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ANALYSIS OF PROBLEM SOLVING IN SPLDV MATERIAL USING CASTEL STAGES REVIEWED FROM STUDENTS' LEARNING STYLES

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ABSTRACT
The study aims to describe the problem solving carried out by students in solving problems of the two-variable linear equation system reviewed from the student's learning style based on the stages of caste. The type of this research is qualitative descriptive. The procedure for collecting data in the research is test questions with linear equation system materials and student learning style questionnaires. The subjects of this study are students in grade VIII.3 of SMP Negeri 1 Kibang which has a total of 15 students. The technique of taking subjects is by using Purposive sampling. The results of the researchers show that the way students understand and solve the problem is different. In this study, problem-solving based on student learning styles was examined. The learning style of the students itself consists of 3, namely visual, auditorial and kinesthetic. To identify the problem solving, the researcher used the castel stages which consisted of 3 stages, namely conceptual, procedural and kinesthetic. In this study, it was found that students who have visual, auditory and kinesthetic learning styles have different ways of solving problems.
Keywords: learning style;problem solving; stages of marriage

ABSTRAK
Penelitian ini bertujuan untuk mendeskripsikan pemecahan masalah yang dilakukan oleh peserta didik dalam menyelesaikan soal sistem persamaan linear dua variabel yang ditinjau dari gaya belajar siswa berdasarkan tahapan kastolan. Jenis dari penelitian ini adalah deskriptif kualitatif. Prosedur dalam mengumpulkan data dalam penelitian adalah soal tes dengan materi sistem persamaan linier diua variabel dan angket gaya belajar siswa. Subjek dari penelitian ini merupakan siswa kelas VIII.3 SMP Negeri 1 Kibang yang berjumalah 15 siswa. Teknik pengambilan subjek yaitu dengan menggunakan Purposive sampling. Hasil dari penelitin menunjukkan bahwa cara siswa dalam memahami dan menyelesaikan soal itu berbeda-beda. Dalam penelitian ini dikaji pemecahan masalah berdasarkan gaya belajar siswa. Gaya belajar siswa itu sendiri terdiri dari 3 yaitu visual, auditorial dan kinestetik. Untuk mengidentifikasi pemecahan maslah peneliti menggunakan tahapan kastolan yang terdiri dari 3 tahap yaitu konseptual, prosedural dan kinestetik. Pada peneitian ini ditemukan bahwa para siswa yan memiiki gaya belajar visual, auditorial dan kinestetik memiliki cara penyelesaian pemecahan masalah yang berbeda-beda.
Kata kunci*: gaya belajar; pemecahan masalah; tahapan kastolan*

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Introduction

Problem-solving is a core competency in mathematics learning, which requires an understanding of concepts and appropriate learning strategies. According to Mulia et al. (2020) dan Suryani et al. (2020) said that problem-solving skills are basic skills in the learning process. The ability to solve a problem is related to the belief in solving problems given to students, because the trust that students have in solving problems will affect student learning outcomes (Maruf, at al. 2020; Fakhrunnisa & Tri,2022). In the problem-solving process, students strive to understand the issue at hand, plan steps to solve it, and then apply the plan to find a solution (Aries, 2017; Yani et al. 2022, Vahlia, 2022). In the learning process, the problems faced can come from teachers, certain phenomena, or daily situations encountered by students. Students can understand the complex problems that are being faced and develop a plan to solve the problem so that in the end students get a solution to the problem (Rambe & Afri, 2020). Mathematical problem solving is one of the essential basic competencies in mathematics subjects of the Elementary School (Wardana, 2021). To analyze students' mistakes in solving story problems, it is recommended to use caste error analysis (Katarina, et al. 2022; Julia, 2019; Johanes et al, 2007). However, in the process of solving problems, various types of student mistakes are often found (Noviani, 2019; Ayuningsih et al., 2020). Therefore, a systematic error analysis method is needed, one of which is the analysis of the stages of Kastolan.

Based on an interview with one of the teachers in the field of mathematics, it was said that when students did the problem there were parts that were not in accordance with the question order, they also wrote the answers, sometimes not according to the mathematical concept and there were also miscalculations. So it can be seen that the students are working with the stages of mathematical concepts and procedures or steps to solve the problem seen using the solution of the castel then the researcher can use the castel stages to analyze the students' answers. There are 3 Kastolan problem solving, namely understanding concepts, procedures, and techniques (Raharti & Yunianti, 2020; Ratih & Kartini, 2020; Utami & Wutsqa, 2017). According to Kastolan et al. (2007) In mathematics, errors can be divided into three categories, namely conceptual errors, procedural errors and technical errors. Likewise, according to Ranti et al. (2020) and Lisda et al. (2024) Conceptual errors refer to mistakes made by students in interpreting terms, concepts, and principles. Meanwhile, procedural errors occur when students experience errors in the preparation of systematic and systematic steps to solve a problem. On the other hand, technical errors are related to errors that occur during the calculation process or the execution of mathematical operations. Indicators according to Hakim et al. (2021) and Viani et al. (2020) Regarding conceptual errors such as difficulty understanding mathematical material, not being able to define concepts in writing, not being able to absorb the material well, difficulty applying symbols, diagrams, tables, graphs, pictures, and mathematical sentences. In this study, the castel stage will use 3 types, namely conceptual, procedural, and technical. The indicators used adjusted the material taken by the researcher, namely SPLDV material. The conceptual indicator is to convert the sentence of the problem into a mathematical

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sentence, the procedural indicator is to solve it to the final stage, and for the technical indicator it is a miscalculation and a section shift. The way students solve problems can also be seen from their learning style.

Learning style is also a consistent way that a person uses in the thought process to capture, organize, and process the information received (Al-Hamzah & Awalludin, 2021; Safitri et al. 2021). Learning style according to the research of Hernacki et al. (2021) and Fransiska et al. (2019) said that learning styles consist of three types, namely visual learning styles, auditorial learning styles, and kinesthetic learning styles. With the learning style, students can better understand the lessons. Because of the learning style, students can find stimuli or information, ways to remember, think, and solve problems or problems (Purbaningrum, 2017; Liyan et al., 2020). So, learning styles help students in absorbing learning. The visual, auditorial, and kinesthetic learning styles have their own characteristics, as well as students who have various learning styles such as students at SMP Negeri 1 Metro Kibang grade VIII, so the author wants to know how they understand a problem with the learning style they currently have.

Based on the initial exploratory pre-survey of 10 students who were purposively selected, there were 5 students with visual learning style, 3 students with auditory learning style, and 2 students with kinesthetic learning style. From the results of the questions and questionnaires that have been given, it turns out that problem solving and student learning styles are interconnected or continuous with each other. The average question score of 10 subjects was 33.5. From these topics, it can be seen that students who have a visual learning style tend to rely on what is seen and recorded, while for the auditory learning style it tends to be easy to understand when listening to explanations or recording explanations from teachers and prefer to work in groups, then for students who have a kinesthetic learning style tend to understand things more easily when it comes to daily life and practice it directly. To improve thinking power and efficiency in learning, different learning can be used so that the needs of each child's learning style are met. Therefore, this study aims to describe the problem solving carried out by students in solving problems of the two-variable linear equation system reviewed from students' learning styles based on the stages of castel.

Research Methods

The type of research is a qualitative descriptive case study. In taking subjects, *the purposive sampling method was used. Purposive sampling* is a student in grade VIII.3 of SMP Negeri 1 Kibang who has a variety of learning styles (visual, auditorial, kinesthetic), is willing to be a participant, is active in mathematics learning, and does not have physical or cognitive impairments that interfere with the understanding of the material. This research was conducted by grade VIII students of SMP N 1 Kibang. The subjects in this study consisted of 15 students in class VIII.3 of SMP Negeri 1 Kibang. The instruments used in this study are test question instruments and questionnaire instruments. The test question instrument is used to see how students solve problems, how to assess their problem solving using castel stages. As for the questionnaire instrument, it is used to find out the learning style of the students.

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The data analysis technique that the researcher will use is a descriptive technique, namely data collected from solving mathematical problems in the material of a two-variable linear equation system. After collecting data from the student learning style questionnaire, the next step is to assign a score and group them based on their learning style. After that, problem-solving will be analyzed based on students' learning styles.

Results and Discussion

Based on the analysis of the student's work, the results of the problem solving will be explained. Of the 15 students, the researcher will take 1 learning style, for a summary, you can see Table 1.

Table 1. Name According to Student Learning Style

No.	Name	Code Name	Learning Style Type
1	Ika Rahmawati	P-01	Visual
2	Reyhan Feriyan	P-02	Auditory
3	Siska Wulandari	P-03	Kinesthetic

Based on the results of the analysis the troubleshooting will be discussed below:

1. Visual Learning Style Subject Data Analysis

The following is a data analysis using the stages of caste based on the learning style of the visual part of the students, which can be seen in table 2.

Table 2. Subject P-01 (Visual)

SPLDV Questions		
Tika bought 3 pencils and 4 erasers by paying Rp. 8,500, while Alisa bought 6 pencils and 2 erasers by paying Rp. 11,000, how much would Fatih have to pay, if she bought 2 pencils and 1 eraser?		
No.	**Student Answers**	**Analysis According to Castoline**
1.		1. Conceptual Conceptually, the subject is appropriate, namely writing the example of pencil = x, eraser = y, and also writing the mathematical model, namely and $3x + 4y = 8.5006x + 2y = 11.000$. 2. Procedural At the procedural stage, the subject was able to apply the SPLDV procedure but only reached the elimination stage of x and only found the value of y, subjek Not completing until it finds an X value 3. Technical At the technical stage of the subject, there are no calculation errors in the elimination step x and obtain results $y = 1.000$
SPLDV Questions		

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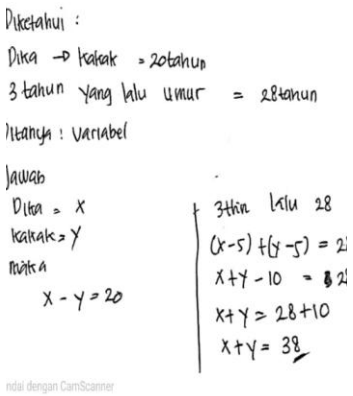
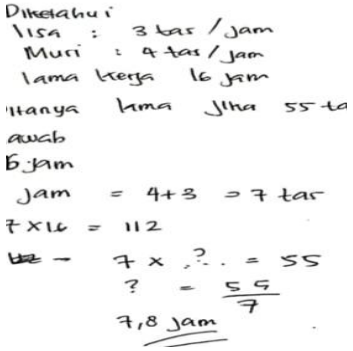
If the age difference between Dika and his brother is 20 years, while 3 years ago the total age of both was 28 years. So make a mathematical model in a two-variable linear equation if Dika and her brother are four years old!

2. 

1. Conceptual
   Conceptually, the subject is not yet suitable, but there are some points where the subject is in accordance with the concept, namely the subject writes the example Dika = x and brother = y, and but does not complete the second equation, which is that the correct equation should be $x - y = 20 x + y = 38 x + y = 44$.
2. Procedural
   At the procedural level, the subject is not accurate in choosing the equation, the subject uses the equation when the correct equation is $(x - 5) + (y - 5) = 28 (x - 5) + (y - 5) = 34$.
3. Technical
   If the formula or equation taken in the first work is wrong, then the result is also wrong, i.e. the correct result should be $x + y = 38 x + y = 44$.

SPLDV Questions

Lisa and Muri work in a bag factory. In one hour, Lisa was able to complete 3 bags, while Muri was able to complete 4 bags. They work for 16 hours a day and the total bags produced by the two are 55 bags. If their hours are different, how long each of them worked!

3. 

1. Conceptual
   Conceptually, the subject is not suitable, the subject only writes what he knows without writing down his mathematical model, namely Lisa = 3 bags/hour, Muri = 4 bags/hour, the working time is 16 hours, the subject should write down the example and the equation model.
2. Procedural
   At the procedural stage, the subject is not exactly doing it according to his logic but not in accordance with the SPLDV procedure, the subject should do it according to the SPLDV procedure, namely bag = x and jam = y and then eliminate x and substitute y.
3. Technique
   If the formula or equation taken in the first work is wrong, then the result is also wrong, namely 7.8 hours, the correct technique

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should be to eliminate x first, then then substitution y will get the correct result, namely Lisa works 8 hours and Muri works for 7 hours.

1. Auditory Learning Style Subject Data Analysis

The following is a data analysis using the stages of caste based on the learning style of the auditory students, which can be seen in table 3.

Table 3. Subject P-02 (Auditorial)

SPLDV Questions		
Tika bought 3 pencils and 4 erasers by paying Rp. 8,500, while Alisa bought 6 pencils and 2 erasers by paying Rp. 11,000, how much would Fatih have to pay, if she bought 2 pencils and 1 eraser?		
No.	**Student Answers**	**Analysis According to Castoline**
1.		1. Conceptual Conceptually, the subject is not in accordance with what the question requests, that is, the subject only rewrites what is kept in the problem without changing in the mathematical model, it should be changed to the mathematical model, namely and what is asked is 2x + y =...?$3x + 4y = 8.500$ $(1), 6x + 2Y = 11.000$ (2) 2. Procedural At this procedural stage, the subjects work on the questions in their own way, not in accordance with the procedures of the SPLDV. For the processor of the SPLDV itself is to eliminate x, substitution yes and conclusion. 3. Technical In this reckless sentence, the subject made a procedural error that resulted in the result of the wrong work, namely with a final result of 3,300, while the correct result was 4,000.
SPLDV Questions		
If the age difference between Dika and his brother is 20 years, while 3 years ago the total age of both was 28 years. So make a mathematical model in a two-variable linear equation if Dika and her brother are four years old!		

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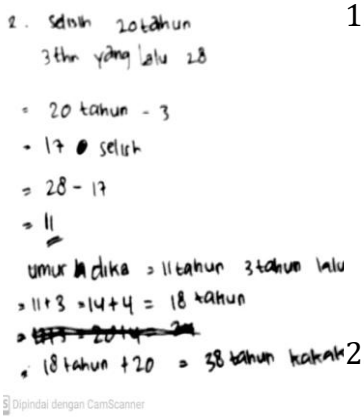
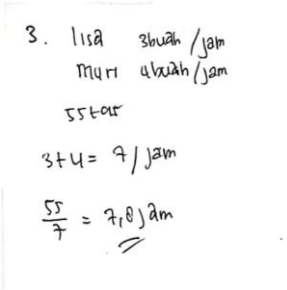
2. 	1. Conceptual Conceptually, the subject has not been in accordance with what the question requests, namely the subject only rewrites what is kept in the question without changing in the mathematical model, namely the difference of 20 years and 3 years ago = 28. The subject should use an example, namely Dika = x brother = y. 2. Procedural At the procedural stage, the subject works in his own way without going through the SPLDV procedure, i.e. eliminating x, substitution of y and conclusion. 3. Technique At this stage of the technique, the subject experienced a calculation error because the procedure used was not in accordance with the SPLDV procedure. The final result of the subject is 38 years old. For the correct answer is the mathematical model of the above question is $x + y = 44$ (1) $x - y = 20$ (2). In question number 2, the subject only uses his logic in answering questions without the concept and procedure of working on SPLDV.
SPLDV Questions	
Lisa and Muri work in a bag factory. In one hour, Lisa was able to complete 3 bags, while Muri was able to complete 4 bags. They work for 16 hours a day and the total bags produced by the two are 55 bags. If their working hours are different, how long each of them worked!	
3. 	1. Conceptual Conceptually, the subject has not been declared appropriate, because the subject only writes what the question knows without changing it into a mathematical form, namely Lisa 3 pieces/hour and Muri 4 pieces/hour. The correct answer should be to do an example, for example, bag = x and clock = y, then the mathematical model is obtained $3x + 4y = 55$ (1) $x + y = 16$ (2). 2. Procedural In this procedural stage, students work on the problem in their own way, they do not use the procedure from spLDV, which is 3 + 4 = 7/hour, 55/7 = 7.8 hours. For the correct answer is that

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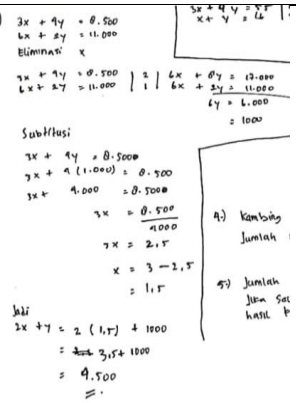
	we have to do the elimination of x and substitution of y and then the final result is obtained, namely Oral works 9 hours and Muri works 7 hours. Technical At this stage of the technique, there was an error in the use of the procedure which resulted in the wrong results obtained, namely 7.8 hours while the correct final result was Lisa worked for 9 hours and Muri worked for 7 hours.

1. Data Analysis of Kinesthetic Learning Style Subjects

The following is a data analysis using castel stages based on the learning style of kinesthetic students, which can be seen in table 4.

Table 4. Subject P-03 (Kinesthetic).

SPLDV Questions		
Tika bought 3 pencils and 4 erasers by paying Rp. 8,500, while Alisa bought 6 pencils and 2 erasers by paying Rp. 11,000, how much would Fatih have to pay, if she bought 2 pencils and 1 eraser?		
No.	**Student Answers**	**Analysis According to Castoline**
1.		1. Conceptual Conceptually, the subject is appropriate, namely writing the model of the equation $3x + 4y = 8.500 \ldots (1)$ $6x + 2y = 11.000 \ldots (2)$. 2. Procedural At this procedural stage, the subject is in accordance with the SPLDV work procedure, namely determining the equation, elimination of x, substitution of y and conclusion. 3. Technical At the technical stage of the subject, there is an error in moving the section at the substitution stage which results in the final result being wrong. The subject writes that the correct section should be moved is that this results in an inappropriate final result of 4,500 which should be the correct result is 4,000$3x = \frac{8.500}{4.000} \div 3x = 8.500 - 4.000$..
SPLDV Questions		
If the age difference between Dika and his brother is 20 years, while 3 years ago the total age of both was 28 years. So make a mathematical model in a two-variable linear equation if Dika and her brother are four years old!		

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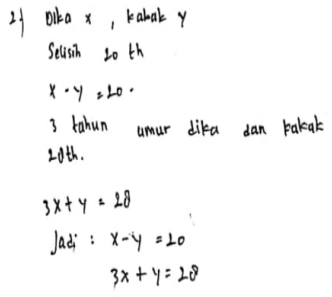
2. 	1. Conceptual Conceptually, the subject is appropriate, namely writing the equation model with the example Dika = x and brother = y and the equation model.$x - y = 20$ dan $3x + y = 28$ 2. Procedural At this procedural stage, the subject does not use the procedure according to SPLDV while working with his logic which produces a less precise equation, i.e. the correct equation should be $3x + y = 28x + y = 44$. 3. Technique At this stage of the technique, the subject is seen not using the SPLDV procedure in doing it, which results in a different end result, namely. The correct answer should be $x - y = 20$ dan $3x + y = 28x - y = 20$ dan $3x + y = 44$.

SPLDV Questions

Lisa and Muri work in a bag factory. In one hour, Lisa was able to complete 3 bags, while Muri was able to complete 4 bags. They work for 16 hours a day and the total bags produced by the two are 55 bags. If their working hours are different, how long each of them worked!

3. 	1. Conceptual Conceptually, the subject is appropriate, namely writing an equation model and the example of bag = x and clock = y with the equation model $3x - 4y = 55$ $x + y = 16$. 2. Procedural At this procedural stage, the subject works in accordance with the SPLDV procedure, namely determining the equation, eliminating x and substituting y. 3. Technique At this stage of the technique, the subject experiences an error that lies in the substitution part, namely using the wrong equation, the subject should use the equation $3x - 4y = 55$. $x + y = 16$. This resulted in an inappropriate final result, namely Lisa 7 hours and Muri 46 hours. While the correct end result is that Lisa works 9 hours and Muri works 7 hours.

Based on the research that has been carried out by P-01 subjects with visual learning style, it was found that, in working on question number 1, the subjects worked according to the concepts and procedures of the SPLDV but did not finish,

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the subjects only worked on the problem until the elimination stage. For question number 2, the subject has solved the problem incorrectly with what the question requests, namely making an SPLDV model. For question number 3, the subject did not use the concept and procedure of the SPLDV, the subject did it according to the idealist. For question number 4, the subject only writes down what the question knows and there is no answer. For number 5, the subject only adds and multiplies the numbers obtained from the question without writing down the concepts and procedures of the SPLDV. In the P-01 subject, he could not write down concepts, could not complete these (procedural) steps in line with research (Emi, et al., 2021) that students who have a visual learning style make examples, are wrong in writing the absolute values used in solving problems, and are wrong in making mathematical models.

Based on the research that has been carried out by P-02 subjects with auditory learning style, it is found that, in working on problem number 1 the subject answers the question to a simple form but does not use the concepts and procedures of SPLDV, the subject works on the problem using his own method. Although there is no calculation error, the concept and procedure are not in accordance with what the question has requested. In question number 2, the subject does the problem only using his logic not in accordance with what the question has requested, namely writing the mathematical model. In question number 3, the subject did not complete the problem according to the concept and procedure of the SPLDV, the subject P-02 did it only using his personal opinion. In question number 4, the subject does not complete according to the concept and procedure of SPLDV, the subject only writes what he knows in the question. In question number 5, the subject did not fill in the answer. Those who have an auditory learning style have the ability to understand if explained but have difficulty if the material uses images. This is in line with research (Eko, 2021), they can't solve concepts, procedures and techniques. On this subject they did not write mathematical models, did not follow the procedure.

Based on the research that has been carried out by the P-03 subject with the kinesthetic learning style, it was found that, in the work on question number 1, the subject answered the question using the SPLDV concept and procedure until the conclusion stage that there was an error in the calculation technique, resulting in the results obtained by the P-03 subject to be incorrect. The occurrence of calculation technique errors is found in substitutions that begin with the error of moving the section. In question number 2, the subject worked on the question according to what the question asked but it was not correct. In question number 3, the subject completes the problem solving using the SPLDV concept and procedure but does not agree with the conclusion, the subject only works on the problem until the substitution stage. At the substitution stage, there is an error in moving the section which results in an error in the calculation technique. In question 4, the subject only writes down what he knows, the subject does not solve the problem with the concept and procedure of SPLDV. In question number 5, the subject also only writes what is known in the question without the concept and procedure of SPLDV. Those who have this learning style tend to understand by taking notes on all the material.

For subjects who have a visual learning style, they learn by seeing explanations from the teacher directly, if viewed from the perspective of the subject

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in moving the questions he can apply the concepts of SPLDV but cannot complete the procedure until the end, he does it according to the procedure only on questions number 1 and 2 the rest are not in accordance with the procedures and concepts of SPLDV. Then subjects with an auditory learning style tend to work on the problem using their own method without the concepts and procedures desired by the question, while subjects with a kinesthetic learning style can already apply concepts and solve using the SPLDV procedure even if there are technical errors. From the three learning styles studied, it can be seen that kinesthetic learning styles are superior in understanding and solving problems that have been given by the researcher.

Conclusion and Suggestion

Based on the results of the discussion, it was concluded that: (1) Students who have a visual learning style tend to work on solving problems that do not come to simple conclusions and forms, they tend to stop halfway. (2) Students who have an auditory learning style tend to solve problems without using SPLDV concepts and procedures, they use their own methods that are not appropriate or out of place, they also only sometimes write down the answers without operating steps. (3) Students who have a kinesthetic learning style complete problem solving using the SPLDV concept but the procedure is not done until it is completed. The suggestion for further research is to raise diverse topics or materials to further explore student problem-solving, so that they can gain new insights in learning strategies that suit each student's learning style.

Reference

Al-Hamzah, 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. 10.31004/cendekia.v5i3.832

Aries, T. (2017). Analisis Beban Kognitif Dalam Pemecahan Masalah Matematika. *Seminar Nasional* , 285-290. https://doi.org/10.31227/osf.io/6xkjn

Ayuningsih, R., Setyowati, R. D., & Utami, R. E. (2020). Analisis kesalahan siswa dalam menyelesaikan masalah program linear berdasarkan teori kesalahan kastolan. *Imajiner: Jurnal Matematika Dan Pendidikan Matematika*, *2*(6), 510-518. https://doi.org/10.26877/imajiner.v2i6.6790

Eko, S. (2021). Kesalahan Penyelesaian Soal Geometri Transformasi Berdasarkan Gaya belajar: Studi Kaasus Mahasiswa Calon Guru Matematika. Jurnal Pendidikan Matematika , 09(01), 71-80. http://dx.doi.org/10.30738/union.v9i1.9293

Fakhrunnisa, A. C., & Tri, F. S. (2022). Analisis Langkah Pemecahan Masalah Matematika Menurut Polya. *seminar nasional pendidikan matematika dan matematika , 5*. https://doi.org/10.21831/pspmm.v5i1.211

Fransiska, C., Masykur, R., & Putra, F. G. (2019). Analisis Kemampuan Pemecahan Masalah Matematis: Dampak Metode Drill ditinjau dari Gaya Belajar. *Desimal: Jurnal Matematika*, *2*(2), 131-140. http://dx.doi.org/10.24042/djm.v2i2.4147

e-ISSN 2746-5594
p-ISSN 2746-5608

Hakim, I. D., & Ramlah, R. (2021). Analisis Kesalahan Siswa SMP dalam Menyelesaikan Soal Pemahaman Konsep Berdasarkan Tahapan Kastolan. *Jurnal Pendidikan Matematika Raflesia*, *6*(1), 70-87. https://doi.org/10.33369/jpmr.v6i1.14517

Inastuti, I. G. A. S., Subarinah, S., Kurniawan, E., & Amrullah, A. (2021). Analisis Kemampuan Pemecahan Masalah Pola Bilangan Ditinjau Dari Gaya Belajar. *Griya Journal of Mathematics Education and Application*, *1*(1), 66-80. https://doi.org/10.29303/griya.v1i1.4

Johanes, Kasolan, Sulasim. (2007). *Kompetensi Matematika.* Bogor: yudistira.

Julia, N. (2019). Analisis Kesalahan Mahasiswa Menurut Tahapan Kastolan dan Pemecahan Masalah Matematika Finansial Model Polya. *Jurnal Ilmiah Pendidikan Matematika*, *3*(1), 27-39. https://doi.org/10.32505/qalasadi.v3i1.891

Katarina, N. Y., Vivi, S., & Sumadji. (2022). Analisis Kesalahan Siswa dalam Menyelesaikan Soal Cerita Persamaan Linear Satu Variabel Berdasarkan Teori Kastolan. *JRPM,* *7*(1), 89-102. https://doi.org/10.15642/jrpm.2022.7.1.89-101

Lisda, K., Tiara, A., & Siti, M. (2024). Analisis Kesalahan Siswa SMP Dalam Menyelesaikan Soal Aritmatika Sosial Mengunakan Tahapan Kastolan. *Jurnal Pembelajaran Matematika Inovatif,* *7*(2), 357-364. https://doi.org/10.22460/jpmi.v7i2.19800

Liyan, S., Junarti, J., & Utami, A. D. (2020). Profil Pemecahan Masalah Siswa Dalam Menyelesaikan Masalah Aritmetika Sosial Ditinjau Dari Gaya Belajar. *Jurnal Pendidikan Matematika,* *6*(1), 06–14. https://doi.org/10.33474/jpm.v6i1.2983

Maruf, A., Indiati, I., & Harun, L. (2020). Profil Kemampuan Pemecahan Masalah Matematika Ditinjau dari Gaya Belajar Siswa Visual. *Imajiner: Jurnal Matematika dan Pendidikan Matematika*, *2*(1), 26-32. https://doi.org/10.26877/imajiner.v2i1.5761

Noviani, J. (2019). Analisis Kesalahan Mahasiswa Menurut Tahapan Kastolan dan Pemecahan masalah Matematika Finanasial Model Polya. *Jurnal Ilmiah Pendidikan Matematika AL-QALASADI , 3* (1), 27-39.

Rambe, F. A., & Fri, L. D. (2020). Analisis Kemamuan Pemecahan Masalah Matematis Siswa Dalam Menyelesaikan Soal Materi Barisan dan Deret. *Axiom Jurnal Pendidikan & Matematika,* *9* (2), 175-187. http://dx.doi.org/10.30821/axiom.v9i2.8069

Ratih, M., & Kartini. (2020). Analisis Kesalahan Siswa Menurut Kastolan Dalam Menyelesaikan Soal Operasi Bentuk Aljabar Pada Siswa SMP. *Axiom , 9* (2), 107-123. http://dx.doi.org/10.30821/axiom.v9i2.7687

Safitri, E. L., Prayitno, S., Hayati, L., & Hapipi, H. (2021). Analisis kesalahan dalam menyelesaikan soal cerita matematika ditinjau dari gaya belajar siswa. *Griya Journal of Mathematics Education and Application*, *1*(3), 348-358. https://doi.org/10.29303/griya.v1i3.80

Suryani, M., Jufri, L. H., & Putri, T. A. (2020). Analisis kemampuan pemecahan masalah siswa berdasarkan kemampuan awal matematika. *Mosharafa: Jurnal Pendidikan Matematika*, *9*(1), 119-130. https://doi.org/10.31980/mosharafa.v9i1.597

e-ISSN 2746-5594
p-ISSN 2746-5608

Utami, R. W., & Wutsqa, D. U. (2017). Analisis Kemampuan Pemecahan Masalah Matematika dan Self-Efficacy Siswa. *Jurnal Riset Pendidikan Matematika , 4* (2), 166-175. https://doi.org/10.21831/jrpm.v4i2.14897

Vahlia, I. (2022). Analisis Kemampuan Pemecahan Masalah Dalam Menyelesaikan Soal Statistik. *EMTEKA: Jurnal Pendidikan Matematika , 3*(1), 79.

Viani, C. F., Setyowati, R. D., & Zuhri, M. S. (2020). Analisis Kesalahan Siswa SMP Berdasarkan Kriteria Watson dalam Menyelesaikan Soal Metematika Bertipe High Order Thinking Skills (HOTS) Ditinjau dari Gaya Belajar. *Imajiner: Jurnal Matematika dan Pendidikan Matematika*, *2*(5), 372-381. 10.26877/imajiner.v2i5.6115

Wardana, S. Y. (2021). Analisis Kesulitan Siswa Sekolah Dasar di Kota Semarang Pada Penyelesaian Soal Cerita Pemecahan Masalah Matematika. *Jurnal Sarjana Pendidikan, 1*(1), 1-10. https://doi.org/10.26877/jsip.v1i1.8184.s1532

Yani, R., Anwar, R. B., & Vahlia, I. (2022). Pengembangan Modul Matematika Berbasis Pendekatan Kontesktual Disertai Qr Code Pada Materi Logaritma. *EMTEKA: Jurnal Pendidikan Matematika*, *11*(1), 224-234. https://doi.org/10.24127/ajpm.v11i1.4703