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The Effectiveness of the SSCS (Search, Solve, Create, and Share) Learning Model for Increasing Mathematical Communication Skills and Numeracy Literacy

Canthika Putriana[1*], Arghob Khofya Haqiqi[1]
[1]Mathematics Education Department, Institut Agama Islam Negeri Kudus, Kudus, Indonesia
**Correspondence: chantikaputr@gmail.com*

Abstract

The significance of mathematical communication skills and numeracy literacy is paramount for comprehending mathematical problems and concepts. Mathematical communication skills and numeracy literacy can be improved with innovative learning models that can create an active, creative, critical, and independent learning atmosphere, one of them is the SSCS model. The purpose of this study is to determine the effectiveness of the process of learning mathematics on the material of flat-sided geometric shapes using learning models to improve mathematical communication skills and numeracy literacy. This study adopted a quantitative approach within the framework of field research. The research population was all students of class VIII regular MTs Negeri 1 Kudus, totaling 250 students. Sampling was carried out by cluster random sampling technique and obtained as many as 61 students consisting of the experimental class and the control class. To collect research data, essay test, observations, and documentation were carried out. The results revealed a significant difference in the average value of mathematical communication skills, indicated by a significance value of 0.00 < 0.05. Additionally, the experimental class showed a medium interpretation increase of 52% in the normalized gain test, while the control class demonstrated a low interpretation increase of 22%. In numeracy literacy skills, there was also a difference in the average value, indicated by a significance value of 0.00 < 0.05. Additionally, there was an increase in the experimental class in the normalized gain test, with a medium interpretation improvement of 55%, whereas the control class showed a low interpretation increase of 25%. Based on the research data, the experimental class demonstrated a more significant improvement with the SSCS model compared to the control class. This led to the conclusion that applying the SSCS model effectively enhanced both mathematical communication skills and numeracy literacy.

Keywords: Mathematical Communication; Numeracy Literacy; Search, Solve, Create, and Share

Abstrak

Pentingnya kemampuan komunikasi matematis dan literasi numerasi untuk pembelajaran matematika dalam memahami masalah dan konsep matematis. Kemampuan komunikasi matematis dan literasi numerasi dapat ditingkatkan dengan inovasi model pembelajaran yang dapat menciptakan suasana belajar aktif, kreatif, kritis, dan mandiri salah satunya menggunakan model SSCS. Tujuan penelitian ini yaitu untuk mengetahui efektivitas proses pembelajaran matematika pada materi bangun ruang sisi datar menggunakan model pembelajaran untuk meningkatkan kemampuan komunikasi matematis dan literasi numerasi. Jenis penelitian ini yaitu penelitian field research dengan pendekatakan kuantitatif. Populasi penelitian yaitu seluruh siswa kelas VIII regular MTs Negeri 1 Kudus yang berjumlah 250 siswa. Penarikan sampel dilakukan dengan teknik cluster random sampling diperoleh sebanyak 61 siswa yang terdiri dari kelas eksperimen dan kelas kontrol. Untuk mengumpulkan data penelitian dilakukan tes uraian, observasi, dan dokumentasi. Diperoleh hasil bahwa terdapat perbedaan rata-rata nilai kemampuan komunikasi matematis yang ditunjukkan nilai signifikansi 0,00 < 0,05 dan peningkatan kelas eksperimen pada uji gain ternormalisasi sebesar 52% interpretasi sedang dan kelas kontrol 22% interpretasi rendah. Pada kemampuan literasi numerasi juga terdapat perbedaan rata-rata nilai yang ditunjukkan nilai signifikansi 0,00 < 0,05 dan peningkatan kelas eksperimen pada uji gain ternormalisasi sebesar 55% interpretasi sedang dan kelas kontrol 25% interpretasi rendah. Berdasarkan data penelitian tersebut, karena pada kelas eksperimen menunjukkan peningkatan lebih baik dengan model SSCS daripada kelas kontrol. Disimpulkan bahwa penerapan model SSCS untuk meningkatkan kemampuan komunikasi matematis dan literasi numerasi menunjukkan hasil yang efektif.

Kata Kunci: Literasi Numerasi; Komunikasi Matematis; Search, Solve, Create, and Share

Introduction

In the 21st century skills, it is explained that several skills must be mastered by students, namely critical thinking skills, creative thinking skills, communication skills, and collaboration skills (Afifah, 2019). In learning mathematics, communication skills are also needed in expressing ideas and understanding in the form of symbols, tables, diagrams, and other mathematical models to solve a mathematical problem, which is called mathematical communication skills (Linda & Afriansyah, 2022). According to the National Council of Teachers of Mathematics (NCTM), states that the development of mathematical communication skills in learning mathematics is needed to help students know the novelty of mathematical concepts, to make students think mathematically, and to communicate their mathematical thoughts clearly, logically, and easily understood (Mohammad Archi Maulyda, 2020). The importance of mathematical communication skills in learning mathematics is to make it easier for students to find solutions to existing mathematical problems

because with mathematical communication skills students can analyze, evaluate, and use mathematical thinking by expressing mathematical ideas correctly (Yuniarti, 2014). The low in mathematical communication skills because the teacher's role in learning is still dominating. Students tend to be passive and do not get direct learning experience, so students still have difficulty communicating mathematical ideas to others (Riandi, 2021). So, to improve teachers' mathematical communication skills, it is necessary to innovate mathematics learning models that can to create an active, creative, and independent learning atmosphere. In addition to mathematical communication skills, in learning mathematics, numeracy literacy skills are also needed to find solutions to mathematical problems.

Numeracy literacy skills for students have an important role in finding solutions to mathematical problems in everyday life. To realize mathematical communication skills, literacy skills are also needed first (Delima, 2022). The World Economic Forum (OECD), states that basic literacy includes reading literacy, numeracy literacy, digital literacy, scientific literacy, financial literacy, and citizenship cultural literacy. (Kebudayaan, 2017). Thus numeracy literacy needs to realize students' communication skills can be well mastered in learning mathematics.

Based on Indonesia's Program for International Student Assessment (PISA) score data released by the OECD, it was stated that the quality of Indonesian education is still low, judging from the assessment of literacy, numeracy, and science in 2018 it is still low. Below average, it has even decreased from the previous 3-year assessment, the PISA assessment which is carried out every 3 years is stated in the following graph (Kebudayaan, 2017):

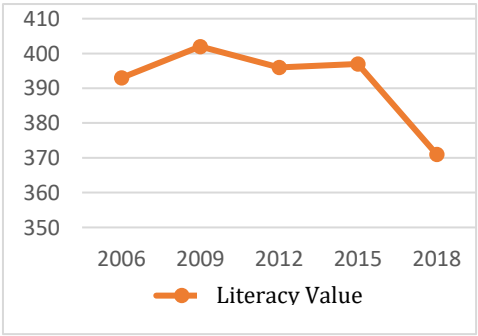

Figure 1 Indonesian PISA Assessment Results 2006 - 2018

This decrease in value indicates that numeracy literacy skills in Indonesia are still low and efforts are needed to improve numeracy literacy skills. According to research conducted by Utaminingsih and Subanji, stated that

numeracy literacy skills were still relatively low, and students had not maximized their ability to use graphs, diagrams, and mathematical symbols. Most students only interpret mathematical ideas using logic without doing mathematical analysis (Utaminingsih & Subanji, 2021). Thus, numeracy literacy skills need to be improved again because given the important role of numeracy literacy skills, especially in learning mathematics to improve the quality of education in Indonesia.

Learning mathematics on flat-sided geometric material in the learning process requires mathematical communication skills and numeracy literacy which are interrelated. The material for building a flat side of the room is material for class VIII SMP (Junior High School) and the equal. To address the questions presented in this material, the ability to analyze problems in the form of narrative scenarios is essential, enabling the identification and formulation of solutions to these challenges. So mathematical communication skills are needed in describing or understanding the form of data presentation. Numeracy literacy skills are also needed during the process of understanding the mathematical problems presented. But, in reality, students still have difficulty pouring the mathematical ideas obtained from the problem into the form of symbols or mathematical models (Putri, 2020).

One of the ways to improve mathematical communication skills and numeracy literacy is by innovating learning models used in class. According to research by Nurlaili Tri Rahmawati, learning mathematics that focuses on being active in children, is thought to be able to produce meaningful and fun learning. So that it can improve mathematical communication skills and numeracy literacy (Rahmawati, Junaedi, & Kurniasih, 2013). Learning with an emphasis on students will provide direct experience for students to think creatively, independently, and critically about a problem, thus encouraging students to communicate mathematical ideas during the learning process with the innovative SSCS model. Learning with a scientific approach will help students construct an understanding of mathematical concepts because students are directly involved in the learning process (Astuti, Suweken, & Waluyo, 2018).

Mathematics learning with the SSCS model has 4 stages, namely the search, solve, create, and share stages. The first stage is “search”, students identify problems from the problems of the flat-sided spaces that are presented. At this stage, students need numeracy literacy skills to identify problems from questions presented in mathematical form. The second stage is “solve”, students plan the process of solving existing problems. At this stage, numeracy literacy

skills are needed to plan the problem-solving process from what is already known in the problem. The third stage is "create", students carry out the specified problem-solving plan. At this stage, mathematical communication skills and numeracy literacy are needed to solve problems to find solutions by compiling mathematical models or formulas in calculating questions. The last stage is "share", students convey the results of solving problems related to the flat-sided space-building material. At this stage, numeracy literacy skills and mathematical communication skills are needed to convey the problem-solving process to other friends.

Research related to the use of the SSCS model in mathematics learning by Dharul Jannah et al explained that critical thinking skills and numeracy literacy can be improved by using the innovative SSCS model as seen from the acquisition of student scores (Jannah, Holisin, & Suprapti, 2022). In contrast to this research, in this study, the dependent variables that will be discussed are mathematical communication skills and numeracy literacy. So in this study research will be carried out on the use of the SSCS model and whether it can improve mathematical communication skills and numeracy literacy.

Based on these data, this research was conducted to determine the effectiveness of learning mathematics on flat-sided geometric material with the SSCS model on improving mathematical communication skills and the effectiveness of learning mathematics on flat-sided geometric material with the SSCS model on increasing numeracy literacy skills.

Method

This study employed a field research methodology utilizing a quantitative approach and employed true experimental research design methods. The chosen research design was a pretest-posttest control group design involving the selection of two groups receiving distinct treatments. This design was deemed suitable as data collection necessitated the application of treatments in both the experimental and control classes. The procedural steps undertaken in this research are outlined below: (1) develop learning tools and research instruments, (2) conduct test questions by calculating the validity, reliability, level of difficulty, and discriminant power of essay test questions, (3) carry out initial data testing with the normality test and homogeneity test using data on grade VIII Final Semester Assessment (PAS), then an independent t test was carried out using PAS data, (4) determine the sample used as the experimental and the control class, (5) giving a pretest to the experimental and the control class, (6) giving the SSCS model treatment to the experimental class and the PBL

model to the control class, (7) do a posttest in the experimental and control class, (8) analyze the results of research data.

The study's population comprised all students in the regular eighth grade at MTs Negeri 1 Kudus during the 2022/2023 academic year. This included classes VIII D, VIII E, VIII F, VIII G, VIII H, VIII I, VIII J, and VIII K, totaling 250 students. The research sample was drawn using the cluster random sampling technique with the condition that the classes have a normal and homogeneous distribution so that the normality test and homogeneity test were carried out first. The data used is the PAS value of class VIII regular. The normality test used was Kolmogorov Smirnov while the homogeneity test was carried out with SPSS 26 software. The results of the initial data analysis were obtained. The data that the population is normally distributed and homogeneous, then an independent t test was carried out using PAS value data. So that the selection of samples by cluster random sampling is fulfilled, namely class VIII D as the control class and class VIII E as the experimental class with a total of 61 students.

Data collection techniques in this study are testing, observation, and documentation. For the test instrument, 6 item questions were tested for validity (content and criteria), reliability, level of difficulty and discriminant power first. The questions tested have different levels of validity criteria. Validity test results said to be valid if the items in question can accurately measure what is being measured. Utilizing product-moment correlation, we found the following validity correlation: question 1 (0,623), question 2 (0.491), question 3 (0.625), question 4 (0.504), question 5 (0.476), and question 6 (0.463).

In this research, content validity was also calculated using Aiken's V formula by submitting validation to 3 validators or assessors. Then the final data analysis test was carried out using the paired sample t-test. In the course of the study, Aiken's V formula was employed to calculate content validity, involving the input of validation from three validators or assessors. Subsequently, the final data analysis involved the application of the paired sample t-test. Observation data and documentation were collected to augment the research dataset.

Results

The Effectiveness of the SSCS Learning Model for Increasing Mathematical Communication Skills

The SSCS model effectively measures the success of the mathematics learning process in improving mathematical communication skills. The effectiveness of the SSCS model for measuring the success of the mathematics learning process in improving mathematical communication skills. In this study, mathematical communication skills using flat-sided geometric material. Indicators of mathematical communication skills in this study include: (1) the ability to convey mathematical ideas/ideas in writing and express them in the form of pictures/visuals, (2) the ability to interpret and assess mathematical ideas in writing, (3) the ability to use mathematical terms such as symbols and other mathematical elements and can transform mathematical problems into mathematical models (Prayitno, Suwarsono, Yuli, & Siswono, 2013). Based on the results of the pretest and posttest research on mathematical communication skills, the following value data is obtained:

Table 1 Results of Pretest-Posttest Mathematical Communication Skills of Experiment Class and Control Class

	Experiment Class		Control Class	
	Pretest	Posttest	Pretest	Posttest
Lowest Score	0	26,7	0	6,67
Highest score	53,3	93,3	36	77,3
Mean	19,2	60,7	16,18	34,49

The obtained data indicated a difference in the average mathematical communication values between the control and experimental classes. To assess the improvement in mathematical communication skills, a normalized gain test was conducted between the two classes. The result revealed a 52% increase in the experimental class with a medium interpretation and a 22% increase in the control class with a low interpretation. For a clearer depiction, refer to the diagram below:

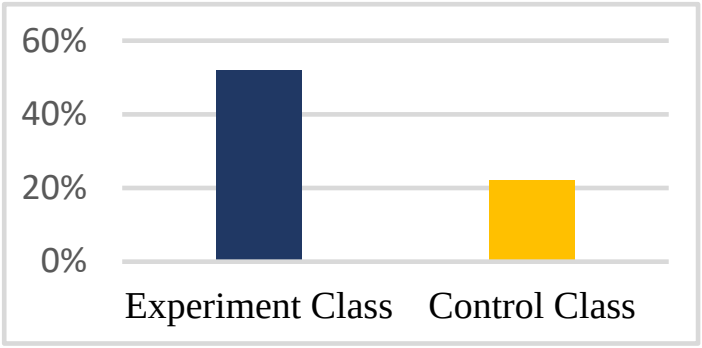

Figure 2 Normalized Gain Test Results Mathematical Communication Skills of Experiment Class and Control Class

Research by AD Sapto et al shows that the learning outcomes of the experimental class using the SSCS model effectively improve mathematical communication skills. The range of increasing mathematical communication skills in the experimental and control class is only 0.30 with an interpretation in the moderate experimental class and a low interpretation in the control class (Sapto, Suyitno, & Susilo BE, 2015). Mathematical communication skills are an important aspect of PISA (Programme of International Student Assessment), the ability to understand and solve mathematical problems related to indicators of mathematical communication ability will be able to increase Indonesia's PISA score (Fitri, Fathoni, & Ilmiyah, 2023). In addition, research by Zulfah and Wida Rianti shows an increase in mathematical communication skills in the aspects of drawing, mathematical expression, and written texts. That is, mathematical communication skills help students solve mathematical problems according to indicators of mathematical communication skills well and can to improve the quality of Indonesian education (Zulfah & Rianti, 2018). Based on the research data, the authors conclude that the application of the SSCS model is effective in improving mathematical communication skills.

To assess the effectiveness of the SSCS model in enhancing mathematical communication skills, this study employed hypothesis analysis through paired sample t-test statistical analysis. By testing the average difference in mathematical communication ability by comparing the pretest and posttest values in the experimental class to find out whether there is a difference in the average value of mathematical communication ability before being given the SSCS model treatment and after being given treatment. The following data is the result of testing the average difference using the paired sample t-test analysis:

Table 2 Posttest Pretest-Posttest Mathematical Communication Skills Experiment Class Results

Data	t_{count}	t_{table}	Sig. (2-tailed)
Pretest-Posttest Experimental Class Mathematical Communication Skills	13,290	2,042	0,000

The pretest-posttest t-test was calculated for the experimental class, yielding a significance value (Sig.) for mathematical communication ability 0f 0.000, which is less than 0.05. Thus, it was concluded that H_0 was rejected, and H_1 was accepted. This indicates a difference in the average value of mathematical communication skills using the SSCS learning model. Following the hypothesis analysis, a normalized gain test was conducted to assess the increase in mathematical communication skills. The results from the normalized gain test are presented in the following table:

Table 3 Gain Test Results Normalized Mathematical Communication Skills

Mathematical Communication Skills	*N gain*
Experiment Class	0,52
Control Class	0,22

Based on the data above, shows an increase of 52% in the experimental class with medium interpretation and 22% in the control class with low interpretation. So, it can be concluded that there was an increase in mathematical communication skills in the experimental class, which is better than the control class. The results of the normalized gain test above show that there is an increase in mathematical communication skills in both the experimental class and the control class. However, the increase in the control class is lower than in the experimental class. This shows that the SSCS learning model is effective in improving mathematical communication skills.

The Effectiveness of the SSCS Learning Model on Increasing Numeracy Literacy Skills

The effectiveness of the SSCS model in measuring the success of the mathematics learning process and improving numeracy literacy skills was assessed. In this study, numeracy literacy skills were evaluated using flat-sided spatial material. Indicators of numeracy literacy skills included, among others: (1) utilizing various numbers and mathematical symbols to find solutions to problems in everyday life contexts, (2) analyzing information in the form of graphs, tables, diagrams, charts, and other presentations of mathematical data, (3) interpreting the results of the analysis to make decisions in completion (Ate et al., 2022). Based on the results of the pretest and posttest research on mathematical communication skills, the following data values were obtained:

Table 4 Results of Pretest-Posttest Numeracy Literacy Skills of Experiment Class and Control Class

	Experiment Class		Control Class	
	Pretest	Posttest	Pretest	Posttest
Lowest Score	0	33,3	0	8,3
Highest Score	46,7	93,3	43,3	83,3
Mean	15,8	62,8	17,8	38,2

The data obtained indicated that there was a difference in the average numeracy values in the control class and the experimental class. To find out the increase in numeracy literacy skills, a normalized gain test was carried out between the experimental class and the control class. The normalized gain test results show that there is an increase of 55% in the experimental class with medium interpretation and 25% in the control class with low interpretation. For a clearer visualization, refer to the diagram below:

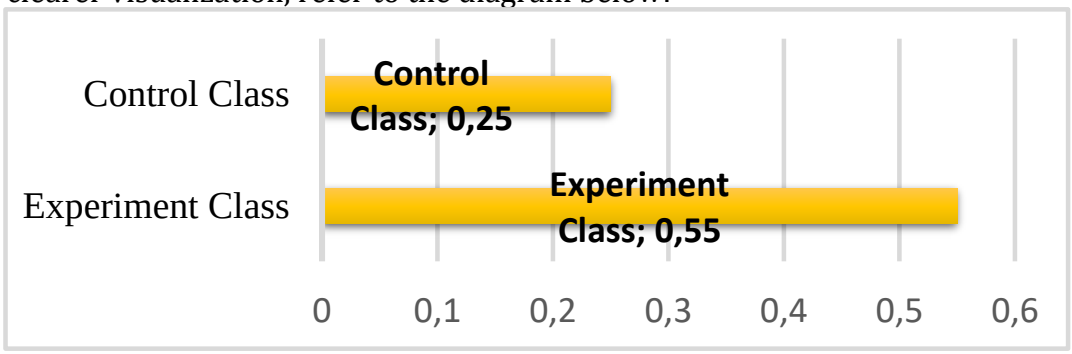

Figure 3 Normalized Gain Test Results in Numeracy Literacy Skills of Experiment Class and Control Class

To enhance numeracy literacy skills in the experimental class, the findings indicated a more significant improvement compared to the control class. This superiority in improvement can be attributed to the application of the SSCS model in the experimental class, particularly during the search stage (identifying problems). During this stage, students were encouraged to read and comprehend existing mathematical problems, enabling them to use mathematical symbols, analyze information in mathematical terms, and interpret conclusions related to everyday life problems effectively. Once students grasp mathematical problems proficiently, they can then formulate the necessary steps to solve the presented mathematical problems. Research by Dharul Jannah et al said that learning with the SSCS model can to improve numeracy literacy skills. More than 80% of students can analyze mathematical problems and meet the numeracy literacy indicators according to PISA (Jannah et al., 2022).

Improving numeracy literacy skills will significantly benefit PISA (Program for International Student Assessment). According to research by Anisa Fitri et al, good numeracy skills will help students understand mathematical problems and solve them well, thereby increasing their PISA scores (Fitri et al., 2023). Research by Meggy Novitasari also said that an increase in the PISA score illustrates that the quality of education in Indonesia has also increased (Novitasari, 2022). Thus, increasing numeracy literacy skills is needed to improve the quality of education in Indonesia and increase PISA scores in general.

The effectiveness of the SSCS model for increasing numeracy literacy skills in this study used hypothesis analysis with paired sample t-test statistical analysis. By testing the average difference in mathematical communication skills by comparing the pretest and posttest values in the experimental class to find out whether there is a difference in the average value of numeracy literacy skills before being given the SSCS model treatment and after being given the treatment. The following data is the result of testing the average difference using the paired sample t-test analysis:

Table 5 Posttest Pretest-Posttest Numeracy Literacy Skills Experiment Class Results

Data	t_{count}	t_{table}	Sig. (2-tailed)
Pretest-Posttest Numeracy Literacy Experiment Class	15,101	2,042	0,000

In the calculation of the pretest-posttest t-test in the experimental class, a Sig value of 0.000 (< 0.05) was obtained for numeracy literacy skills. Consequently, H_0 was rejected and H_1 was accepted, signifying a discernible difference in the average value of numeracy literacy using the SSCS learning model. Subsequently, a normalized gain test was conducted to assess the increase in the results of the assesment of numeracy literacy skills in the learning procces. The outcomes of the normalized gain test are presented in the table below:

Table 6 Gain Test Results Normalized Mathematical Communication Skills

Numeracy Literacy Skills	*N gain*
Experiment Class	0,55
Control Class	0,25

Based on the normalized gain test data above, it shows an increase of 55% in the experimental class with medium interpretation and 25% in the control class with low interpretation. So it was concluded that there was an increase in numeracy literacy skills in the experimental class better than in the control class. The results of the normalized gain test above show that there was an increase in numeracy literacy skills in both the experimental class and the control class. However, the increase in the control class was lower than in the experimental class. Based on the research data, the authors conclude that the application of the SSCS model is effective in increasing numeracy literacy skills.

Discussion

This research employed the true experimental design research method, specifically utilizing a pretest-posttest control group design. The study involved the selection of two sample groups: the experimental class and the control class, each receiving distinct treatments. The experiment class underwent the application of the SSCS learning model, while the control class followed the PBL learning model. The rationale for administering the PBL learning model to the control class lies in the similarity of learning syntax between the PBL and SSCS models. While both models are problem-based, the PBL learning model places a greater emphasis on providing

problem-based assignments to explore mathematical understanding through problem-solving.

In contrast to the application of the SSCS model emphasizes learning with various aspects, including cooperation and independence in addition to problem-based. In learning with the PBL model, the teacher provides an initial explanation to identify the student's initial understanding by providing questions that can activate prior knowledge and a student's learning atmosphere in class. Meanwhile, in SSCS learning students are more independent in understanding prior knowledge because students are immediately formed into groups and carry out joint discussions, the teacher is only a facilitator and guides students if there are difficulties in understanding the material.

According to the report of the American Department of Education institution, namely the Regional Education Laboratories, stated that SSCS is recognized as one of the cooperative learning models that can be developed in mathematics learning (Mulyana, Priyatno, & Dewi, 2018). Learning mathematics by applying the SSCS model will show student behavior, namely finding, learning, skills, and communicating. At the search stage, finding behavior is carried out by students when looking for information or identifying problems to find solutions to solving these problems. In the solving stage, student behavior when learning is learning because students can to plan the process of solving problems according to the information or problems found in the previous stage. At the create stage, student behavior during learning is a skill, because students can to find solutions to existing problems. Whereas at the share stage, student behavior that occurs during learning is communicating or communicating by conveying the results of problem-solving to other friends and the teacher to be used as material for discussion and evaluated by the teacher based on facts obtained from the previous stages. Communicating is by the numeracy literacy indicators presented by PISA.

To find out the initial state of the selected sample group, a pretest prior knowledge test was carried out. To know the level of effectiveness of learning mathematics with the application of the SSCS learning model as an effort to improve mathematical communication skills and numeracy literacy. Improvement of each ability, in this study, can be done with two respective analyses of mathematical communication skills and numeracy literacy. Tests to determine the increase in mathematical communication skills and numeracy literacy showed that the experimental results experienced a higher increase with

moderate interpretation and an increase in the control class with low interpretation. The SSCS learning model is a cooperative learning model with student-centered learning methods.

Based on the results of the normalized gain test for the experimental class and control class, it shows that the increase in numeracy literacy skills in the experimental class was higher than in the control class. So it can be said that the SSCS (Search, Solve, Create, and Share) learning model is effective in increasing numeracy literacy skills. In accordance with research by Dharul Jannah et al, it shows that the results of experimental class learning using the SSCS model are effective in improving numeracy literacy skills. The range of increase in numeracy literacy skills in the experimental class and control class was only 0.3 with the interpretation in the experimental class being medium and the control class being low. This is because the treatment in both classes is a problem-based learning model, both learning models have many similarities. So, both can improve numeracy literacy skills. The learning steps using the SSCS and PBL models have many similarities, so the range of improvement is not too large. In the experimental class there was an increase with moderate interpretation. This means that in the experimental class there was a significant difference between before and after treatment but had not yet reached maximum improvement. Increasing numeracy literacy skills with the SSCS (Search, Solve, Create, and Share) learning model can still be improved with learning innovations that make students more active during the mathematics learning process in class.

This learning model also trains students' ability to speak in public, develops students' communication skills, and the courage to explain mathematical concepts in the process of solving mathematical problems to other friends. Thus, the advantages of learning with the SSCS (Search, Solve, Create, and Share) model show that this learning model is more effective in helping students develop a deep understanding of problem solving and develop relevant skills.

However, the application of the SSCS (Search, Solve, Create, and Share) learning model in this research also has drawbacks, namely the learning process takes longer. Solving mathematical problems in a systematic order takes students longer to solve them. The application of this learning model also requires teacher guidance during the learning process as a facilitator. The teacher must be able to ensure that all students can actively participate in discussions in learning so that learning objectives can be achieved. Internal

motivation from students to be active in the learning process is also needed to develop students' skills optimally. So, learning with the SSCS (Search, Solve, Create, and Share) model should not be used to learn too much material because it will take up more time. Not all learning topics use the SSCS (Search, Solve, Create, and Share) learning model, this model is more suitable to be applied to subjects that use deep conceptual understanding and use critical thinking skills. In this research, the researcher has a solution, namely that at the share stage, not all group members come forward to present, but only group representatives each question to be discussed together in class. The teacher always ensures that all students in the class can participate in learning well and all play an active role in the group discussion process and class discussions in general.

Based on the data from this research and previous research, the author concludes that the application of the SSCS (Search, Solve, Create, and Share) learning model is effective in increasing numeracy literacy skills.

Conclusion

Based on the results of data analysis, it was found that the results of hypothesis testing using paired sample t-test analysis showed that there was a difference in the average value of mathematical communication ability using the SSCS model. In the normalized gain test, students in the experimental class, treated with the SSCS model for mathematical communication skills, demonstrated a 52% increase with moderate interpretation, while students in the control class, treated with the PBL model, showed a 22% increase with low interpretation. The second hypothesis test also indicated a significant difference in the average numeracy literacy using the SSCS model, revealing a 55% increase with moderate interpretation in the experimental class and a 25% increase with low interpretation in the control class. Consequently, the study concluded that the SSCS learning model effectively enhances both mathematical communication skills and numeracy literacy. It is recommended that future researchers conduct further research regarding the application of the SSCS (Search, Solve, Create, and Share) learning model to improve other indicators of mathematical ability by developing a more interesting and effective learning process. This study aspires to offer valuable insights and contribute innovative ideas to educators and researchers for the advancement of mathematical education.

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