EDUMATSAINS
JURNAL PENDIDIKAN MATEMATIKA DAN SAINS
E-ISSN:2527-7235
Volume 10 Issue. 1, July 2025, pp 359-370
http://ejournal.uki.ac.id/index.php/edumatsains

Motivation Matters: Exploring Its Impact on Students' Problem-Solving Abilities in Number Theory

Nia Jusniani[1*]

[1]Magister Pendidikan Matematika, SPS Universitas Terbuka
e-mail: *niajusniani@ecampus.ut.ac.id

Article Info
Article history:
Received : May 11th 2025
Revised : July 11th 2025
Accepted : July 30th 2025
Available online : July 31st 2025

https://doi.org/10.33541/edumatsains.v10i1.6908

Abstract
his research aims to examine how student learning motivation influences problem-solving abilities in number theory courses. The study employed a quantitative method with simple regression analysis. The population consisted of students from the Mathematics Education Study Program, FKIP, Suryakancana University. The sample included 30 second- and third-year students. Data collection was conducted using questionnaires and descriptive test sheets. The questionnaire measured students' learning motivation, while the test assessed their problem-solving abilities. The results indicate that student learning motivation does not have a significant influence on problem-solving abilities in the number theory course. Based on these findings, it is recommended that educators explore alternative instructional strategies beyond motivational factors to enhance students' problem-solving performance. This study contributes theoretically by emphasizing the limited role of motivation in abstract mathematical learning contexts.

Keywords: learning motivation, problem solving, number theory, qualitative, education mathematic

1. Introduction

Mathematics has an abstract nature; thus, learning it requires the development of critical and creative thinking skills, as well as the ability to solve problems. This aligns with Wanti (Putri et al., 2019), who stated that mathematics is a method of logical thinking that builds personality and reasoning skills, fosters independent, integrative, organized, responsive, and innovative character traits, and supports drawing conclusions through problem-solving processes. Despite its benefits and importance in daily life, the abstract nature of mathematics causes many students to feel anxious or even bored, leading to a lack of interest in learning the subject.

To address this issue, students must be equipped with learning motivation, which is defined as a drive that arises intrinsically or is influenced extrinsically by their surrounding environment. Murtiyasa and Amini (2021) describe motivation as a mental state encompassing drive, desire, interest, and positive thoughts that enable individuals to engage in activities toward achieving goals and personal satisfaction.

According to Aritonang (in Syachtiyani & Trisnawati, 2021), motivated students show specific characteristics: (1) Diligence engaging in sustained activity without procrastination; (2) Persistence demonstrating strong determination even in the face of difficulties; (3) Curiosity and Interest enthusiasm for challenges and problem-solving; (4) Independence ability to perform tasks without external help; (5) Desire for New Challenges boredom from repetition drives exploration; and (6) Confidence in Their Ideas strong belief in their thoughts and solutions.

Suparya (2020) revealed that one cause of low motivation is the lack of desire among students to improve their abilities, particularly in problem-solving and critical thinking. Hamzah (in Suparya, 2020) noted that both internal (e.g., low enthusiasm, limited goals) and external factors (e.g., uninspiring learning environments) contribute to this issue. According to Hamzah B. Uno (Susanto, 2019), indicators of learning motivation include: (a) ambition to succeed; (b) drive and need to learn; (c) future aspirations; (d) recognition and rewards; (e) engaging learning activities; and (f) a conducive learning environment.

Saputra et al. (in Syachtiyani & Trisnawati, 2021) further noted that factors influencing motivation include students' ambitions, mental and physical conditions, skills, and environment. One critical aspect is the role of instructors in supporting students’ motivation. In this study, the students in question are from the Mathematics Education Program at FKIP, Universitas Suryakancana, and the instructors are lecturers from the same program.

Motivation is believed to significantly influence academic achievement. Hasibuan (2019) emphasized that increased motivation boosts productivity and perseverance, while Iskandar (in Agustina & Kurniawan, 2020) and Hakim (in Hasibuan, 2019) pointed out that lack of motivation can lower academic performance. As academic achievement declines, students’ abilities, including problem-solving skills, may also deteriorate. Therefore, enhancing learning motivation is critical to improving learning outcomes, focus, study habits, and mathematical problem-solving.

Lecturers play a vital role in fostering students' motivation (Mendari & Kewal, 2015). Rahmah et al. (2020) asserted that learning motivation is crucial for problem-solving, especially in mathematics, where motivation directly impacts students' ability to think logically and systematically. NCTM (in Putri et al., 2019) identified five foundational mathematical abilities: problem-solving, reasoning, communication, connection, and representation all of which require motivation and cognitive effort.

Problem-solving is a key competency in mathematics. Rosita and Abadi (2020) noted that students often struggle when they cannot interpret a problem correctly. Mauleto (2019) defined problem-solving as the application of prior knowledge to new situations, requiring critical, logical, creative, and systematic thinking. Mahiroh et al. (2018) emphasized that problem-solving involves applying known principles to unfamiliar problems.

However, empirical studies show that students' problem-solving abilities remain underdeveloped. E. Susanto et al. (2020) found that students often understand the problem but fail to devise and execute effective strategies. Arifin (2020) reported that students struggle to implement structured and appropriate steps in solving problems. Hudojo (in Hafriani, 2021) suggested that problem-solving helps students develop mathematical power by applying previously learned concepts to new contexts.

Polya (in Indri, 2019) outlined four steps in the problem-solving process: understanding the problem, devising a plan, executing the plan, and reviewing the solution. These stages require students to be strategic, reflective, and analytical skills often supported by motivation.

At the university level, problem-solving is embedded in various courses, notably in number theory (Oktaviana & Haryadi, 2020). Number theory is a core subject in mathematics education that involves the study of numbers, sets, mathematical induction, divisibility, and modular arithmetic (Karim & Nurrahmah, 2018; Kurniasi & Juwita, 2019). It also underpins many mathematical proofs and abstract reasoning.

According to Pramesti (2019), number theory demands both computational skills and logical reasoning. Hence, students must possess strong problem-solving abilities and sustained motivation to engage with the material. However, Meke et al. (2022) observed that few students are active in number theory classes due to low curiosity, self-confidence, and interest.

Tisngati and Meifiani (2014) found that poor academic performance in mathematics can result from complex material, poor teaching strategies, or environmental distractions. Setiawan et al. (2021) concluded that students' problem-solving abilities are generally at a “sufficient” level, which negatively impacts their GPA. Therefore, efforts are needed to improve these skills, particularly in abstract courses like number theory.

Despite the theoretical link between learning motivation and problem-solving, there is still a lack of empirical evidence specifically examining this relationship in the context of number theory learning. Previous studies have often treated motivation and problem-solving separately or in broader mathematical domains.

Based on the issues above, this study investigates The Influence of Students’ Learning Motivation on Problem-Solving Skills in the Number Theory Course. This research is expected to serve as a reference for educators especially lecturers seeking to understand how motivation influences students' ability to solve problems in number theory. The findings may help guide the development of more effective and engaging instructional strategies for mathematics education.

2. Methods

This study uses a quantitative method with simple regression analysis. According to Sarbaini et al. (2022), simple regression analysis aims to understand the process in which one variable can influence another. In this study, the analysis is used to determine whether there is an effect of students' learning motivation on their problem-solving ability in the number theory course.

The research was conducted in the Mathematics Education Study Program, FKIP, Universitas Suryakancana Cianjur. The population included all active students of the Mathematics Education Study Program during the odd semester of the 2023/2024 academic year. Participants were selected using purposive sampling based on the following criteria: (1) second-year or third-year students; (2) active status in the odd semester of the 2023/2024 academic year; (3) have taken the number theory course; (4) represent varied academic abilities; and (5) include both male and female students. A total of 30 students who met these criteria participated in this study.

The data collection techniques used in this study were questionnaires and essay-format test sheets. The questionnaire was designed to assess students' learning motivation, while the test measured their problem-solving ability in the number theory course. The independent variable (X) in this study is learning motivation, and the dependent variable (Y) is problem-solving ability. In this study, the analysis is used to determine whether there is an effect of students' learning motivation on their problem-solving ability in the number theory course. The independent variable (X) in this study is learning motivation, and the dependent variable (Y) is problem-solving ability. The data were analyzed using the following regression formula (Siregar in Rahmah et al., 2020):

$$Y = a + bX$$

Explanation:
X = Independent variable
Y = Dependent variable

The questionnaire instrument consisted of both positive and negative statements using a Likert scale with five options: 1 (Always), 2 (Often), 3 (Sometimes), 4 (Almost Never), and 5 (Never). The questionnaire was adapted from indicators of learning motivation developed by Hamzah B. Uno (in H. Susanto, 2019). The test instrument consisted of two essay questions and was designed to assess students' problem-solving processes according to Polya's four problem-solving stages. Students were given 45 minutes to complete the test. Scoring followed a rubric adapted from Rizal (2021), focusing on students' written steps and reasoning in solving the problems.

3. Result and Discussion

The data collected after the research was analyzed by the researcher using simple linear regression analysis. The total number of respondents was 30 students from the Mathematics Education Study Program, FKIP, Universitas Suryakancana, who were selected using purposive sampling techniques with specific qualifications. The data obtained were the students' responses to the questionnaire and test distributed by the researcher. The process of examining the data on the questionnaire and test was carried out by assigning scores to each item on the questionnaire and test sheets filled out by the students.

The data in the questionnaire consisted of 24 positive and negative statements using a Likert scale (1-5). Meanwhile, the maximum score on the problem-solving ability test sheet in the Number Theory course was 20. The scores obtained from the questionnaire items and test questions were analyzed using the JASP 0.18.1.0 software for Windows to determine the results of descriptive statistical tests, classical assumption tests, and hypothesis tests.

The descriptive statistical test will show the results of the mean value, median value, mode value, lowest value, highest value, and standard deviation from the data obtained on the learning motivation questionnaire sheet and the problem-solving ability test sheet. The results of the data analysis obtained are crucial to fully understand the data regarding the learning motivation and problem-solving abilities.

Table 1.
Descriptive Statistics

	Learning Motivation	Problem-solving ability
Valid	30	30
Missing	0	0
Mode	88.995	55.768 [a]
Median	88.500	57.500
Mean	87.900	53.500
Std. Deviation	9.211	29.424
Minimum	65.000	0.000
Maximum	106.000	100.000

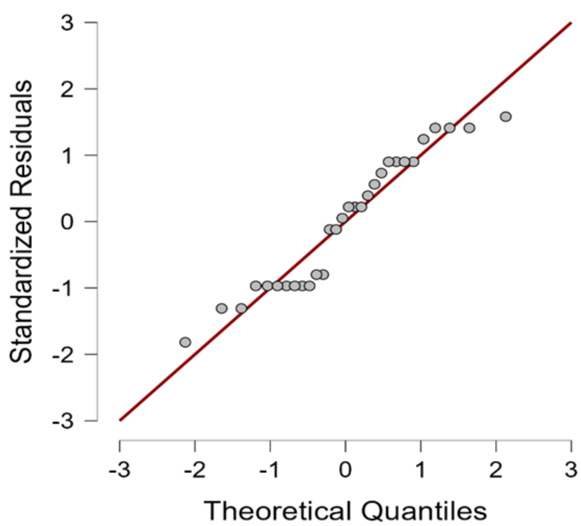
Although the descriptive findings show that students generally have a high level of learning motivation, these results alone are insufficient to determine whether motivation significantly contributes to their problem-solving ability. Therefore, inferential analysis is necessary to statistically test whether learning motivation (independent variable) has a significant effect on

problem-solving ability (dependent variable) in the context of the Number Theory course. A simple regression analysis was employed to address this research objective quantitatively.
The analysis in this study uses a simple linear regression formula through the JASP 0.18.1.0 software for Windows to determine whether there is an effect of students' learning motivation on problem-solving ability in the Number Theory course. Therefore, to conduct hypothesis testing with simple linear regression analysis, several classical assumption tests are required beforehand, namely: normality test, linearity test, and homogeneity test.

The normality test is useful to determine whether both data sets are normally distributed or not. Meanwhile, the linearity test is intended to assess whether there is a linear relationship between the two data sets. In this study, the two data sets are learning motivation and problem-solving ability. Therefore, a normality test and a linearity test were conducted on these two data sets using the Q-Q Plot of Standardized Residuals with the help of JASP 0.18.1.0 software for Windows, as shown in the graph below:

Figure 1
Results of the Normality and Linearity Tests

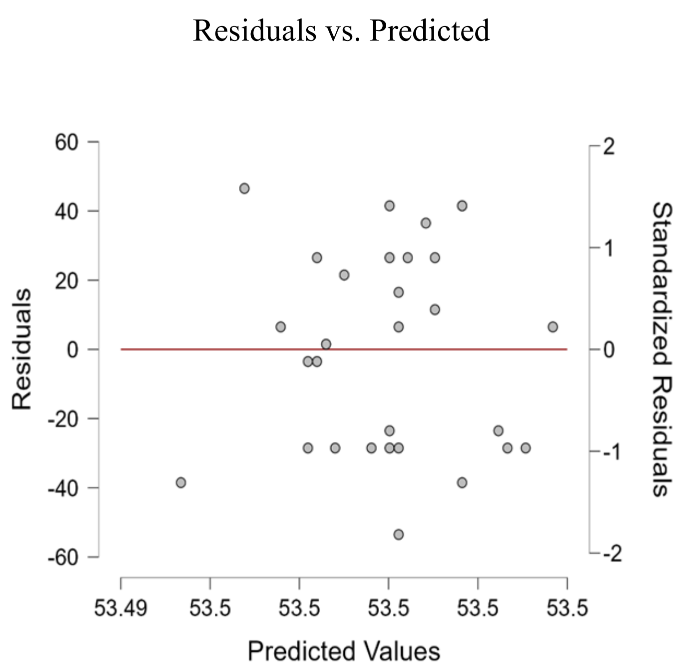
Q-Q Plot Standardized Residuals



From the graph above, it can be explained that both data sets are normally distributed and exhibit a linear relationship between learning motivation and problem-solving ability. This linear relationship can be observed from the scatter points that align along the straight line, with no significant outliers present. The decision-making guideline is as follows: if the scatter points are positioned along the straight line and no significant outliers are found, the data is considered normally distributed and has a linear relationship. Conversely, if the scatter points are not aligned along the straight line and significant outliers are present, the data is considered not normally distributed and lacks a significant linear relationship. Therefore, based on the results of the normality and linearity tests shown in the graph, the presence of scatter points along the straight line and the absence of significant outliers indicate that both data sets are normally distributed and exhibit a significant linear relationship.

The homogeneity test is useful for examining the variance of residuals, whether they are homogeneous or not. If the residual variance is not homogeneous, further testing is necessary. The homogeneity test was conducted using the Residuals vs. Predicted plot with the assistance of JASP 0.18.1.0 for Windows. The results of the homogeneity test are shown below:

Figure 2
Homogeneity Test Results



From the graph above, it can be explained that the variance of the residuals is homogeneous as seen from the scattered points that do not form a specific pattern or appear random. The decision-making guideline is that if the scattered points are not clustered in one spot (spread randomly) and do not form a specific pattern, then the variance of the residuals is declared homogeneous. However, if the scattered points are clustered in one spot (not spread randomly) and form a pattern, then the variance of the residuals is declared non-homogeneous. Thus, based on the homogeneity test results shown in the graph, which depict the scattered points as randomly spread, it can be stated that the variance of the residuals is homogeneous.

Hypothesis Test

The hypothesis test is useful to determine how students' learning motivation (X) affects their problem-solving ability (Y). Data analysis was conducted using simple linear regression analysis and utilizing JASP 0.18.1.0 for Windows software with the following results. The test conducted using the t-test aims to examine the presented hypothesis. The t-test is applied to determine the partial effect of the independent variable on the dependent variable by observing the significance level of the data processing results for each variable. The reference level used is that if the p-value < 0.05, then H_0 is rejected and H_a is accepted. Conversely, if the p-value > 0.05, then H_0 is accepted and H_a is rejected. The obtained analysis results can be seen in the table below:

Table 2.
Coefficients

Model		Unstandardized	Standard Error	Standardized	t	p
H_0	(Intercept)	53.500	5.372		9.959	< .001
H_1	(Intercept)	53.482	53.343		1.003	0.325
	Motivasi Belajar	2.032×10^{-4}	0.604	6.361×10^{-5}	3.366×10^{-4}	1.000

Although the regression coefficient is positive (b = 0.025), the p-value of 1.000 indicates no statistically significant effect of learning motivation on students' problem-solving ability.

Table 3.
Model Summary

Model Summary - problem-solving ability

Model	R	R^2	Adjusted R^2	RMSE
H_0	0.000	0.000	0.000	29.424
H_1	0.000	0.000	-0.036	29.945

The value obtained for R is 0.000, and the R square value is also 0.000. The coefficient of determination (R square) of 0.000 indicates that the influence of the learning motivation variable on the problem-solving ability variable is 0%. Furthermore, the remaining 100% can be attributed to other variables that were not included in the study. Therefore, it can be interpreted that there is no influence of students' learning motivation on their problem-solving ability in the Number Theory course.

Discussion

This study employed JASP 0.18.1.0 for Windows to conduct a simple regression analysis in order to test the research hypothesis. The results revealed that student learning motivation (X) does not have a significant partial effect on problem-solving ability (Y). The p-value obtained from the t-test was 1.000, which exceeds the significance threshold of 0.05. Additionally, the coefficient of determination (R^2) was 0.000, indicating that learning motivation explains 0% of the variance in students' problem-solving ability. The remaining 100% is likely influenced by other unmeasured variables.

Interestingly, the data showed that some students with high motivation performed poorly on the problem-solving test, while others with lower reported motivation demonstrated strong performance. These findings align with those of Sari & Kurniawati (2020), who found no significant relationship between learning motivation and academic performance among university students in an economics education program. While motivation is often described as a driving force that energizes and directs students toward academic goals (Hasibuan et al., 2020), its influence on actual performance may not always be direct or measurable. Theoretically, as Winkel (in Hasibuan, 2019) explains, strong motivation should enhance persistence, effort, and success. Yet, this research demonstrates that such a relationship is not always linear or guaranteed.

Several possible explanations may account for the lack of influence observed. First, the nature of Number Theory being abstract and proof-oriented demands not just motivation, but also advanced reasoning, strategic thinking, and foundational mathematical skills. Students may feel motivated yet still struggle due to a lack of conceptual understanding or procedural fluency. Second, the design of the assessment (two essay problems) may not have fully captured the range of students' problem-solving capabilities. Finally, mediating factors such as math anxiety, low self-confidence, test-taking skills, or prior knowledge could have disrupted the connection between motivation and performance. The finding that students with high motivation still underperformed aligns with Meifiani & Prasetyo (2015), who noted that motivation alone is not always sufficient to drive high performance. Conversely, students with lower motivation might succeed due to other compensating factors such as strong cognitive abilities, tutoring support, or intrinsic mathematical aptitude.

In sum, while motivation remains an important factor in learning, it is not the sole determinant of success in problem-solving, particularly in complex subjects like Number Theory. These findings emphasize the need for future studies to explore additional variables that mediate or moderate this relationship such as anxiety, self-efficacy, learning strategies, or instructional quality through mixed-method or multivariate approaches.

4. Conclusion

Based on the findings of this study, it can be concluded that students' learning motivation does not significantly influence their problem-solving ability in the Number Theory course. Although motivation is generally considered an important factor in learning, in this context, it did not contribute meaningfully to students' performance in solving complex mathematical problems. Based on these findings, it is recommended that educators explore alternative instructional strategies beyond motivational factors to enhance students' problem-solving performance. This includes implementing methods such as problem-based learning, cognitive strategy training, or integrating real-life problem contexts. Theoretically, this study contributes to understanding the limited role of motivation in abstract mathematical learning settings, particularly in higher education.

5. References

Agustina, M. T., & Kurniawan, D. A. (2020). Motivasi Belajar Mahasiswa di Masa Pandemi Covid-19. *Jurnal Psikologi*, 5(2), 120–128. http://jurnal.umk.ac.id/index.php/perseptual.

Arifin, N. (2020). Efektivitas Pembelajaran Stem Problem Based Learning Ditinjau Dari Daya Juang Dan Kemampuan Pemecahan Masalah Matematis Mahasiswa Pgsd. *Jurnal Pendidikan Matematika Indonesia (JPMI)*, 5(1), 31–38.

Carel, G.; Jusniani, N.; Monariska, E. 2021. Kemampuan higher order thinking skills dalam pembelajaran metakognitif ditinjau dari persepsi siswa. PYTHAGORAS: *Jurnal Matematika dan Pendidikan Matematika*. 16 (2), 2021, 204-216. https://scholarhub.uny.ac.id/cgi/viewcontent.cgi?article=1134&context=pythagoras.

Hafriani. (2021). Mengembangkan Kemampuan Dasar Matematika Siswa Berdasarkan Nctm Melalui Tugas Terstruktur Dengan Menggunakan Ict(Developing The Basic Abilities of Mathematics Students Based on NCTM Through Structured Tasks Using ICT). *Jurnal Ilmiah Didaktika*, 22(1), 63–80.

Hartati, L. (2020). *Analisis Kesulitan Mahasiswa Dalam Menyelesaikan Soal Pada Mata Kuliah Teori Bilangan*. SINASIS (Seminar Nasional Sains), 1(1), 373–381.

Hasibuan, M. T. D. (2019). Hubungan Stres Belajar dengan Motivasi Belajar Pada Mahasiswa Yang Menjalani Pendidikan di Sekolah Tinggi Ilmu Kesehatan Murni Teguh. Indonesian Trust *Health Journal,* 2(1), 128–131.

Hasibuan, M. T. D., Mendrofa, H. K., Silaen, H., & Tarihoran, Y. (2020). Hubungan Motivasi Belajar Terhadap Prestasi Akademik Pada Mahasiswa Yang Menjalani Pembelajaran Daring Selama Pandemi Covid-19. *Indonesian Trust Health Journal*, 3(2), 387–393.

Karim, A., & Nurrahmah, A. (2018). Analisis Kemampuan Pemahaman Matematis Mahasiswa Pada Mata Kuliah Teori Bilangan. *Jurnal Analisa*, 4(1), 24–32. https://doi.org/10.15575/Analisa.xxx.xxx

Kurniasi, E. R., & Juwita, I. (2019). Analisis Kemampuan Pemahaman Konsep Matematis Mahasiswa Ditinjaudari Kemampuan Tinggi, Sedang, Rendah. Edutainment: *Jurnal Ilmu Pendidikan Dan Kependidikan*, 7(1), 21–34.

Mahiroh, N., Kurniawan, S., & Erwanto, H. (2018). Meningkatkan Kemampuan Pemecahan Masalah Matematika Pada Materi Bangun Ruang. *Prosiding Seminar Nasional Universitas Pekalongan*, 92–99.

Mauleto, K. (2019). Analisis Kemampuan Pemecahan Masalah Ditinjau Dari Indikator Nctm Dan Aspek Berpikir Kritis Matematis Siswa di Kelas 7b Smp Kanisius Kalasan. *Jurnal Ilmiah Pendidikan Matematika*, 4(2), 125–134.

Meifiani, N. I., & Prasetyo, T. D. (2015). Pengaruh Motivasi Terhadap Prestasi Ditinjau Dari Perbedaan Jenis Kelamin Mahasiswa Stkip Pgri Pacitan. *Jurnal Derivat*, 2(1), 1–10.

Meke, K. D. P., Wondo, M. T. S., & Sa'o, S. (2022). Analisis Pengaruh Disposisi Matematis Pada Matakuliah Teori Bilangan Menggunakan Model Pbl Setting Stad. *Jupika:Jurnal Pendidikan Matematika Universitas Flores*, 5(1), 9–16.

Mendari, A. S., & Kewal, S. S. (2015). Motivasi Belajar Pada Mahasiswa Student Learning Motivation. *Jurnal Pendidikan Akuntansi Indonesia, XIII*(2), 1–13.

Murtiyasa, B., & Amini, A. D. (2021). Analisis Motivasi Belajar Siswa Smp Dalam Pembelajaran Matematika Di Era Covid-19. AKSIOMA: *Jurnal Program Studi Pendidikan Matematika,* 10(3), 1554–1563. https://doi.org/10.24127/ajpm.v10i3.3711.

Jusniani, N.; Sugiarni, R.; Salsabila, T. (2024). Analysis of mathematical literacy ability of grade VIII junior high school students in solving PISA questions on proportion material. *Prosiding. Forum for University Scholars in Interdisciplinary Opportunities and Networking Graduate School*, Universitas Terbuka. https://prosiding.ut.ac.id.

Jusniani, N.; Dwina, AZ.; Lestari, A.; Apriliani, S.; Salsiah, U. (2024). Pengaruh Motivasi Belajar Terhadap Numerasi Siswa SMP Kelas VIII Pada Materi Himpunan. *Triple S (Journals of Mathematics Education).* Jilid 3(1). 16-29.

Nurrahmah, A., & Karim, A. (2018). Analisis Kemampuan Pembuktian Matematis Pada Matakuliah Teori Bilangan. *Jurnal Edumath*, 4(2), 21–29.

Oktaviana, D., & Haryadi, R. (2020). Pengaruh Model Pembelajaran Problem Based Learning (Pbl) Terhadap Kemampuan Pemecahan Masalah Mahasiswa. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika,* 9(4), 1076–1085. https://doi.org/10.24127/ajpm.v9i4.3069

Pramesti, C. (2019). Analisis Kemampuan Kognitif Mahasiswa Pada Mata Kuliah Teori Bilangan. Cakrawala Pendidikan, 23(2), 13–26.

Putri, D. K., Sulianto, J., & Azizah, M. (2019). Kemampuan Penalaran Matematis Ditinjau dari Kemampuan Pemecahan Masalah. *International Journal of Elementary Education*, 3(3), 351–357. https://ejournal.undiksha.ac.id/index.php/IJEE

Rahmah, A. T., Aniswita, & Fitri, H. (2020). Pengaruh Motivasi Belajar Siswa Terhadap Kemampuan Pemecahan Masalah Matematika Siswa Di Kelas Viii Mtsn 3 Agam Tahun Pelajaran 2018/2019. *Jurnal Ilmiah Pendidikan Matematika Al-Qalasadi*, 4(1), 56–62.

Sugiarni,R; Herman, T.; Suryadi, S.; Prabawanto, S.; Jusniani, N. 2025. Learning obstacle of proportion learning based on proposional reasoning level: A case study pre-service mathematics teachers. *Jurnal Elemen*, 11(1), 87-107, January 2025. https:/doi.org/10.29408/jel.v11i1.27418.

Rosita, I., & Abadi, A. P. (2020). Kemampuan Pemecahan Masalah Matematis Berdasarkan Langkah-Langkah Polya. *Prosiding Seminar Nasional Matematika Dan Pendidikan Matematika Sesiomadika* , 2(1), 1059–1065.

Sarbaini, Zukrianto, & Nazaruddin. (2022). Pengaruh Tingkat Kemiskinan terhadap Pembangunan Rumah Layak Huni di Provinsi Riau Menggunakan Metode Analisis Regresi Sederhana. *Jurnal Teknologi Dan Manajemen Industri Terapan*, 1(3), 131–136.

Sari, W. F., & Kurniawati, T. (2020). Pengaruh Motivasi Belajar dan Pemanfaatan E-Learning terhadap Prestasi Belajar Mahasiswa Jurusan Pendidikan Ekonomi. EcoGen, 3(1), 176–184.

Setiawan, E., Muhammad, G. M., & Soeleman, M. (2021). Analisis Kemampuan Pemecahan Masalah Mahasiswa pada Mata Kuliah Teori Bilangan. Mosharafa: Jurnal Pendidikan Matematika, 10(1), 61–72. http://journal.institutpendidikan.ac.id/index.php/mosharafa

Suparya, I. K. (2020). Peningkatan Motivasi Dan Kemampuan Berpikir Kritis Mahasiswa Melalui Model Pembelajaran Berbasis Masalah Berbantuan Media Edmodo. *Jurnal Ilmiah Pendidikan Citra Bakti*, 7(1), 1–12. https://doi.org/10.38048/jipcb.v7i1.631

Susanto, E., Susanta, A., & Rusdi. (2020). Efektivitas Project Based Learning Terhadap Kemampuan Pemecahan Masalah Dan Berpikir Kritis Mahasiswa. Jurnal THEOREMS (The Original Research of Mathematics), 5(1), 61–68.

Susanto, H. (2019). *Pengaruh Motivasi Belajar Terhadap Keaktifan Belajar Siswa pada Mata Pelajaran Ekonomi di Madrasah Aliyah Diniyah Puteri Pekan baru*. Tesis.

Syachtiyani, W. R., & Trisnawati, N. (2021). Analisis Motivasi Belajar Dan Hasil Belajar Siswa Di Masa Pandemi Covid-19. Prima Magistra: *Jurnal Ilmiah Kependidikan*, 2(1), 90–101. https://doi.org/10.37478/jpm.v2i1.878

Tisngati, U. T., & Meifiani, N. I. (2014). Pengaruh Kepercayaan Diri Dan Pola Asuh Orang Tua Pada Mata Kuliah Teori Bilangan Terhadap Prestasi Belajar. *Jurnal Derivat,* 1(2), 8–18.