to be corrected until it is completed. Completion means that when students are questioned they can answer correctly and there is no hesitation in providing answers. Then we move to the next level by adding a little complexity to the use of larger numbers. That way, the children don't feel too difficult or bored, because they are always at a level that suits their abilities. That way, each student can develop fully and achieve learning objectives completely and the learning carried out becomes meaningful ([Sari & Manuaba, 2021](#); [Vargas-Hernández & Vargas-González, 2022](#)). Meaningful learning will cultivate a strong and deep impression on students so that it can help improve student's understanding of concepts and learning experiences. Learning ends with a reflection on what has been passed and a briefly reviewing several topics of discussion.

Based on the findings in a meeting I show that student's ability to count is still quite low. Some students still have difficulties in determining the decomposition of numbers and implementing arithmetic operations in everyday life. By listening to their complaints, it was concluded that some students had not understood the concept of commutative counting operations, so they had more or less difficulty in decomposing a number. Learning is still dominated by students who have an ability level above their peers. To trigger the activeness of all students in learning activities, the teacher tries to initiate students to discuss and several times provoke several questions. The results of the implementation in meeting II showed better development. Student's ability to decompose numbers and analogize arithmetic operations to everyday life from the previous, both indicators are included in the lowest ability to improve. In the third meeting, a number of indicators increased and were able to develop very well. This is also supported by providing an understanding of the place value of numbers as an effort to correct misconceptions. Often, when doing stacked addition, they are still not correct in placing the numbers according to their values,

which leads to incorrect addition results. This concept involves understanding that the position of a digit in a number affects its actual value (Mulyasari & Fahrozy, 2023; Padallingan, 2022). Overall, it can be concluded that the sorogan method assisted by Graded LKS is able to stimulate student's counting skills well, this also makes students unfocus on learning temporarily distracted. The results of this study are reinforced by previous research which also shows positive results after being applied in learning, where the Sorogan method can create a conducive learning atmosphere and show an increase in learning outcomes that are quite good (Afif, 2019; Sumaji & Wahyudi, 2020).

The counting skill indicators that are the focus of this research include key aspects such as the ability to count, identify numbers, determine the result of addition, decompose numbers, and apply counting operations in the context of everyday life. The importance of this indicator is related to its role in supporting students in solving math problems related to addition and subtraction. Each meeting in the study showed significant progress on the numeracy indicator. This illustrates the commitment and willingness of students to train and improve their counting skills to solve various mathematical problems. This research provides results that are consistent with previous findings, such as those expressed in previous study which state that the level of student's abilities in terms of counting, multiples of numbers, and determining the complement (decomposition) of numbers is positively correlated with student's ability to handle mathematical problems involving various operations, such as addition, subtraction, multiplication, and division (Susdarwono, 2020). The application of the sorogan method with the help of the Graded Student Worksheet (LKS) has proven to be a factor that plays an important role in providing stimulation to student's counting skills. This approach not only provides space for students to develop counting skills contextually but also encourages student's active involvement in the learning process. A student-centered learning process that considers the important aspects of numeracy indicators can form a strong foundation for the continuous development of student's skills (Khofifah & Ramadan, 2021; Rachmadtullah et al., 2020).

The use of the sorogan method in the learning process is an approach that emphasizes the development of individual abilities. This is implemented by teachers as an effort to enhance student accountability so that they are able to be responsible for their answers. The importance of the individuality aspect in the sorogan method in this study can be seen from giving responsibility to students in understanding the flow of numeracy concepts. Students serve not only as passive recipients of information but also as active agents in the learning process. That way, the learning process is no longer just a transfer of information words from the teacher as it happens when using the lecture method, but becomes a personal experience that enriches the understanding of each student. Through this method, students are also invited to involve themselves in discussions, exchange ideas, and help each other. That way, each student can develop fully and achieve learning objectives completely and the learning carried out becomes meaningful (Sulthon, 2018; Sumaji & Wahyudi, 2020). Meaningful learning will cultivate a strong and deep impression for students so that it can help improve student's understanding of concepts and learning experiences.

With the positive contributions made in stimulating students' early counting skills, including creating more intensive teacher-student interactions, not requiring many facilities, and providing space for students to be able to develop gradually according to their abilities, teachers can provide feedback directly according to student abilities and involving student participation in the learning process (Supriatna & Ediyanto, 2021; Winarno et al., 2022). But apart from that, of course, there are shortcomings that must be considered, such as the possibility that students will feel bored if they experience stagnation in the process, some students may be less suitable for the learning style applied (dealing with the teacher directly), does not require a lot of facilities but it cannot be denied that the use of other supporting media will support the learning process, it will be a challenge to implement if students are difficult to open up (Jelatu et al., 2019; Supriatna & Ediyanto, 2021). Overcoming these shortcomings in this study, several things were done to be able to minimize them, among others, by inviting students to take a break for a moment to relax their minds so as not to get bored by doing mini ice breaking, taking an approach by blending in with students.

Collaboration and mutual openness between teachers and students is one part of the success factor in the application of this learning method, where a supportive classroom atmosphere will strengthen the effectiveness of this method. Several factors can obstruct the implementation of this learning method in the Calistung B class of the Learning Centre Permai, such as the learning space that is not conducive, where all student activities are carried out in one room without a partition, so we can imagine how difficult it is to invite students to focus on the learning process (L. M. Anwar et al., 2019; Mirza et al., 2022). Another thing is the limited educator resources, the application of learning strategies must be carried out consistently and regularly at the beginning so that the process of stimulating students' numeracy skills can run well and there are no imbalances in the concepts applied by other educators, thus

the need for communication so that the learning process can run in sync. Several actions should be avoided in the implementation of learning with the Sorogan method (Afif, 2019; C. Anwar, 2019). These include (1) refraining from forcing students to answer questions when they are not ready, as this may result in them feeling pressured and becoming more passive. (2) The act of avoiding the comparison of students is recommended, as it can lead to feelings of embarrassment and inferiority. (3) It is advised not to assign blame to students for mistakes, as this may instill a fear of attempting again.

Further research is needed by detailing better implementation strategies as well as exploring the long-term impact of applying the sorogan method assisted by graded worksheets in improving students' early counting skills. In addition, expanding the scope of research subjects and developing more specific graded worksheets that suit students' needs are also needed. To be able to provide additional perspectives that contribute to the insight of educators to implement innovations in the utilization of creative learning strategies that can be combined with teaching media. Thus, this research is not the final but is a foothold for further research steps that are more in-depth and extensive.

4. CONCLUSION

Based on the research conducted, the application of the sorogan method with the help of graded Student Worksheets (LKS) in learning counting in Calistung B class at Learning Centre Permai was able to have a positive impact. Components such as initial apperception, practice problems, discussion, and reflection at the end of learning take an important role in supporting the formation of deep understanding. This process encourages the development of individual student abilities, creates active interaction, and can create meaningful learning. The results confirmed that the application of the sorogan method with graded LKS was able to stimulate students in early counting skills well, especially seen in the improvement of student's abilities in meetings II and III. The learning process of the Sorogan method is student-centered, prioritizing the focus on exploring aspects of individuality, then the multilevel worksheet is used as a supporting medium in understanding student concepts gradually, as a foundation for the development of sustainable counting skills.

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