JURNAL PENDIDIKAN MATEMATIKA DAN IPA

Vol. 14, No. 2 (2023) h. 234-245

http://jurnal.untan.ac.id/index.php/PMP

THE EFFECT OF THE SSCS LEARNING MODEL WITH METAPHOR APPROACH ON MATHEMATICS PROBLEM-SOLVING ABILITY IN REVIEW OF STUDENTS' LEARNING STYLES

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DOI: http://dx.doi.org/10.26418/jpmipa.v14i2.56388

Abstract

This study aims to determine whether there is an effect of the SSCS learning model with a metaphorical approach and PBL learning on mathematical problem-solving abilities in terms of learning styles. This research is a type of Quasy Experiment Design. The population in this study were students of class VIII at SMP N 09 Tulang Bawang Tengah, the sampling method used a simple random sampling technique. The data in this study were collected using tests and questionnaires. Hypothesis testing using analysis of variance of two unequal cells with a significance level of 5%. The prerequisite tests in this study include the normality test and the homogeneity test using SPSS which were carried out before testing the hypothesis. The results of the analysis obtained that p-value (sig.) = 0.037 <0.05 then H0 was rejected, p-value (sig.) = 0.035 <0.05 then H_0 was rejected, p-value (sig.) = 0.732 < 0, 05 then H0 is accepted so that, the results of the analysis in this study are (1) there is an effect of the SSCS learning model with a metaphorical approach and PBL model learning on mathematical problem-solving abilities. (2) there is an effect of visual, audio, and kinesthetic learning styles on mathematical problem-solving abilities. (3) there is no interaction between learning model factors and learning styles on mathematical problem-solving abilities.

Keywords: *Learning Style; SSCS Learning Model; Metaphorical Approach*

INTRODUCTION

Education in the current era has many innovations, when teaching activities are carried out by teachers and learning activities are carried out by students, both influence each other in facilitating the learning process about learning activities, there are

Received **: 20/07/2022**
Revised **: 16/06/2023**
Accepted **: 21/06/2023**

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learning models that are applied by teachers to students. This learning model will inevitably cause discomfort in the learning atmosphere, feel bored, and don't even pay attention to students when the teacher delivers learning, and ultimately making students not understand what material is being delivered. This can happen in mathematics learning activities. In the field of education, a person is required to study mathematics from elementary to college level (Maruf et al., 2020).

The process of learning mathematics in problem-solving is the subject of the basic abilities of abilities possessed by students. One of the learning models that support mathematical problem-solving abilities is the SSCS learning model. The SSCS learning model is a model that emphasizes the use of a scientific approach or thinking regularly and systematically, logically, and thoroughly level (Astuti et al., 2018). Pizzini introduces the SSCS problem-solving learning model (*Search, Solve, Create, and Share*) in the development of science designed to expand knowledge of science concepts and their application in solving life problems and to improve students' critical abilities. The use of this learning model can be used in helping students to be more active in the use of a concept and more accustomed to doing critical thinking activitie (Pizzini, 1991).

The SSCS learning model is used by researchers to teach research because previously this model has also been developed with various modules, approaches or teaching media. Previous research by (Jannah, 2017; Hartanti, 2019; Sumantri et al., 2017; Yulanda et al., 2019). The approach also contributes to the learning of education, especially mathematics. Mathematics has a variety of concepts in its material, in understanding these concepts students sometimes have difficulty.

Abstract mathematical concepts are in the form of symbols, numbers, letters, and others while concrete concepts are more directed to their application in life. This is what is said to be the concept of a metaphor, namely the process of understanding/ compiling an abstract form through a relationship with a concrete form called a conceptual metaphor (Simanjorang, 2008). So, the metaphorical approach can support and facilitate the process of learning mathematics models. In realistic learning with this metaphorical approach, concepts in mathematics are found through the synergy between the mind (brain function, abstract) and the body (physical, concrete or real) (Marpaung, 2007).

Mathematics subject matter that requires deep thinking by combining the ideas of certain concepts needs an approach, media, and strategies so that the material is conveyed well by the teacher. The process of learning mathematics at SMP N 09 Tulang Bawang Tengah by the teacher has not fully used innovations such as the metaphorical approach.

Relevant research on problem-solving skills is Suryadi et al. (Satriawan, 2017), in their survey on the current situation on mathematics and science education in Bandung, stating that "mathematical problem solving is one of the most important mathematical activities, both by teachers and students at all levels ranging from elementary to college

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level (Fransiska, 2019), The learning style of students in solving problems is different for each student. Some students easily understand the material through just seeing, listening, writing down all the material, and also discussing or grouping with their peers.

Previous relevant research was carried out by Amiliya et al. (2019) with the title "Matematical problem-solving ability through learning methods *whole brain teaching* (wbt) in terms of David Kolb's learning style on quadrilateral material". The results of the study show that the problem-solving ability of students in terms of David Kolb's (Kurniati & Kurniawan, 2017) learning style (experimental class) is better than the learning method (control class) so it can be concluded that each different learning style has different problem-solving abilities (Amiliya et al., 2019).

The use of varied learning models and learning resources in learning mathematics is expected to increase students' interest in mathematics (Elpriska et al., 2018). This is in line with the acquisition of student learning outcomes in mathematics. The results of the Middle Semester Examination (UTS) for class VIII students at SMP N 09 Tulang Bawang Tengah for the 2020/2021 academic year that there are 132 students divided into five classes. The UTS scores for mathematics lessons for SMP N 09 Tulang Bawang Tengah students still do not meet the standards set by the school. Namely, 75 and students whose scores are below the KKM are 79 with a percentage of 60%. This shows that there are still many students who get scores below the average Minimum Completeness Criteria (KKM). From the results of the answers, these students have not fully implemented several indicators of problem-solving, including students who have not been able to write down what answers are known, asked questions, write formulas for solving these problems, and even students do not re-examine the answers that have been obtained. This does not meet the indicators of solving mathematical problems that students should answer. This presentation needs improvement in teaching by the teacher so that learning does not seem boring and boring for students. The purpose of this study was to determine the effect of the SSCS learning model with a metaphorical approach on mathematical problem-solving abilities in terms of students' learning styles.

METHODS

The research method in this study is quantitative and has two independent variables, namely the SSCS learning model through a metaphorical approach and learning style, and one dependent variable, namely the problem-solving ability of students. The method in which the final result of the study uses values/scores and the use of statistical analysis. This study uses the experimental research type Quasy Experiment Design (Sugiyono, 2018). A Quasi-experimental design is an experimental method that designs a control group but does not fully function in controlling other variables that affect the experiment (Sugiyono, 2016). In this design, there are two classes of population subjects, namely the control group and the experimental group. This study used a posttest-only control research design with a 3×3 factorial design (Table 1).

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Table 1. Research factorial design

Learning style (B_j) / Model Learning (A_i)	Visual (B_1)	Audiotorial (B_2)	Kinestetik (B_3)
Learning model SSCS (A_1)	A_1B_1	A_1B_2	A_1B_3
SSCS learning model with a metaphorical approach (A_2)	A_2B_1	A_2B_2	A_2B_3
Learning model PBL (A_3)	A_3B_1	A_3B_2	A_3B_3

The sample selection in this study used a cluster or randomized class technique, which saw the class used for the experimental class, 2 classes, and 1 control class, with the research population being all students of class VIII SMP N 09 Tulang Bawang Tengah. Students consist of 5 classes (A, B, C, D, and E) with a total of 86 students. Data collection techniques in this study were tests, questionnaires, documentation, and observation. In this study, various tests were carried out including validity tests, difficulty level tests, discriminatory tests, reliability tests included in trials, and prerequisite tests, namely using normality and homogeneity tests and hypothesis testing using two-way ANOVA tests and then Scheffe post-AVA tests.

RESULTS AND DISCUSSION

The process carried out by the researcher before going to the test stage was to provide a learning style questionnaire to see the visual, audio and kinesthetic categories of students. Each category of student learning styles obtained was grouped by researchers for follow-up. Learning mathematics with a metaphorical approach is used by researchers as one of the innovations. Teachers can use various metaphorical approaches in learning mathematics and what researchers use is a mathematical imagination puzzle (Fitriyani, 2019). The mathematical material in this case is the Pythagorean theorem. The researcher refers to the mathematical problem-solving skills possessed by students at SMP N 09 Tulang Bawang Tengah. The ability to solve problems is an intellectual skill that is rated as important and significant learning outcomes in the learning process (Parasyanti et al., 2022). The ability to solve mathematical problems of students who researchers carefully follow the steps of polya (Argarini, 2018).

Testing the prerequisites for the analysis of this study by testing the normality and homogeneity of the test instrument and questionnaire. Researchers conducted instrument tests on predetermined classes as a continuation of this study. The test instrument and questionnaire provided were tested at the normality level. Both have a sig value. more than 0.05 which is explained through tables by researchers.

Based on the results of calculations with normality and homogeneity tests on each instrument, both tests and questionnaires, the following results were obtained in table 2.

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Table 2. Normality test

Tests of Normality							
	Class	**Kolmogorov-Smirnov[a]**			**Shapiro-Wilk**		
		Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Problem Solving	Eks 1	.122	23	.200*	.953	23	.344
	Eks 2	.166	23	.100	.943	23	.206
	Kontrol	.113	23	.200*	.977	23	.839

The results of SPSS calculations are presented in table 3. The sig values obtained for experimental class 1, experiment 2 and control respectively obtained sig values >0.05. Because this value is greater than α = 0.05, it can be concluded that the samples (experimental and control classes) are normally distributed.

Table 3. Normality learning style questionnaire

Tests of Normality							
	Learning Style	**Kolmogorov-Smirnov[a]**			**Shapiro-Wilk**		
		Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Problem Solving	Audio	.182	20	.082	.921	20	.103
	Visual	.119	25	.200*	.945	25	.193
	Kinestetik	.162	24	.105	.919	24	.057

The results of the SPSS calculations presented in the table obtained the sig value for the auditory category in Kolmogrov Smirnov of 0.082. The sig value in the visual category was 0.200 and the sig value in the kinesthetic category was 0.105. The sig value in each learning style category is greater than α = 0.05 so it can be concluded that the sample is normally distributed.

The homogeneity test in this study was to see whether each instrument was included in the same distribution of data or not. The following are the results of the data obtained in the test and questionnaire instrument (Table 4).

Table 4. Homogeneity test

Homogeneity Test Analysis			
	Sig. All Classes	**Sig. level**	**Decision**
Problem-Solving Ability Test	.248	> 5%	Homogenous
	Sig. All Kelas	**Taraf Sig.**	**Decision**
Learning Style Questionnaire	.066	> 5%	Homongenous

Based on table 4, the problem-solving ability test instrument and learning style questionnaire for all classes has Sig value. more than 0.05 which means that the sample comes from a homogeneous population. Furthermore, after the sample meets the prerequisite test, it is continued to test the hypothesis with the following results (Table 5).

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Table 5. Results of two-way anova analysis

Tests of Between-Subjects Effects

Dependent Variable: Problem Solving

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	557.460[a]	8	69.683	2.527	.019
Intercept	350293.216	1	350293.216	12703.428	.000
x1	192.852	2	96.426	3.497	.037
x2	196.019	2	98.010	3.554	.035
x1 * x2	57.142	4	14.286	.518	.723
Error	1654.482	60	27.575		
Total	380352.000	69			
Corrected Total	2211.942	68			

Based on table 5, the hypothesis of this study can be concluded: This research does influence the SSCS learning model with a metaphorical approach to mathematical problem-solving abilities. Learning by utilizing a metaphorical approach is able to make students interested and curious about learning mathematics which seems difficult. Based on the results of the analysis of the hypothesis testing data in the table, it shows that between SSCS learning with the metaphorical approach and PBL learning (x1) on students' mathematical problem-solving abilities, a sig value of 0.037 is obtained. Because this value is less than 0.05, H0 is rejected so that it can be concluded that there are differences between the SSCS learning model and the metaphorical approach and PBL learning. H0 is rejected because of the value of sig. obtained in class 0.037. The resulting value indicates that sig. <0.05 so it can be interpreted that there is a difference between students who are given the SSCS learning model, the SSCS learning model with a metaphorical approach, and the PBL model on students' mathematical solving abilities.

In carrying out this research the SSCS learning model with a metaphorical approach has a few difficulties because students still do not understand learning so that it requires tenacity and communication from the teacher and students to be more awake. The metaphorical approach itself is an easy step in learning mathematics material, in this case the researcher uses an imagination puzzle. This is what (Fitriyani, 2019) did to facilitate the learning process with tangram media.

In addition to the SSCS learning model approach developed with innovations such as (Zahro et al., 2018) students can be actively motivated and others by Sumantri et al. (2017) with the help of problem cards which have an impact on students being more active, enthusiastic in building knowledge and being challenged to learn and solve problems. The research that has been carried out provides similar results to research by researchers because the learning model can indeed be innovated, where students in the research process are more active because they learn mathematics and also imagine with their brains. In addition, the activeness of students working together in teams to solve problems is a benchmark for researchers to achieve.

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Conventional learning that already exists, namely PBL, researchers feel the need for innovation so that students do not feel bored when the learning process takes place. The world of education currently refers to the role of education in schools contained in the curriculum focusing on developing human resources which include cognitive, affective, and psychomotor (Parasyanti et al., 2022).

The SSCS learning model with a metaphorical approach is one of the innovations carried out in this study. This research is consistent with what has been done previously by Luthfiyah et al. (2021) entitled "SSCS Learning Model for Mathematical Problem-Solving Ability" stating that SSCS learning has effective stages in improving mathematical problem-solving abilities.

H_{0B} is accepted because the sig value obtained by the class * learning style is 0.732. The resulting value indicates that sig. > 0.05 so it can be concluded that there is no interaction between model factors and learning styles on mathematical problem-solving abilities. The shceffe test calculation is carried out which produces a value of β_(1-2) then H_{0B} is accepted, β_(2-3) then H_{0B} is rejected and β_(1-3) then H_{0B} is accepted.

The calculation is compared between the value obtained with the sig value. (0.05) which concluded that the three learning styles have a significant level of difference in students' mathematical problem-solving abilities. This data researchers can go through a questionnaire before the learning process so that the focus of the learning style that is actually owned by these students.

The explanation above regarding the learning styles of students towards mathematical problem-solving abilities, researchers can find out from the three learning styles how to solve mathematical problems. This explanation is very relevant to Al-hamzah & Awalludin (2021) that the learning styles each student has in solving problems differ in answering such as the visual learning style being able to do the polya problem solving stages , the audio learning style is only able to do 2 steps in polya solvers are able to understand problems, and are able to plan problems and then kinesthetic learning styles are also able to understand problems and solve problems. The difference in the researchers' research is that the kinesthetic learning style is more capable of solving problems in polya, but the process is according to what is described.

This is in line with research conducted by Al-hamzah & Awalludin (2021) regarding the influence of visual, audio, and kinesthetic learning styles on e-learning assisted mathematical problem-solving abilities. The results of the data acquisition are due to the different abilities in learning that students have when understanding a learning material. In addition, Shaputra & Supardi (2019) with the teacher being able to know the learning style of each student, the teacher can apply the right techniques and strategies, both in learning and in self-development.

In this study, through two-way ANOVA calculations, it was concluded that the third hypothesis H_{0AB} was accepted because the sig. = 0.723 > 0.05 so that there is no interaction between the learning model

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factors and the learning style category on students' mathematical problem-solving abilities. This study is in line with Yulianci et al. (2017) who see the interaction of students' learning styles in learning. Other research that is confused with research by researchers, that every student, whether with an auditory, visual, or kinesthetic learning style, has the same level of learning independence and mathematical problem-solving abilities (Sundayana, 2018). The results of this hypothesis research may be due to conventional learning (PBL) not being able to make students actively participate in learning.

While the SSCS learning model with a metaphorical approach students are quite able to follow the learning and can show a fairly good learning style. However, in the process students are sometimes still hesitant in expressing opinions in exchanging information obtained, there are also students who do not like learning mathematics.

This obstacle requires the teacher's role in directing and guiding students in finding the information obtained to solve mathematical problems. Another possibility is due to the dishonesty of students in filling out the learning style questionnaire. These results can affect the results of the questionnaire data so that they do not produce interactions.

Furthermore, a post-anova test was conducted to determine the extent of the difference in the influence given to the class and learning style. the results as follows (Table 6).

Table 6. Multiple class comparison analysis

Multiple Comparisons

Dependent Variable: Solution of the Problem
Scheffe

(I) Class	(J) Class	Mean Difference (I-J)	Std. Error	Sig.
Experiment 1	Experiment 2	-4.35*	1.548	.025
	Control	-.17	1.548	.994
Experiment 2	Experiment 1	4.35*	1.548	.025
	Control	4.17*	1.548	.032
Control	Experiment 1	.17	1.548	.994
	Experiment 2	-4.17*	1.548	.032

There are 3 types of double comparison analysis between rows in this study, namely:

Analysis of Experiment 1 and Eksperimen Class 2

The data obtained in table 6 for Experiment 1 and Experiment 2 on problem-solving ability states the mean difference value (I-J value) is -4.35 with a sign (*) which indicates a significant difference. It can be said that there are differences in the problem-solving abilities of students in Experiment 1 class with students in Experiment 2 class. Based on the mean difference values in Experiment 1 and Experiment 2 classes which are negative, it can be said that students in Experiment 2 class are better than the

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experimental class. Experiment 1 in problem-solving ability.

Experimental Class 2 and Control Analysis

The data in table 6 for Experiment 2 class and control on problem-solving ability states that the mean difference value (I-J value) is 4.17 with a sign (*) there is a significant difference. It can be said that there are differences in the problem-solving abilities of students in the Experiment 2 class which have positive values with students in the control class. Based on the positive value of the mean difference, it can be interpreted that the mathematical problem-solving ability of students in the Experiment 2 class is better than the students in the control class.

Control and Experiment Class Analysis 1

The data obtained in table 6 for the control class and Experiment 1 class on problem-solving ability states the mean difference value of 0.17 which is positive, it can be said that the problem-solving ability of the control class students is better than the Experiment 1 class.

Furthermore, multiple comparison tests on learning styles were to see the extent of the differences in each category (Table 7).

Table 7. Multiple comparison analysis of learning styles

Multiple Comparisons

Dependent Variable: Solution the problem
Scheffe

(I) Class	(J) Class	Mean Difference (I-J)	Std. Error	Sig.
Audio	Visual	-3.82	1.575	.061
	Kinestetik	-5.02*	1.590	.010
Visual	Audio	3.82	1.575	.061
	Kinestetik	-1.20	1.501	.729
Kinestetik	Audio	5.02*	1.590	.010
	Visual	1.20	1.501	.729

The calculation of the double comparison test of learning styles which is divided into three is presented in the table 7, the explanation is as follows:

Audio and Visual Learning Style Analysis

The data in table 7, for audio and visual learning styles on problem-solving abilities obtained a mean difference value of -3.82 with negative numbers. It can be said that students with visual learning styles are better than students with audio learning styles in solving abilities. mathematical problem.

Visual and Kinesthetic Learning Style Analysis

The calculation in table 7 for visual and kinesthetic learning styles on problem-solving abilities obtained a mean difference value of -1.20 which is a negative number so it can be said that students who have a kinesthetic

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learning style are better than students who have a visual learning style in their abilities. solve math problems.

Kinesthetic and Audio Learning Style Analysis

The data obtained in table 7 states that kinesthetic and audio learning styles on students' mathematical problem-solving abilities in the mean difference (I-J) column are -5.02 with a sign (*) which indicates there is a significant difference. This can be interpreted that there are differences between students who have a kinesthetic learning style and students who are in the audio category in problem-solving abilities. The data obtained in table 7 gives a positive value on the mean difference, this can mean that the mathematical problem-solving ability of students who have a kinesthetic learning style is better than students who are in the audio category.

CONCLUSION AND RECOMMENDATION

There is an influence between the SSCS learning model assisted by the metaphorical approach and the PBL model learning on mathematical problem-solving abilities. There is an influence of visual, audio, and kinesthetic learning styles on mathematical problem-solving abilities. There is no interaction between learning model factors and learning styles on students' mathematical problem-solving abilities. Suggestions for further research, if using the SSCS learning model, it is expected to combine it with other approache.

REFERENCES

Al-hamzah, I. N. F. & Awalludin, S. A. (2021). Analisis Kemampuan Pemecahan Masalah Matematis Ditinjau dari Gaya Belajar Siswa di Masa Pandemi COVID-19. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, 5(3), 2246–2254.

Amiliya, Khusna N., & Sunismi, I.N. (2019). Kemampuan Pemecahan Masalah Matematika melalui Metode Pembelajaran Whole Brain Teaching (WBT) Ditinjau dari Gaya Belajar David KOLB pada Materi Segiempat. *Jurnal Pendidikan Matematika*, 14(9), 14-20.

Argarini, D. F. (2018). Analisis Pemecahan Masalah Berbasis Polya pada Materi Perkalian Vektor Ditinjau dari Gaya Belajar. Matematika dan Pembelajaran. *Jurnal Matematika dan Pembelajaran*, 6(1), https://doi/10.33477/mp.v6i1.448.

Astuti, N. P. E. F., Suweken, G. & Waluyo, D. (2018). Pengaruh Model Pembelajaran Search, Solve, Create, and Share (SSCS) terhadap Pemahaman Konsep Matematika Siswa Kelas VIII SMP Negeri 1 Banjar. *Jurnal Pendidikan Matematika Undiksha*, 9(2), 84-95.

Elpriska, Hartoyo, A. & Bistari (2018). Bahan Ajar Matematika Realistik Materi Kubus dan

Jurnal Pendidikan Matematika dan IPA
Vol. 14, No. 2 (2023) h. 234-245

Balok untuk Sekolah Menengah Pertama. Pontianak: UNTAN.

Fitriyani, D. (2019). Peningkatan Pemahaman Konsep Matematika Melalui Media Tangram pada Materi Sifat Bangun Datar Tema 8 Subtema 2 Pembelajaran 6 Kelas III B Mi Darun Najah Kloposepuluh Sidoarjo. 2019. https: digilib.uinsby.ac.id.

Fransiska, C. (2019) Penerapan Metode Drill Terhadap Kemampuan Pemecahan Masalah Matematis Ditinjau dari Gaya Belajar Peserta Didik Kelas VIII MTs Al-Muhajirin Panjang, Progress in Retinal and Eye Research. *Doctoral dissertation*. UIN Raden Intan Lampung.

Hartanti, P. S. (2019). Kemampuan Pemecahan Masalah Matematis Melalui Model Pembelajaran Search, Solve, Create and Share (SSCS) Menggunakan Media LKPD pada Materi Penyajian Data untuk Siswa Kelas VII SMP Negeri 3 Kepanjen. *JPM : Jurnal Pendidikan Matematika*, 4(2), 62-68. https://doi/10.33474/jpm.v4i2.2617.

Jannah, W. (2017) Penerapan Model Search, Solve, Create, dan Share (SSCS) dengan Menggunakan Lembar Kerja Peserta Didik (LKPD) untuk Meningkatkan Hasil Belajar Peserta Didik. *Doctoral dissertation.* UIN Ar-Raniry Darussalam Banda Aceh

Kurniati, T., & Kurniawan, R. A. (2017). Pengaruh Pembelajaran Kooperatif Tipe TGT dan Gaya Belajar Model Vark terhadap Hasil Belajar Kimia Sekolah pada Mahasiswa Program Studi Pendidikan Kimia. *Jurnal Pendidikan Matematika dan IPA*, 8(2), 41-49.

Luthfiyah, A., Valentina, B. K. & Ningrum, F. Z. (2021). Model Pembelajaran SSCS (Search, Solve, Create, and Share) terhadap Kemampuan Pemecahan Masalah Matematis. *Prosiding Konferensi Ilmiah Pendidikan*, 2(3), 59–68.

Marpaung, Y. (2007). Karakteristik PMRI (Pendidikan Matematika Realistik Indonesia). *Journal on Mathematics Education*, 1(1),1–10. http://ejournal.unsri.ac.id/index.php/jme/article/view/791.

Maruf, A., Indiati, I. & Harun, L. (2020). Profil Kemampuan Pemecahan Masalah Matematika Ditinjau dari Gaya Belajar Siswa Visual. *Jurnal Matematika dan Pendidikan Matematika*, 2(1), 26–32.

Parasyanti, R. C., Sitompul, S. S. & Syarif, M. M. (2022). Analisis Kemampuan Peserta Didik dalam Menyelesaikan Soal Hots Momentum dan Impuls Menggunakan Teori Polya. *Jurnal Pendidikan dan Pembelajaran Khatulistiwa (JPPK),* 11(6), 2715–2723. doi:10.26418/jppk.v11i6.55871.

Jurnal Pendidikan Matematika dan IPA
Vol. 14, No. 2 (2023) h. 234-245

Pizzini, E. (1991). *SSCS Implementation Handbook*. Lowa: The University of Lowa.

Satriawan, R. (2017). Keefektifan Model Search, Solve, Create, and Share ditinjau dari Prestasi, Penalaran Matematis, dan Motivasi Belajar. *Jurnal Riset Pendidikan Matematika*, 4(1),87-99. doi:10.21831/jrpm.v4i1.7863.

Shaputra, R. & Supardi (2019). Pengaruh Gaya Belajar dan Rasa Ingin Tahu terhadap Kemampuan Pemecahan Masalah Matematika Siswa. *Alfarisi: Jurnal Pendidikan MIPA*, 2(3), 252–259.

Simanjorang, M. (2008). Metafora Konseptual. *Generasi Kampus*, 1(2), p. 65.

Sugiyono. (2016). *Metode Peneleitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.

Sugiyono. (2018). *Metode Penelitian Kuntitatif Kualitatif dan R&D*. 27th edn. Bandung: Alfabeta.

Sumantri, M., Suwatra, I. W. & Putu, S. I. G. (2017). Pengaruh Model Pembelajaran SSCS Berbantuan Kartu Masalah Matematika siswa kelas III SD di gugus XIII kec. Buleleng. PGSD Universitas Pendidikan Ganesha, 5(2), 4.

Sundayana, R. (2018). Kaitan antara Gaya Belajar, Kemandirian Belajar, dan Kemampuan Pemecahan Masalah Siswa SMP dalam Pelajaran Matematika', *Mosharafa: Jurnal Pendidikan Matematika*, 5(2),75–84.

Yulianci, S., Gunawan, G. & Doyan, A. (2017). Model Inkuiri Terbimbing Berbantuan Multimedia Interaktif untuk Meningkatkan Penguasaan Konsep Fisika Peserta Didik. *Jurnal Pendidikan Fisika dan Teknologi*, 3(2), 146–154.

Zahroh, S., Hikmatuz, P & Mufti, N. (2018). Keterampilan Pemecahan Masalah dengan Model Search, Solve, Create, and Share (SSCS) Problem Solving disertai Conceptual Problem Solving (CPS) pada Materi Hukum Newton. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, 3(7), 968-973.