

The Effect of Self-Efficacy, Self-Regulated Learning, and Student Engagement on Concept Mastery of Grade XI Students in Mathematics Lessons

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ARTICLE INFO

Article history:

Received January 14, 2024

Revised April 4, 2024

Published June 20, 2024

Available online June 29, 2024

Kata Kunci:

efikasi diri, pembelajaran yang diatur sendiri, keterlibatan siswa, penguasaan konsep

Keywords:

self-efficacy, self-regulated learning, student engagement, concept mastery



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E-ISSN: 2477-0515

How to Cite (APA Style): Putro, R.W., Bernarto, I. (2024). The Effect of Self-Efficacy, Self-Regulated Learning, and Student Engagement on Concept Mastery of Grade XI Students in Mathematics Lessons. *Jurnal Nalar Pendidikan*. 12 (1).

ABSTRAK

Peningkatan mutu pendidikan di Indonesia harus menjadi prioritas utama dalam membangun sumber daya manusia yang unggul. Dengan sumber daya yang unggul maka bangsa Indonesia bisa bersaing dalam dunia Internasional. Untuk itu dibutuhkan sumber daya yang unggul dalam karakter dan penguasaan teknologi modern. Sekolah dan guru harus menjadi Agent of Chance untuk membentuk generasi muda yang memiliki kompetensi profesional. Oleh sebab itu, pembelajaran di kelas harus diarahkan agar siswa bisa menguasai konsep dari materi yang diberikan. Selain itu, guru perlu meningkatkan keyakinan diri siswa serta kemampuan mengelola diri agar siswa selalu terlibat aktif dalam pembelajaran. Penelitian ini bertujuan untuk mengetahui bagaimana penguasaan konsep siswa kelas XI di SMA XYZ Jakarta dipengaruhi oleh variable self-efficacy, self-regulated learning, dan student engagement. Jumlah responden penelitian ini sebanyak 94 siswa kelas XI SMA XYZ Jakarta. Pengumpulan data dilakukan dengan menggunakan google form yang berisikan 26 item pernyataan dengan menggunakan Skala Likert. Data dianalisis dengan menggunakan SmartPLS 4.0 dengan outer model dan inner model. Hipotesis penelitian cukup melihat tanda path coefficient apakah sesuai dengan hipotesisnya. Hasil penelitian menunjukkan self-efficacy, self-regulated learning, dan student engagement berpengaruh positif terhadap penguasaan konsep.

ABSTRACT

Improving the quality of education in Indonesia must be a top priority in building superior human resources. With superior resources, Indonesia can compete in the international world. For that, we need superior resources and mastery of modern technology. Schools and teachers must become Agents of Change to shape young people with professional competence. Therefore, learning in the classroom must be directed so that students can master the concepts of the provided material. In addition, teachers need to improve students' self-confidence and their ability to manage themselves so that students are always actively involved in learning. This study aims to determine how the concept mastery of class XI students at SMA XYZ Jakarta is influenced by self-efficacy, self-regulated learning, and student engagement. This study's respondents were 94 students of class XI SMA XYZ Jakarta. Data was collected using a Google form containing 26 statement items using a Likert Scale. The data were analyzed using SmartPLS 4.0 with an outer and inner model. The research hypothesis is enough to examine whether the path coefficient sign is by the hypothesis. The results of the study show that self-efficacy, self-regulated learning, and student engagement have a positive effect on concept mastery.

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INTRODUCTION

Mathematics is a discipline that determines the character-building of superior human resources. Every individual uses mathematics as a means of solving problems in everyday life. Mathematics is a universal science that has a vital role in various disciplines, such as developing human thinking and being the basis for the development of modern technology (Madhuri, 2019). Problem-solving is one of the main targets essential to develop because learning mathematics is not only done by transferring knowledge to students but also by helping students form their knowledge and empowering them to solve problems students face in learning. Ruseffendi in Layali and Masri (2020) suggests that problem-solving skills are significant in mathematics, not only for those who will later study or study mathematics but also for those who will apply them in other fields of study and everyday life.

Most students argue that Mathematics lessons are more challenging to understand than other subjects (Handayani & Mahrita, 2021). According to Kholil and Zulfiani (2020), three things cause students to experience difficulties in learning mathematics: interest, motivation, and physical condition. Students are less happy to learn mathematics because, from the beginning, they think that mathematics is a subject that requires memorizing many formulas. In addition, in doing the assignments given, students tend to stick to the examples of solutions given by the teacher without any effort to ask if there are things that have yet to be understood. So, students only memorize the steps to solve the problems given. When the problem or question is slightly different, students are immediately confused, even though it relates to the concepts they have learned.

Low mastery of mathematical concepts dramatically affects students' mathematics learning outcomes. Aspects of knowledge and aspects of attitude influence low learning outcomes. Affective aspects (attitudes) that cause low student learning outcomes are self-efficacy, self-regulated learning and student engagement (Mukaromah et al., 2018). Self-efficacy is an individual's self-confidence to face problems and get something good (Nisa et al., 2018). Students with less self-efficacy tend to avoid tasks, unlike students with a strong level of self-efficacy, who have strong motivation to do the task. In addition, students with high self-efficacy will have strong learning perseverance compared to students with less self-efficacy. Students who have a high level of self-efficacy are always persistent when facing various problems. Safi'I and Bharata (2021) concluded that self-efficacy positively affects students' concept mastery.

Apart from self-efficacy, efforts to have good concept mastery also require willingness and ability combined in self-regulated learning (Chen et al., 2019). Self-regulated learning is a process in which students regularly direct their thoughts, feelings, and behaviours towards achieving goals (Harahap & Harahap, 2020). Students who are aware, responsible, and know how to learn will be able to regulate their learning to achieve good results. Based on the results of research by Pramisyayanti and Khoirunnisa (2022), there is a positive and significant effect of self-efficacy on student engagement; the higher the level of self-efficacy in students, the higher the student engagement. While Mukaromah et al. (2018) found a positive influence of self-efficacy with student engagement, there is a positive influence of self-regulated learning on student engagement, and there is a positive influence between self-efficacy and self-regulated learning simultaneously on student engagement in learning.

Student engagement is the effort and effort of students in learning activities, including time, based on the results desired by the school. It motivates students to actively participate in these activities (Sa'adah & Ariati, 2020). Students with high student engagement are more accessible when learning, making it easy to understand concepts and have good learning outcomes. According to Handelsman et al. and Masland et al. (2022), student engagement is needed to show students' level of attention, effort, perseverance, positive feelings, and dedication in the learning process.

The problem of low mastery of mathematical concepts also occurs at XYZ Jakarta High School, especially in class XI, which has 94 students. The average grade XI student has not mastered the concept of mathematics well. This can be seen in the following table based on the recapitulation of daily assessments in semester 1 of the July 2022-December 2022.

Table 1. Achievement Results Presentation Table

No		PH 1	PH 2	PH 3	PH 4	Re rata
1.	Average score	85	70	76	75	77

Source: XYZ High School Curriculum data 2022

The data in the table above show that the percentage of students who complete each Daily Assessment (PH) is relatively low because each is still below 75%. Overall, the average percentage of students with scores above 75 is 49%, far below the standard set by SMA XYZ, which is 75%. This shows that students' mastery of mathematical concepts in grade XI of SMA XYZ could be higher.

This is to the results of an interview with an XI grade mathematics teacher on Friday, February 3, 2023, which showed that the low mastery of mathematical concepts of XI grade XYZ high school students in semester one is influenced by several factors: students tend to be less happy when learning and consider math a complex subject. In addition, students need more motivation to be actively involved in learning. Students also depend on the teacher significantly when solving challenging problems.

These problems must be addressed immediately, not adversely affecting learning at the next level. They can even affect learning outcomes in other subjects that use mathematical concepts to solve problems, such as physics, chemistry, and economics accounting. Thus, the school needs to know what aspects are related to the learning process and learning outcomes. One way to increase students' mastery of mathematical concepts in class XI SMA XYZ Jakarta is to increase self-efficacy, self-regulated learning, and student engagement.

Based on the information above, it is essential to immediately conduct research at SMA XYZ Jakarta to determine whether the low mastery of concepts in mathematics is due to low self-efficacy, self-regulated learning, and student engagement. Moreover, the research results will benefit math teachers and the curriculum department in designing lessons that increase self-efficacy, student engagement, and self-regulated learning of SMA XYZ Jakarta students, improving mastery of mathematics concepts. Improving concept mastery can improve the value of learning outcomes in mathematics. The research results can also be helpful for other teachers with the same problem.

RESEARCH METHOD

This type of research is quantitative research. This study aims to analyze the effect of self-efficacy, self-regulated learning, and student engagement on the mastery of grade XI students' mathematics concepts at SMA XYZ Jakarta. The research model is shown in the figure below.

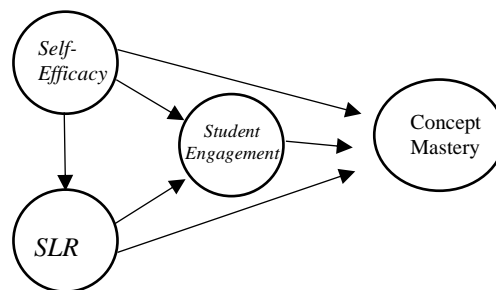


Figure 1. Model Research

The population of this study is grade XI students at SMA XYZ Jakarta. All grade XI students, totalling 94 people, are the population of this study. In this study, researchers used non-probability sampling techniques. Non-probability sampling used in this study is saturated sampling or census. This research was conducted from February to April 2023.

This research was conducted in two stages: the concept mastery ability test and the administration of self-efficacy, self-regulated learning and student engagement questionnaires. The concept mastery ability test will be conducted simultaneously using one instrument that includes indicators of concept mastery. Meanwhile, the

self-efficacy, self-regulated learning and student engagement questionnaires will be given after students finish the concept mastery test. Data collection through questionnaires is done with Google Forms, which contains statements on self-efficacy, self-regulated learning, and student engagement indicators.

The data were analyzed using SEM-PLS with the SMARTPLS 4.0 application. The use of SMARTPLS 4.0 is because the data in the SMARTPLS 4.0 analysis does not have to have a normal distribution. After all, SMARTPLS 4.0 uses the bootstrapping or random doubling method. Therefore, the normality assumption will be acceptable for PLS. In addition to being related to data normality, with bootstrapping, PLS does not require a minimum number of samples. This study used SEM-PLS to analyze the direct effect of self-efficacy, self-regulated learning and student engagement indicator variables on concept acquisition variables.

RESULTS AND DISCUSSION

Results

A. Description of Research Indicators

The concept mastery indicator consists of six indicators, each describing one item. The maximum score per item is 5, so the maximum score is 30. At the same time, the self-efficacy indicator consists of six indicators, each with one item statement. The maximum score per item is 5, so the maximum score is 30. The self-regulated learning indicator consists of eight, each with one-item statement. The maximum score per item is 5, so the maximum total score is 40. In comparison, the student engagement indicator consists of nine indicators, each with one item statement. The maximum score per item is 5, so the maximum total score is 45.

B. Statistical Analysis Results

1. Variable Validity and Reliability Test

Research data processing using the SmartPLS 4.0 application to test validity and reliability, and the results of outer loading can be seen in Table 2. Table 2 shows that all dimensions of the self-efficacy, self-regulated learning, and student engagement variables have an outer loading value > 0.7, CR value > 0.7, and AVE value > 0.5, so it can be concluded that these variables are accurate and can be used in this study.

Table 2. Validity & Reliability HOC (Higher Order Construct)

No	Construct	Dimension	Outer loading	Composite Reliability	AVE
1	Self-Efficacy	Magnitude	0,799	0,904	0,758
2	Self-Efficacy	Generality	0,925	0,904	0,758
3	Self-Efficacy	Strength	0,882	0,904	0,758
4	Self-Regulated Learning	Cognitive Aspect	0,992	0,914	0,781
5	Self-Regulated Learning	Motivation Aspect	0,853	0,914	0,781
6	Self-Regulated Learning	Behaviour Aspect	0,772	0,914	0,781
7	Student Engagement	Behaviour Engagement	0,864	0,882	0,713
8	Student Engagement	Emotional Engagement	0,913	0,882	0,713
9	Student Engagement	Cognitive Engagement	0,872	0,882	0,713

2. Indicator Validity and Reliability Test

Table 3 shows the validity and reliability of each indicator. All indicators from each dimension have an outer loading value > 0.6, CR value > 0.7, and AVE value > 0.5. Thus, these indicators are accurate and can be used in this study.

Table 3. Validity & Reliability LOC (Lower Order Construct)

No	Dimension	Item	Loading (>0.07)	Composite Reliability (0.06-0.09)	AVE (>0.05)
1	Magnitude	S1	0,875	0,790	0,655
2	Magnitude	S2	0,738	0,790	0,655
3	Generality	S3	0,824	0,844	0,730
4	Generality	S4	0,884	0,844	0,730
5	Strength	S5	0,901	0,752	0,610
6	Strength	S6	0,638	0,752	0,610
7	Cognitive Aspect	SRL2	0,699	0,844	0,576
8	Cognitive Aspect	SRL3	0,751	0,844	0,576
9	Cognitive Aspect	SRL4	0,771	0,844	0,576
10	Motivation Aspect	SRL5	0,813	0,844	0,576
11	Motivation Aspect	SRL6	0,800	0,721	0,564
12	Behaviour Aspect	SRL7	0,698	0,721	0,564
13	Behaviour Aspect	SRL8	0,835	0,796	0,661
14	Behaviour Engagement	SRL9	0,801	0,796	0,661
15	Behaviour Engagement	SE1	0,787	0,831	0,622
16	Behaviour Engagement	SE2	0,790	0,831	0,622
17	Emotional Engagement	SE3	0,789	0,831	0,622
18	Emotional Engagement	SE4	0,895	0,888	0,727
19	Emotional Engagement	SE5	0,875	0,888	0,727
20	Cognitive Engagement	SE6	0,783	0,888	0,727
21	Cognitive Engagement	SE8	0,647	0,819	0,605
22	Cognitive Engagement	SE9	0,880	0,819	0,605
23	Cognitive Engagement	SE10	0,790	0,819	0,605

Table 4 shows the validity and reliability results for the indicator of the concept mastery variable. Based on Table 4, all indicators of the concept mastery variable have an outer loading value > 0.6, CR value > 0.7, and AVE value > 0.5. Thus, the indicators and variables of concept mastery are accurate and can be used in this study.

Table 4. Validity & Reliability LOC (Lower Order Construct)

No	Dimension	Item	Loading (>0.07)	Composite Reliability (0.06-0.09)	AVE (>0.05)
1	Concept Mastery	CM1	0.732	0,869	0,525
2	Concept Mastery	CM2	0.659	0,869	0,525
3	Concept Mastery	CM3	0.760	0,869	0,525
4	Concept Mastery	CM4	0.689	0,869	0,525
5	Concept Mastery	CM5	0.750	0,869	0,525

3. Collinearity Test

Below are the results of the collinearity statistic (VIF) data after distributing questionnaires to 94 respondents. The VIF value must be less than five because if it is more than 5, it indicates collinearity between constructs (Sarstedt et al., 2017). Based on the VIF values in the table below, there is no VIF value > 5, so there is no multicollinearity problem.

Table 5. Collinearity Statistic (VIF)

No	As Predictor S		As Predictor SRL		As Predictor SE	
	Construct	VIF	Construct	VIF	Construct	VIF
1.	CM	1.356	BA	1.000	BE	1.000
2.	G	1.000	CM	1.000	CE	1.000
3.	M	1.000	CA	1.848	CM	1.656
4..	SE	1.331	MA	1.000	EE	1.000
5.	SRL	1.000	SE	1.331		
6.	ST	1.000				

4. Hypothesis Test

The calculation of hypothesis testing using SmartPLS 4.0 can be seen from the value of the path coefficient. The results of hypothesis testing using SmartPLS 4.0 can be seen in Table 10. All hypotheses have a favourable effect on the decision.

Table 6. Path Coefficient Value

No	Hypothesis	Path Coefficient	Decision
1.	H1: Self Efficacy has a positive effect on Concept Mastery	0.165	Positively Affected
2.	H2: Self-Efficacy has a positive effect on Self-Regulated Learning	0.502	Positively Affected
3.	H3: Self Efficacy has a positive effect on Student Engagement	0.109	Positively Affected
4.	H4: Self-Regulated Learning has a positive effect on Concept Mastery	0.336	Positively Affected
5.	H5: Self-Regulated Learning has a positive effect on Student Engagement	0.550	Positively Affected
6.	H6: Student Engagement has a positive effect on Concept Mastery	0.336	Positively Affected

Discussion

A. The Effect of Self-Efficacy on Concept Mastery

The results of self-efficacy have a positive influence on concept mastery by 16.5%. This means that self-efficacy is essential in improving students' concept mastery, according to the research of [Rahmi et al. \(2020\)](#). Increasing the self-efficacy of grade XI students of SMA XYZ Jakarta is an influential agenda that needs to be carried out by the grade XI teacher of SMA XYZ Jakarta. Currently, many problems have been found that could be solved because of students' low self-efficacy when doing math assignments ([Rahayu & Setiyadi, 2022](#)). Therefore, grade XI SMA XYZ Jakarta teachers must use several learning models that can effectively increase students' self-efficacy, such as the Direct Instruction learning model ([Wachyuni, 2022](#)). The direct instruction learning model explicitly supports students' learning process through teacher explanations of new concepts and skills. The advantages of this learning model are that the teacher is more able to control the content of the material and the sequence of information received by students so that he can maintain focus on what students must achieve, the most effective way to teach explicit concepts and skills to even low-achieving students ([Shoimin, 2016](#)).

B. The Effect of Self-Efficacy on Self-Regulated Learning

The results of the second hypothesis test show that self-efficacy positively affects students' self-regulated learning. Based on Table 6, results were obtained that self-efficacy positively influences self-regulated learning by 50.2%. This means that self-efficacy is an essential factor in improving students' self-regulated learning by research by [Rochmatika et al. \(2021\)](#).

Given the importance of self-regulated learning in mastering mathematical concepts, teachers of class XI SMA XYZ Jakarta need to create strategies that can effectively improve students' self-regulated learning, one of

which is a learning strategy based on student self-regulation (Harahap, 2023). Improving students' self-regulated learning can also be done by teaching using the creative arts method. Creative arts is the integrative application of several art activities for a specific purpose. This technique is developed from the concept of play and its application in academic situations. Creative art techniques applied by teachers such as (1) creative visualization, (2) storytelling activities, (3) drama, 4) music, hand puppets and masks, (4) art, 5) dance and movement are effective for increasing student commitment and creativity (Ayu & Meutia, 2020).

Teachers of grade XI SMA XYZ Jakarta should develop self-regulated learning skills by creating a conducive learning atmosphere, telling students how to follow instructions, encouraging students to understand the correct methods and procedures in completing a task, helping students manage time, fostering confidence in students that they can do the assigned tasks, encouraging students to control emotions and not easily panic when completing tasks or facing difficulties, showing the progress that students have made, helping students how to seek learning assistance (Harahap D. P., 2023).

C. The Effect of Self-Efficacy on Student Engagement

The results of the third hypothesis test show that self-efficacy positively affects student engagement. These results are based on research conducted by Mukaromah et al. (2018), which obtained a significant effect of self-efficacy on student engagement. The higher the student's self-efficacy, the higher the student engagement.

Based on Table 6, the results show that self-efficacy positively influences student engagement by 10.9%, which means that self-efficacy is essential in increasing student engagement (Mukaromah et al. 2018). Increasing the self-efficacy of grade XI students of SMA XYZ Jakarta is an influential agenda that needs to be carried out by the grade XI teacher of SMA XYZ Jakarta. Many problems have been found that could be solved because of students' low self-efficacy when doing math assignments. Students' confidence in doing math assignments tends to be low. Most students are not dependent on working on math problems with more complicated levels. The low self-efficacy of students in mathematics is indicated by the number of students who want to avoid trying more to do math problems and tend to give up quickly when getting complex tasks. Rahayu & Setiyadi (2022). According to Schunk and Pajares (2005) in Zagoto and Florina (2019), self-efficacy provides resilience and strength for students in dealing with difficult situations at school. This attitude of not getting bored quickly, never giving up and not taking long to solve problems and tasks at school is characteristic of students with high self-efficacy.

D. Effect of Self-Regulated Learning on Concept Mastery

The fourth hypothesis test results show that self-regulated learning positively and significantly affects students' concept mastery. Table 6 shows that self-regulated learning positively influences concept mastery by 33.6%, meaning that self-regulated learning is essential in improving students' concept mastery. In addition to improving concept mastery, teachers need to develop students' self-regulated learning skills to face the era of society 5.0.

The era of Society 5.0 also allows for the implementation of the teaching and learning process anywhere and anytime, whether in the presence of educators or not (Kirana, 2022). Teachers need to minimize their role as agents of learning material providers, but they are also innovators of student creativity. Teachers have an essential role in organizing students' learning by learning objectives, managing students' time on task and instilling students' confidence, effort and hope in the tasks they complete in class. Teachers gradually reduce this support so students can develop self-regulated learning skills to do tasks independently, including homework. Homework is generally done at home independently, either with or without supervision.

E. The Effect of Self-Regulated Learning on Student Engagement

The fifth hypothesis test results show that self-regulated learning positively and significantly affects student engagement. These results are from the research conducted by Mukaromah et al. (2018), which obtained a significant effect of self-regulated learning on student engagement. The higher the student's self-regulated learning, the higher the student engagement.

Table 6 shows that self-regulated learning positively influences student engagement by 55.0%. This means that self-regulated learning is an essential factor in increasing student engagement. Therefore, teachers need to make independent assignments to develop students' self-regulated learning skills so that students' Student Engagement skills also increase (Aripin et al., 2023).

F. The Effect of Student Engagement on Concept Mastery

The sixth hypothesis test results show student engagement positively and significantly affects concept mastery. These results are from the research conducted by Sa'adah and Ariati (2019), which obtained a positive and significant influence on student engagement and learning achievement. That means the higher the student engagement, the higher the mastery of student concepts.

Table 6 shows that student engagement positively influences concept mastery by 33.6%. This means that student engagement is an essential factor in improving concept mastery.

CONCLUSION

In this study, it can be concluded that the results of research on the influence of self-efficacy, self-regulated learning and student engagement on the mastery of concepts of XI grade students of SMA XYZ Jakarta in mathematics are as follows:

- 1) Self-efficacy has a positive effect on concept mastery. Students' concept mastery will also increase by increasing the self-efficacy of grade XI SMA XYZ Jakarta students.
- 2) Self-efficacy has a positive effect on self-regulated learning. By increasing the self-efficacy of Grade XI SMA XYZ Jakarta students, students' self-regulated learning will also increase.
- 2) Self-efficacy has a positive effect on student engagement. Increasing the self-efficacy of SMA XYZ Jakarta XI-grade students will also increase student engagement.
- 3) Self-regulated learning has a significant positive effect on concept mastery. Increasing the self-regulated learning of SMA XYZ Jakarta XI-grade students will increase their concept mastery.
- 4) Self-regulated learning has a significant positive effect on concept mastery. Increasing the self-regulated learning of SMA XYZ Jakarta XI-grade students will increase their concept mastery.
- 5) Self-regulated learning has a significant positive effect on student engagement. Student engagement will also increase by increasing the self-regulated learning of 11th-grade students of SMA XYZ Jakarta.
- 6) Student engagement
- 7) has a significant positive effect on concept mastery. Increasing student engagement in class XI SMA XYZ Jakarta will also increase students' concept mastery.

REFERENCE

- Aripin, N. A., Savitri, J., & Megarini, M. Y. (2023). Pelatihan Strategi Self-Regulated Learning Fase Forethought Untuk Student Engagement Siswa SMP. *Jurnal Intervensi Psikologi*, 15(2).
- Ayu, A., & Meutia, E. (2020). Meningkatkan Self-Regulated Learning Pada Mahasiswa Melalui Creative Art : Teori Dan Aplikasi. *JIHAFAS*, 3(2), 120-131.
- Chen, J. H., Björkman, A., Zhou, J. H., & Engström, M. (2019). Self-regulated learning ability, metacognitive ability, and general self-efficacy in a sample of nursing students: A cross-sectional and correlational study. *Nurse Education in Practice*, 37.
- Handayani, N., & Mahrita, M. (2021). Faktor Penyebab Kesulitan Belajar Matematika pada Siswa Kelas IV di SDN Jawa 2 Martapura Kabupaten Banjar. *Jurnal PTK Dan Pendidikan*, 6(2).
- Harahap, A. C., & Harahap, S. R. (2020). Covid 19: Self Regulated Learning Mahasiswa. *Al Irsyad: Jurnal Pendidikan dan Konseling*, 10(1), 36-41.
- Harahap, D. P. (2023). Meningkatkan Self Regulated Learning pada Siswa Melalui Strategi Belajar Berdasar Regulasi Diri. *Journal on Education*, 5(3), 7056-7068.

- Kholil, M., & Zulfiani, S. (2020). Faktor-Faktor Kesulitan Belajar Matematika Siswa Madrasah Ibtidaiyah Tegaldlimo Kabupaten Banyuwangi. *EDUCARE: Journal of Primary Education*, 1(2), 151-168.
- Kirana, D. L. (2022). Meningkatkan Self-Regulated Learning dengan Model Pembelajaran Siklis Sebagai Modal dalam Menghadapi Era Society 5.0. *Indonesian Journal of Counseling and Development*, 4(2).
- Layali, N. K., & Masri. (2020). Kemampuan Pemecahan Masalah Matematis Melalui Model Treffinger di SMA. *Jurnal Pendidikan Matematika Raflesia*, 05(02), 137-144.
- Madhuri, S. (2019). *Media Pembelajaran Matematika*. Yogyakarta: CV Budi Utama.
- Masland, L., Bergman, S., & Ellis, J. (2022). Psychometric Properties Of The Student Course Engagement Questionnaire (SCEQ): Measuring Engagement Or Missing The Mark? *International Journal of Teaching and Learning in Higher Education*, 33(2).
- Mukaromah, D., Sugiyo, & Mulawarman. (2018). Keterlibatan Siswa dalam Pembelajaran ditinjau dari Efikasi Diri dan Self Regulated Learning. *Indonesian Journal of Guidance and Counseling*: 7(2), 14-19.
- Nisa, K., Triwoelandari, R., & Kosim, A. M. (2018). Pengaruh Strategi Metakognitif Terhadap Self-Efficacy Pada Pembelajaran Sains Kelas V SD. *Jurnal Mitra Pendidikan*, 10(2), 1063-1077.
- Pramisjayanti, D., & Khoirunnisa, R. (2022). Hubungan Antara Self-Efficacy Dengan Student Engagement Pada Siswa SMP X Kelas VIII Selama Masa Pandemi Covid-19. *Jurnal Penelitian Psikologi*, 9(1).
- Rahayu, P., & Setiyadi, D. (2022). Upaya Meningkatkan Self Efficacy dan Prestasi Siswa Menggunakan Metode. *Jurnal Elementaria Edukasia*, 5(2), 127-137.
- Rahmi, Febriana, R., & Putri, G. E. (2020). Pengaruh Self-Efficacy terhadap Pemahaman Konsep Matematika Siswa Pada Pembelajaran Model Discovery Learning. *Edumatica (Jurnal Pendidikan Matematika)*, 10(1), 27-34.
- Rochmatika, A., Eva, N., & Tantiani, F. F. (2021). Pengaruh Self-efficacy Terhadap Self-regulated Learning Pada Santriwati. *PSYCHE (Jurnal Psikologi Universitas Muhammadiyah Lampung)*, 3(2), 134-144.
- Sa'adah, U., & Ariati, J. (2020). Hubungan Antara Student Engagement (Keterlibatan Siswa) Dengan Prestasi Akademik Mata Pelajaran Matematika Pada Siswa Kelas Xi Sma Negeri 9 Semarang. *Jurnal Empati*, 7(1).
- Safi'i, A., & Bharata, H. (2021). Hubungan Kemampuan Pemecahan Masalah dan Pemahaman Konsep Matematis terhadap Kemampuan Computer Self-Efficacy. *Jurnal Kajian Pendidikan Matematika*, 6(2), 215-226.
- Shoimin, A. (2016). *Model Pembelajaran Inovatif dalam Kurikulum 2013*. Yogyakarta: Ar-Ruzz Media.
- Wachyuni, E. (2022). Peningkatan Self-Efficacy Siswa Melalui Model Pembelajaran Direct Instruction. *J-KIP (Jurnal Keguruan dan Ilmu Pendidikan)*, 3(1), 1-6.
- Zagoto, L., & Florina, S. (2019). Efikasi Diri Calam Proses Pembelajaran. *Jurnal Review Pendidikan dan Pengajaran*, 2(2), 389-391.