ISSN 2502-5872 (Print)
ISSN 2622-3627 (Elektronik)

Volume 9 Nomor 2, May 2024, 447-460

ANALYSIS OF VOCATIONAL STUDENTS' MATHEMATICS LEARNING MOTIVATION IN THE 3T REGION OF WEST HALMAHERA

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ABSTRACT
The level of students' motivation to learn mathematics has an impact on mathematics learning outcomes. This research aims to identify the level of student learning motivation in mathematics learning for vocational school students in the frontier, outermost, and disadvantaged (3T) area. The type of research used was qualitative research with descriptive methods. The subjects of this research were 16 students from the 12th grade of Formarimoi Vocational School, West Halmahera. The data collection technique used was the distribution of questionnaires and classroom observations. Data analysis was carried out by calculating the average score and percentage of students' answers based on predetermined indicators which were then interpreted into assessment categories. Based on the research results, it was found that student learning motivation had a percentage score of 77.09% which was in the good category. In more detail, the indicator of feeling happy and diligent in learning has a percentage score of 78.90% in the good category, the indicator of willingness and interest in learning has a score of 74.41% in the good category, the indicator of self-confidence and independence in learning has a percentage score amounted to 69.87%, and the achievement indicator in learning had a score of 85.16% in the very good category.
Keywords: Analysis, Motivation to Learn Mathematics, Region 3T

How to Cite: Rahim, A., Azka, D. A., Maharani, A. E. S. H., & Dwikasari, L. G. (2024). Analysis Of Vocational Students' Mathematics Learning Motivation In The 3T Region of West Halmahera. *Mathline: Jurnal Matematika dan Pendidikan Matematika*, *9*(2), 447-460. http://doi.org/10.31943/mathline.v9i2.646

PRELIMINARY

By the mandate of the 1945 Constitution, article 31 paragraph 2, every Indonesian citizen has the right to education. Through education, superior and professional human resources can be produced which are needed in building the nation. However, the portrait of education in underdeveloped, frontier, and outermost areas (3T) is still very sad. The absence of high schools in remote areas means that students do not continue their education to the nearest high school, which takes 2 hours to travel without transportation.

Another problem is when professional teaching staff are reluctant to live in 3T areas so the quality of education in 3T areas is very low. Based on data from the Badan Pusat Statistik (2021), there is a gap in School Enrollment Rates (SER) between regions where the SER rate in Eastern Indonesia is still very low, making it one of the topics discussed in the 2020-2024 RPJMN. Therefore, the transformation and acceleration of development, especially in the eastern region, is the focus point in reducing inter-regional disparities.

Through documentation studies in one of the 3T areas, Rahmadi (2020) found that high school graduates very rarely want to continue to college. Apart from that, many of the teaching staff have non-educational backgrounds. Coupled with the almost complete absence of books in schools, this should be a concern for stakeholders. One of the efforts made in terms of equal distribution of education, especially in 3T areas, is the Sustainable Education Best Program (SEBsP) which aims to train natural resource management skills that are integrated into the world of education (Rosmana, et al., 2022).

The goals of education in schools are influenced by several factors, one of which is student learning motivation (Harahap et al., 2021). Learning motivation is the overall driving force within students which gives rise to the intention to continue carrying out learning activities and provides direction to learning activities so that the desired goals can be achieved (Alfonso, 2021). Motivation is not only important because it is a factor that causes learning, but also facilitates learning and learning outcomes (Sodikin, 2023). With strong learning motivation, students will study actively which will have an impact on student learning outcomes. Therefore, student learning motivation needs to be instilled from the start and maintained continuously in various ways. The level of learning motivation that students have will influence students to focus on paying attention to lessons at school and repeating lessons at home. Therefore, motivation and learning are two interrelated things. Learning motivation is one of the factors that determine the effectiveness of learning. A Student will learn well if there is a driving factor, namely learning motivation. Students will learn if they have high learning motivation (Lao et al., 2021).

According to Munthe & Pasaribu (2023), learning motivation, together with interest in learning, has a significant impact on students' mathematics learning outcomes. Mathematics is a scientific discipline that is taught at elementary school, middle school, and also college levels. Studying mathematics will familiarize students with being able to think systematically, namely carrying out sequential steps to solve a mathematical problem or problems in everyday life (Roesdiana, 2022). Mathematics is one of the subjects that is

less popular with students because they consider mathematics to be a difficult subject (Sodikin, 2022). This is because mathematics requires students to think rationally and logically through understanding abstract concepts so it feels difficult for students. As a result, the success of mathematics learning at school is greatly influenced by students' motivation to learn mathematics (Novianti et al., 2020).

Currently, many researchers have studied how motivation to learn mathematics correlates with mathematics learning outcomes or other factors (Sodikin et al., 2023; Munthe & Pasaribu, 2023; Bunari et al., 2024; El-Adl & Alkharusi, 2020). Several studies have also described motivation for learning mathematics. However, these studies only focus on either describing the student's motivation to learn mathematics in elementary school, junior high school, or senior high school or research locations that are not in the 3T area (Alfonso, 2021; Nurfallah & Pradipta, 2021; Dewi et al., 2020; Sulistyawati et al, 2022; Hartini & Warmi, 2019). So far no relevant research has been found that examines the motivation to learn mathematics among vocational school students in the 3T area.

Based on the description above, this research aims to describe students' mathematics learning motivation in one of the 3T areas, namely students at Formarimoi Vocational School, West Halmahera. This research is a follow-up research conducted by Rahim et al. (2023) which shows that the level of difficulty in learning mathematics for Formarimoi Vocational School students is still high where one of the causes is the lack of student motivation to learn.

METHODS

This research aims to describe the mathematics learning motivation of vocational school students in the 3T area, namely SMKS Formarimoi, West Halmahera. The type of research used is qualitative research with descriptive methods. Qualitative research with descriptive methods is research that explains or describes a situation using recorded information. This information is then presented in a concept that explains the scenario being studied.

The subjects of this research were 16 class XII students at Fomarimoi Vocational School located in West Halmahera Regency. Data collection techniques through questionnaires and observations. The aim of distributing questionnaires is to identify students' learning motivation towards learning mathematics. The questionnaire used a Likert scale containing 25 statements containing positive and negative statements and consisted of four answer choices, namely totally agree (TA), agree (A), disagree (D), and

totally disagree (TD). Next, the researcher used the observation results to complete the questionnaire data. There are 4 indicators of learning motivation, according to Triyuliantoro (2022), namely 1) feeling happy and diligent in learning; 2) willingness and interest in learning; 3) self-confidence and independence in learning; and 4) achievement in learning.

Table 1. Learning Motivation Questionnaire Grid

Number	Indicator	Statement Number		Total Statement
		Positive	Negative	
1	Feeling happy and diligent in learning	1, 2, 3, 4, 6	5	6
2	Willingness and interest in learning	7, 10, 11, 13, 14	8, 9, 12	8
3	Self-confidence and independence in learning	15, 16, 18, 19, 20, 21	17	7
4	Achievement in learning	23, 24, 25	22	4
	Total	19	6	25

Table 2. Likert Scale Assessment Criteria for Mathematics Learning Motivation Questionnaire

Number	Scale	Statement Score	
		Positive	Negative
1	Totally Agree (TA)	4	1
2	Agree (A)	3	2
3	Disagree (D)	2	3
4	Totally Disagree (TD)	1	4

The data analysis technique in this research uses quantitative descriptive analysis techniques using percentages. The data analysis technique used is to calculate the score for each student's response to each statement on the questionnaire. After that, tabulate the answer data given in tabular form. The student responses are analyzed2 per indicator and as a whole. The percentage formula used is

$$Percentage\ (P) = \frac{Statement\ Number - i\ Total\ Score}{16 \times 4} \times 100\%$$

The data obtained was then interpreted into assessment categories according to Muslihat et al. (2019) which can be seen in the following table.

Table 3. Categories of Learning Motivation

Number	Percentage (P) Level of Mathematics Learning Motivation	Category
1	$P > 80\%$	Very good
2	$65\% < P \leq 80\%$	Good
3	$55\% < P \leq 65\%$	Enough
4	$40\% < P \leq 55\%$	Bad

Number	Percentage (P) Level of Mathematics Learning Motivation	Category
5	$P \leq 40\%$	Very bad

RESULT AND DISCUSSION

The results of the answers to the student mathematics learning motivation questionnaire which were distributed to 16 Fomarimoi Vocational School students were calculated based on each score for each question. Next, the answers are grouped based on predetermined indicators.

Feeling Happy and Diligent in Learning

Research data regarding indicators of feelings of happiness and persistence in learning consists of 6 statements. Below are presented the research results of each statement.

Table 4. Indicators of Feeling Happy and Diligent in Learning

Number	Aspect	Respondent				Percentage
		TA	A	D	TD	
1	Math lessons are fun.	5	8	2	1	76.56%
2	Mathematics is studied with enthusiasm.	7	6	2	1	79.69%
3	I enjoy doing math exercises.	5	6	4	1	73.44%
4	I feel happy and satisfied when I successfully solve a math exercise.	5	10	0	1	79.69%
5	I did not give a note of every mathematical explanation given by the teacher.	1	0	6	9	85.93%
6	I want to excel in mathematics subjects.	6	7	2	1	78.13%
	Average					78.90%

Based on the table above regarding feelings of joy and persistence in studying, from the 6 statements an average score percentage of 78.90% was obtained, which is included in the good category. In this case, students feel happy and diligent in learning good mathematics lessons. Statement 1 has a score percentage of 76.56% which is included in the good category where as many as 13 students stated that mathematics was an enjoyable lesson. Statement 2 has a score percentage of 79.69% which is included in the good category where as many as 13 students study mathematics with enthusiasm. Statement 3 has a score percentage of 73.44% which is included in the good category where as many as 11 students felt happy working on mathematics exercises. Statement 4 has a score percentage of 79.69% which is included in the good category where as many as 15 students felt happy and satisfied if they succeeded in solving mathematics exercises. Statement 5

has a score percentage of 85.93% which is included in the very good category where only one student did not note down the mathematical explanation given by the teacher. Statement 6 has a score percentage of 78.13% which is included in the good category where as many as 13 students want to excel in mathematics. Overall, the majority of students think that mathematics lessons are fun and are persistent in learning mathematics. This can be seen from almost all students taking notes during mathematics lessons. Based on the results of observations in the field, researchers also saw that students were enthusiastic about answering questions asked by the teacher. Apart from that, students feel more confident when students can solve math problems.

Willingness and Interest in Learning

Research data regarding indicators of willingness and interest in learning consists of 8 statements. Below are presented the research results of each statement.

Table 5. Indicators of Willingness and Interest in Learning

Number	Aspect	Respondent				Percentage
		TA	A	D	TD	
7	Mathematics lessons are interesting.	4	9	2	1	75.00%
8	The mathematics material explained by the teacher is difficult to understand.	2	3	9	2	67.19%
9	I don't want to study mathematics in depth	1	3	9	3	71.88%
10	I do my math homework until it's finished.	7	6	0	3	76.56%
11	I follow mathematics lessons in class well.	10	5	0	1	87.50%
12	I quickly get bored doing math exercises.	1	4	9	2	68.75%
13	I arrived on time for the mathematics lesson	5	6	4	1	73.43%
14	The learning model used by the teacher is interesting to me.	4	9	2	1	75.00%
	Average					74,41%

Based on the table above regarding willingness and interest in learning, from the 8 statements, an average score percentage of 74.41% was obtained, which is in the good category. In this case, students have the will and interest in learning good mathematics lessons. Statement 7 has a score percentage of 75.00% which is included in the good category where as many as 13 students stated that mathematics was an interesting lesson. Statement 8 has a score percentage of 67.19% which is included in the good category where as many as 5 students stated that the mathematics material explained by the teacher was difficult to understand. Statement 9 has a score percentage of 71.88% which is included in the good category where as many as 4 students do not want to study mathematics in depth. Statement 10 has a score percentage of 76.56% which is included in the good category where as many as 13 students did their mathematics homework to

completion. Statement 11 has a score percentage of 87.50% which is included in the very good category where as many as 15 students follow mathematics lessons in class well. Statement 12 has a score percentage of 68.75% which is included in the good category where as many as 5 students feel bored quickly when working on mathematics problems. Statement 13 has a score percentage of 73.43% which is included in the good category where as many as 11 students came on time because they wanted to study mathematics from start to finish. Statement 14 has a score percentage of 75.00% which is included in the good category where as many as 13 students felt that the learning model used by the teacher was interesting to them. Overall, the majority of students have a willingness and interest in learning mathematics. One factor is teachers use models that are attractive to students and the material taught is easy to understand. Another, students' willingness and interest in learning mathematics can be seen in students who follow mathematics lessons well in class. From the results of observations, researchers saw that students paid attention to the teacher when explaining the material.

Confidence and Independence in Learning

Research data regarding indicators of self-confidence and independence in learning consists of 7 statements. Below are presented the research results of each statement.

Table 6. Indicators of Confidence and Independence in Learning

Number	Aspect	Respondent				Percentage
		TA	A	D	TD	
15	I made several formulas that were posted in my room so it was easy to remember them.	1	5	7	3	56.25%
16	I actively discuss with friends when studying mathematics.	7	4	4	1	75.56%
17	I have difficulty concentrating when studying mathematics.	1	6	5	4	68.75%
18	I listened seriously to the mathematics explanation given by the teacher.	7	6	1	2	78.13%
19	I don't cheat on math tests.	8	5	0	3	78.13%
20	I spend time at home studying mathematics.	5	1	8	2	65.63%
21	I study mathematics not only during tests.	1	9	5	1	65.63%
	Average					69.87%

Based on the table above regarding self-confidence and independence in learning, from the 7 statements, an average score percentage of 69.87% was obtained, which is in the good category. In this case, students have a sense of self-confidence and independence in learning mathematics well. Statement 15 has a score percentage of 56.25% which is included in the sufficient category where as many as 6 students made several formulas that

were posted in the room so they were easy to remember. Statement 16 has a score percentage of 75.56% which is included in the good category where as many as 11 students actively discuss with friends when studying mathematics. Statement 17 has a score percentage of 68.75% which is included in the good category where as many as 7 students stated that they had difficulty concentrating during mathematics lessons. Statement 18 has a score percentage of 78.13% which is included in the good category where as many as 13 students stated that they listened seriously when the teacher explained mathematics lessons. Statement 19 has a score percentage of 78.13% which is included in the good category where as many as 13 students did not cheat on the mathematics test. Statement 20 has a score percentage of 65.63% which is included in the good category where as many as 6 students spend time studying mathematics at home. Statement 21 has a score percentage of 65.63% which is included in the good category where as many as 10 students stated that they studied not only when there were mathematics tests. Overall, the majority of students have a sense of confidence and independence in learning mathematics. This can be seen from how students seriously listen to the explanations given by their mathematics teacher. Apart from that, students' self-confidence and independence can also be seen in how students do not cooperate during tests. Researchers also found the same thing based on direct observation that students actively discussed mathematics lessons in class but did not cheat on each other when given tests.

Achievement in Learning

Research data regarding indicators of self-confidence and independence in learning consists of 4 statements. Below are presented the research results of each statement.

Table 7. Indicators of Achievement in Learning

Number	Aspect	Respondent				Percentage
		TA	A	D	TD	
22	I don't care about the mathematics explanations given by the teacher.	1	2	5	8	81.25%
23	If there is a math test, I want to get the highest score and pass the national exam with the best score.	7	8	1	0	84.38%
24	Praise from friends and teachers makes me want to be more successful in solving math problems.	7	7	2	0	82.81%
25	I want to be good at mathematics, as a moral responsibility to my parents, school, religion, and country	11	5	0	0	92.19%
	Average					85.16%

Based on the table above regarding achievement in learning, from the 4 statements, an average score percentage of 85.16% was obtained, which is in the very good category. In this case, students have the desire to excel in learning mathematics very well. Statement 22 has a score percentage of 81.25% which is included in the very good category where as many as 3 students stated that they did not care about the explanation given by the mathematics teacher in class. Statement 23 has a score percentage of 84.38% which is included in the very good category where as many as 15 students stated that they wanted to get the highest score on the test and pass the national exam with the best score. Statement 24 has a score percentage of 82.81% which is included in the very good category where as many as 14 students stated that they were more enthusiastic about succeeding if they were given praise by friends or teachers when solving mathematics problems. Statement 25 has a score percentage of 92.19% which is included in the very good category where all 16 students stated that they wanted to be good at mathematics as a form of responsibility to parents, school, religion, and the state. Overall, the majority of students have a desire to excel in mathematics. This can be seen from the student's desire to be good at mathematics. Apart from that, students are also enthusiastic about getting the best grades in mathematics. Researchers also found the same thing based on direct observation that students actively discussed mathematics lessons in class but did not cheat on each other when given tests.

The average percentage score and category for each indicator of learning motivation can be seen in the following table.

Table 8. Average Percentage and Category for Each Indicator

Number	Indicator	Percentage	Category
1	Feeling happy and diligent in learning	78.90%	Good
2	Willingness and interest in learning	74.41%	Good
3	Self-confidence and independence in learning	69.87%	Good
4	Achievement in learning	85.16%	Very good
	Average	77.09%	Good

Based on Table 8 above, it is found that the average score for learning motivation for Formariomoi Vocational School students is 77.09% which is in the good category even though the students are in the 3T area. In line with research conducted by Muslihat et al. (2019)who described that student motivation at the AKP Cianjur Computer Vocational School was in the high category even though the students' mathematical connection abilities were still relatively low. In contrast to what was found by Nurfallah & Pradipta (2021) the level of students' mathematics learning motivation in four secondary schools in

Bekasi was still at a medium level. This is because the learning environment is less conducive due to the effects of the Covid-19 outbreak.

One way to increase student's motivation to learn mathematics is to apply learning models that are attractive to students. As explained Triyuliantoro (2022), found that the use of the Contextual Teaching Learning (CTL) learning model was able to increase the mathematics learning motivation of Sidomulyo State Elementary School students. Similar to research conducted by Sesfaot et al. (2020) the application of the make-a-match learning model can increase student learning motivation. Another way to increase student's motivation to learn mathematics is to use media and teaching aids for students' learning, whether in the form of concrete objects or applications (Putra et al., 2021; Saputro et al., 2021; Tiana et al., 2021). As stated by Nasution & Putri Yulia (2023) there is an improvement in students' mathematical motivation learning after using the Problem-Based Instruction learning model using Telegram Quiz Bot. According to Bunari et al. (2024), the influence of learning motivation on learning outcomes is influenced by several factors such as a good level of intelligence, lessons that are under their talents, high interest and attention in learning, good motivation, and learning strategies developed by teachers, such as the use of flipbook media in the learning process. Moreover, the result from El-Adl & Alkharusi (2020) stated that there are positive relationships between self-regulated learning with intrinsic motivation, extrinsic motivation, task value, control of learning beliefs, self-efficacy, and academic achievement.

CONCLUSION

The conclusion obtained in this research is that the level of mathematics learning motivation of Formarimoi Vocational High School students in West Halmahera has a percentage score of 77.09% which is in the good category. In more detail, the indicator of feeling happy and diligent in learning has a percentage score of 78.90% in the good category, the indicator of willingness and interest in learning has a score of 74.41% in the good category, the indicator of self-confidence and independence in learning has a percentage score amounted to 69.87%, and the achievement indicator in learning had a score of 85.16% in the very good category.

As we can see from Rahim et al. (2023), one of the many factors mentioned there that cause the level of difficulty in learning mathematics for Formarimoi Vocational School students to be at a high level is the motivation variable for learning mathematics. However, the results of this study show that the student's motivation to learn mathematics

at Formarimoi Vocational School is at a very high level. Therefore, the learning motivation of Formarimoi Vocational School students is not the dominant factor that influences the high learning difficulties of Formarimoi Vocational School students.

As this research has a small range of subjects, there are limitations to the generalizations that can be made. We recommend the next researcher reach a wider range of subjects in the 3T area so that the result can describe the level of motivation to learn mathematics in the 3T area more precisely. We believe that this research can be useful as a reference for other researchers who address the theme of mathematics education in the 3T area, especially in West Halmahera.

REFERENCES

Alfonso, A. (2021). Motivasi Belajar Peserta Didik Jenjang Pendidikan Dasar Daerah 3T Kabupaten Bengkayang di Masa Pandemi Covid-19. *Jurnal Pendidikan Informatika dan Sains*, *10*(2), 133-143. https://doi.org/10.31571/saintek.v10i2.3379

Badan Pusat Statistik. (2021). *Statstik Pendidikan 2021*. Badan Pusat Statistik.

Bunari, B., Setiawan, J., Ma'arif, M. A., Purnamasari, R., Hadisaputra, H., & Sudirman, S. (2024). The influence of flipbook learning media, learning interest, and learning motivation on learning outcomes. *Journal of Education and Learning (EduLearn), 18*(2), 313-321. https://doi.org/10.11591/edulearn.v18i2.21059

Dewi, D. K., Khodijah, S. S., & Setiawan, W. (2020). Analisis Motivasi Belajar Matematika Siswa SMA Bingkai Cendekia Cililin Berbantuan Aplikasi Geogebra pada Materi Transformasi Geometri. *JPMI (Jurnal Pembelajaran Matematika Inovatif), 3*(1), 49-58. https://doi.org/10.22460/jpmi.v3i1.p49-58

El-Adl, A. & Alkharusi, H. (2020). Relationships between self-regulated learning strategies, learning motivation and mathematics achievement. *Cypriot Journal of Educational Science*. *15*(1), 104–111. https://doi.org/10.18844/cjes.v15i1.4461

Harahap, N. F., Anjani, D., & Sabrina, N. (2021). Analisis Artikel Metode Motivasi dan Fungsi Motivasi Belajar Siswa. *Indonesian Journal of Intellectual Publication*, *1*(3), 198-203. https://doi.org/10.51577/ijipublication.v1i3.121

Hartini, T. S., & Warmi, A. (2019). Analisis Motivasi Belajar Peserta Didik dalam Pembelajaran Matematika di SMP. *Prosiding Sesiomadika, 2*(1c), 640-646. https://journal.unsika.ac.id/index.php/sesiomadika/article/view/2665

Lao, H. A., Tari, E., Nahas, I., Wijaya, H., & Darmawan, I. P. A. (2021). The use of e-learning in motivating students to excel towards learning outcomes. *Journal of Education and Learning (EduLearn), 15*(3), 458-464. https://doi.org/10.11591/edulearn.v15i3.19368

Munthe, L. S., & Pasaribu, L. H. (2023). Pengaruh Minat dan Motivasi Belajar Siswa Terhadap Prestasi Belajar Matematika. Jurnal Cendekia: Jurnal Pendidikan Matematika, 7(2), 1321-1331. https://doi.org/10.31004/cendekia.v7i2.2087

Muslihat, I., Andriani, D., & Zanthy, L. S. (2019). Analisis Kemampuan Koneksi Matematis dan Motivasi Belajar Siswa SMK. *Journal on Education*, *1*(3), 173-181. https://doi.org/10.31004/joe.v1i3.135

Nasution, E. Y. P & Yulia, P. (2023). The Effect of Problem-Based Instruction Model Using Telegram Quiz Bot on Students'Learning Motivation. *Mathline: Jurnal*

Matematika dan Pendidikan Matematika, 8(2), 359-372. http://doi.org/10.31943/mathline.v8i2.391

Novianti, C., Sadipun, B., & Balan, J. M. (2020). Pengaruh Motivasi Belajar terhadap Hasil Belajar Matematika Peserta Didik. *Science and Physics Education Journal (SPEJ*, *3*(2), 57-75. https://doi.org/10.31539/spej.v3i2.992

Nurfallah, M., & Pradipta, T. R. (2021). Motivasi Belajar Matematika Siswa Sekolah Menengah selama Pembelajaran Daring di Masa Pandemi Covid-19. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, *5*(3), 2425-2437. https://doi.org/10.31004/cendekia.v5i3.752

Putra, I. P. S. A., & Wardika, I. W. G. (2021). Penggunaan Aplikasi Google Classroom dalam Upaya Meningkatkan Motivasi Belajar Matematika Mahasiswa. *Jurnal Emasains: Jurnal Edukasi Matematika Dan Sains P-ISSN*, *2302*, 2124. https://doi.org/10.5281/zenodo.4657953

Rahim, A., Mangampang, E. T., Swandi, A., Rahmadhaningsih, S., & Salim, S. (2023). Rahim, A., Mangampang, E. T., Swandi, A., & Rahmadhanningsih, S. Analysis of Learning Difficulties of Mathematics for Vocational School Students in the 3T Area. *Indonesian Journal of Educational Studies, 26*(1), 44-54. https://doi.org/10.26858/ijes.v26i1.47104

Rahmadi, I. (2020). Pendidikan di Daerah Kepulauan Terpencil: Potret Siswa, Guru, dan Sumber Belajar. *Jurnal Pendidikan Edutama*, *7*(1), 75-84. http://dx.doi.org/10.30734/jpe.v7i1.756

Roesdiana, L. (2022). Analisis Kemampuan Pemecahan Masalah Matematis Siswa dalam Menyelesaikan Soal Sistem Persamaan Linear Tiga Variabel. *Edumatsains, 6*(2), 377-388. https://doi.org/10.33541/edumatsains.v6i2.3615

Rosmana, P. S., Iskandar, S., Fadilah, N., Azhar, N., Oktavini, D., & Munte, A. C. (2023). Upaya Pemerataan Pendidikan Berkelanjutan di Daerah 3T. *Attadib: Journal of Elementary Education*, *6*(2), 405-418. https://doi.org/10.32507/attadib.v6i2.1212

Saputro, K. A., Sari, C. K., & Winarsi, S. W. (2021). Pemanfaatan Alat Peraga Benda Konkret untuk Meningkatkan Motivasi dan Hasil Belajar Matematika di Sekolah Dasar. *Jurnal Basicedu*, *5*(4), 1735-1742. https://doi.org/10.31004/basicedu.v5i4.992

Seasfaot, L., Bien, Y. I., & Abi, A. M. (2020). Penerapan Model Pembelajaran *Make A Match* untuk Meningkatkan Motivasi Belajar dan Prestasi Belajar Matematika Siswa. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, *4*(2), 454-460. https://doi.org/10.31004/cendekia.v4i2.236

Sodikin. (2022). The Effect of SAVI And Expository Learning Model and Student's Motivation on Mathematics Communication Ability. *Mathline: Jurnal Matematika dan Pendidikan Matematika, 7*(1), 121-130. https://doi.org/10.31943/mathline.v7i1.263

Sodikin, S., Adnan, A. Z., & Endrianto, E.(2023). The Influence of Parents' Economic Level and Motivation On Mathematics Learning Outcomes. *Mathline: Jurnal Matematika dan Pendidikan Matematika, 8*(4), 1373-1382. http://doi.org/10.31943/mathline.v8i4.332

Sulistyawati, W., Wahyudi, W., & Trinuryono, S. (2022). Analisis Motivasi Belajar Siswa dengan Menggunakan Model Pembelajaran Blended Learning Saat Pandemi Covid-19 (Deskriptif Kuantitatif di SMAN 1 Babadan Ponorogo). *KadikmA, 13*(1), 68-73. https://doi.org/10.19184/kdma.v13i1.31327

Tiana, A., Krissandi, A. D. S., & Sarwi, M. (2021). Peningkatan Motivasi dan Hasil Belajar Siswa melalui Media Game *Quizizz* pada Mata Pelajaran

Matematika. *Jurnal Pendidikan Indonesia*, *2*(06), 943-952. https://doi.org/10.59141/japendi.v2i06.189

Triyuliantoro, A. (2022). Penerapan Blended Learning dan Model CTL Materi Bangun Ruang untuk Meningkatkan Prestasi dan Motivasi Belajar Siswa Kelas VI SD Negeri Sidomulyo. *Jurnal Riset Pendidikan Indonesia*, *2*(10), 1363-1372. https://ojs.unsiq.ac.id/index.php/jrpi/article/view/5324