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The Role Of Using Educational Games And Social Interaction In Cultivating Students' Motivation To Learn Geometry

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Abstract

Learning mathematics, especially geometry material at the elementary school level, is often a challenge because students perceive this topic as abstract and less contextual, which has an impact on students' low learning motivation. This study aims to describe the application of educational game methods and the quality of social interaction on the formation of geometry learning motivation in grade 1 students of Tamansari 05 State Elementary School. This research uses a descriptive qualitative approach that focuses on an in-depth understanding of the situation in the field. Data were collected through participant observation, interviews with teachers and students, and documentation. The results showed a measurable positive impact, where active student participation increased from 38% to 88% after the implementation of educational games. This increase was also driven by more intensive social interactions, where 77% of students were recorded as actively discussing and helping each other solve challenges, compared to the previous learning which was only 42%. Overall, the average score of student learning motivation increased significantly from 57.69 (low category) to 88.72 (very high category). This study concluded that the integration of educational game methods and strengthening social interactions is synergistically effective in increasing students' motivation to learn geometry.

Keywords: Educational Games, Social Interaction, Learning Motivation, Geometry, Elementary School

INTRODUCTION

Mathematics learning has a very vital role in the world of education, both in Indonesia and globally. This subject is the basis for developing rational, analytical and creative thinking skills which must be instilled from the elementary education level (WATI, 2019). However, at the elementary school level, geometry material often becomes a challenge for students. Many students find this topic abstract and difficult to understand due to its lack of contextual presentation. This perception often leads to students losing interest and becoming less actively involved in mathematics learning activities in the classroom (Matos et al. 2024) .

Various studies have shown that elementary school students' low motivation to learn mathematics is not only caused by the complexity of the material, but also by monotonous

learning approaches and the lack of a learning environment that fosters curiosity and the joy of learning. Social environmental factors at school also play a significant role in shaping this motivation (Aliyyah et al. 2022) . One contributing factor is peer social support , which has been shown to strengthen self-confidence, encourage enthusiasm, and increase students' active participation in understanding and applying mathematical concepts (YC et al. 2025).

Based on these findings, the use of learning strategies that integrate social interaction with an educational game approach is considered effective in creating a fun learning atmosphere while fostering students' learning motivation in elementary schools. One approach that is considered capable of increasing student motivation and involvement in learning mathematics, especially geometry, is the application of educational game methods. Through games, students not only learn to understand mathematical concepts but also actively engage in fun, collaborative, and meaningful learning experiences (Ina, Sastrawan Noor, & Salim, 2019). Play activities such as *tangrams* , *geometric snakes and ladders* , or local cultural games like *hopscotch* have been shown to help students recognize plane and spatial shapes concretely and relate them to everyday life (Ramadhani et al. 2024; Rambe et al. 2024) . In addition to enriching conceptual understanding, this method also fosters positive social interactions among students, strengthens cooperation, and fosters self-confidence in the learning process. Thus, educational game strategies serve not only as a means of entertainment but also as an effective pedagogical medium in increasing motivation to learn geometry in elementary schools (Rohmayanti, Hermayanti, & Mardiah, 2016).

Based on the description of the background above, it can be identified that low motivation to learn geometry in elementary school students is still the main challenge in learning mathematics. Factors such as limited variety of learning methods, lack of supportive social interactions, and minimal enjoyable contextual approaches also influence students' enthusiasm and motivation to learn (Abrianto, 2019). Therefore, this study focuses on examining how the application of educational game methods and the quality of social interactions can contribute to increasing the motivation to learn geometry in elementary school students (Nurazizah & Rinaningsih, 2021).

As an effort to strengthen the empirical basis, the researcher conducted preliminary observations at Tamansari 05 State Elementary School in October 2025. Based on the results of field observations, it was found that the majority of first grade students still face various obstacles in understanding basic geometric concepts. Students appear to have difficulty recognizing the shapes of flat shapes correctly, and are not yet able to associate these shapes with concrete objects encountered in everyday life (Fadillah & Ratnasari, 2023). In addition, when given a series of simple tasks to identify, define, and solve contextual problems involving plane geometric shapes, only a small proportion of students showed good understanding. This is because the researchers did not use a variety of methods, resulting in students being unmotivated to learn. The initial observation data, which illustrates students' abilities and motivation to recognize and apply geometric concepts, is presented in detail in the following table:

No.	Number of Students	Percentage (%)	Information	Motivation
1	10 students	38%	Completed	Tall
2	16 students	62%	Not finished yet	Low

Source: Results of initial observations by researchers, October 2025

The data in Table 1 confirms that 63% of students are still in the low motivation category in learning geometry. This is what underlies the importance of this research to test the effectiveness of interventions based on educational games and social interactions.

Various previous studies have shown that the use of educational games and game-based learning models has a positive impact on students' motivation and mathematics learning outcomes. Research conducted by Adrillian et al. (2024) found that educational games, whether in the form of bingo, RPGs, adventure games, or cards, consistently increased student motivation, participation, and learning outcomes at various levels. This finding aligns with research conducted by Nisa and Susanto (2024) and Arimbawa (2021) , which showed that the use of Word Wall media significantly increased student learning motivation. Even in the context of online learning and across subject areas, the use of game platforms such as Educandy, Wordawall, and Kahoot has proven effective in creating more engaging learning and encouraging student engagement (Fitriati et al. 2021; Putri et al. 2021) . A literature review conducted by Nurlatifah and Purniati (2025) also confirmed that educational games are widely used because they provide interactive and contextual learning experiences, especially in mathematics topics such as geometry, measurement, and algebra (N. A. Putri, Hadi Wijoyo, & Herlambang, 2021)

Although numerous studies have explored the effectiveness of educational games in improving motivation and learning outcomes, studies examining the synergy between educational games and the quality of social interactions in lower-grade elementary school students, particularly in geometry learning, remain limited. Furthermore, most previous studies have used quantitative approaches (Fitriati et al. 2021; Putri et al. 2021) or media development, while research exploring students' learning experiences through a qualitative perspective is rare. Therefore, this study offers a novel approach by examining in-depth how the integration of educational games and social interactions can shape first-grade students' intrinsic motivation in understanding geometric concepts. The descriptive qualitative approach used allows researchers to capture classroom dynamics more comprehensively, resulting in new contributions to the development of learning strategies that are not only enjoyable, but also strengthen students' social experiences and motivation.

METHOD

The research method used in this study is qualitative descriptive research where this research is intended to examine a phenomenon naturally by exploring the meaning,

experience, and context behind it without intervening in the variables studied. According to Matthew B. Miles, A. Michael Huberman (2020) qualitative descriptive research focuses on efforts to deeply understand the situation that occurs in the field through data collection in the form of observation, interviews, and documentation, then interpreting it systematically to obtain a complete picture of the observed social reality. The population in this study were students of Tamansari 05 Elementary School, Rumpin District and the sample in this study were grade I students of Tamansari 05 Elementary School, Rumpin District (Di Bernardo et al., 2021).

The data sources used in this study are primary data sources and secondary data sources. To collect data from the field in research activities, researchers use observation, interview and documentation methods. Primary data (main data) is a data source obtained using observation, questionnaire and interview methods. Related to this research, the data sources in this research are the first grade mathematics teacher and first grade students. While secondary data (additional data) is the data source obtained from documentation. The documentation is in the form of data obtained from Tamansari 05 State Elementary School regarding the school profile, teacher conditions, student conditions, facilities and infrastructure as well as photographs during the learning activities (Widana, 2017).

The research procedure began with a preparation stage through the preparation of a research design, coordination with the school, and the implementation of preliminary observations to understand the geometry learning of grade I. After that, the research entered the implementation stage which focused on observing the geometry learning process using the educational game method. During the learning process, the researcher recorded student activities, the dynamics of social interactions, and student responses to the games provided. Researchers also conducted interviews with teachers and several students to obtain information regarding learning experiences, perceptions of the game and factors that influence their learning motivation (Aisyah, Rahmani, & Hasibuan, 2023).

The next stage is data analysis, which is carried out continuously throughout the research process by reducing, organizing, and interpreting data from observations, interviews, and documentation. Researchers then triangulate the data to ensure consistency of the findings before drawing conclusions regarding the relationship between educational games, social interaction, and student learning motivation.

RESULTS AND DISCUSSION

Application of Educational Game Methods in Geometry Learning

The observation results show that students become more active during geometry learning using educational games. Based on the observation results seen from four aspects observed, namely student activity in the game, social interaction, emotional and motivational responses, understanding of geometric concepts, it was recorded that 23 students out of 26 students (88%) were actively involved in activities to find flat shapes in the classroom, compared to 10 students (38%) in the previous learning without educational games.

This is also reinforced by the results of interviews conducted with several students. Student D stated that through educational games in geometry learning, the material being taught was easy to understand, and he wanted this kind of learning to be done again,

because the learning was fun. Student N thinks that playing educational games on the material of flat shapes is very enjoyable, student N also thinks that he wants to do the learning he did again, he doesn't feel like he is studying but playing. Meanwhile, student S stated that it was happy and easy to understand (Tasya, Sangka, & Octoria, 2025).

Interviews with teachers also confirmed these findings, stating that students were much more enthusiastic and willing to try when learning activities were made in the form of educational games. The teacher also said that "I saw students very active in searching and discussing, especially when students in each group made combinations of flat shapes to produce object shapes." (Teacher Interview, October 13, 2025). In addition, photo documentation showed that most students were able to find at least 3-5 objects in the shape of flat shapes according to the game instructions (Fatimah, Santiana, & Saputra, 2019).

Based on the findings, it can be concluded that the use of educational games, especially in geometry material, is to find objects that have geometric shapes with flat shapes through learning activities. in groups in class I can help students to practice communication. In addition, this learning activity can help students to be more active in learning activities and make it easier to understand the mathematical concepts, especially geometry, that are taught (Sari, Ikhwan, & Iffah, 2024).

Quality of Social Interaction in the Learning Process

Based on observations, students' social interactions were strong throughout the educational game. Students supported each other, collaborated on solving game challenges, and valued the ideas of their teammates. This positive interaction fostered self-confidence and enthusiasm for participating in learning activities. The teacher played an active role as a facilitator, guiding interactions to maintain focus on learning objectives.

Interviews with teachers revealed that educational games strengthen social relationships among students, as they learn to communicate, negotiate, and cooperate . Peer support also makes initially passive students more confident and motivated.

Student social interaction increased significantly during the educational game. Observations showed that 20 students (77%) actively discussed and helped each other when constructing combined plane figures, compared to only 11 students (42%) in conventional learning. Interviews with teachers also explained that students who were usually passive

began to take the initiative to help their friends, as seen when students interacted with each other, worked together with their fellow group members, and even helped each other. In addition, the teacher also said that there were two students who were previously quiet began to direct their group members in determining the shape of the plane figure. (Teacher interview , October 16, 2025)

Observations during the learning activities also showed that social interactions during the game were very intense and positive. Students were seen helping each other, discussing, providing input, and respecting each other's opinions, such as the expression "This is a triangle, not a square!" which indicates a process of concept verification between peers. There was no conflict or group rejection, all students were actively involved. Social interactions served as emotional and cognitive reinforcement that encouraged students to dare to try, not be afraid of making mistakes, and be motivated through cooperation , not individual competition .

Formation of Students' Geometry Learning Motivation

Interview and observation data indicate that students who participate in educational games demonstrate a significant increase in learning motivation . This is evident in their enthusiasm and joyful expressions while playing and learning, their persistence in completing game challenges, their desire to understand concepts they haven't yet mastered, and their active involvement in group discussions and Q &A sessions.

The teacher reported that after implementing the game method, students who had previously tended to be passive now participated more, even showing initiative in helping friends who were struggling to understand the material. Before the educational game was implemented, students' motivation for learning mathematics was very low, especially for geometry. After learning using educational games to find flat shapes, students' motivation increased, students looked more enthusiastic and excited to participate in learning.

Comparison Table of Average Student Learning Motivation Before and After Educational Game Intervention

Measurement Time	Number of Students	Average Score	Motivation Category	Interpretation
Before Research	26	57.69	Low	The majority of students (62%) are low motivated
After Research	26	88.72	Very high	88% of students are in the very high category

The scores before the study were estimated based on the category, students with high motivation (10 students) were assumed to have an average score = 70. Students with low motivation (16 students) were assumed to have an average score = 50. So the estimated average is:

$$\frac{(10\ x\ 70)+(16\ x\ 50)}{26} = \frac{700+800}{26} = \frac{1500}{26} = 57\ .69$$

The maximum score of the questionnaire = 100. The categories refer to the criteria: very high: 85-100, high: 75-84, moderate: 60-74, and low: <60.

The table above shows a significant increase in students' learning motivation after implementing educational games in geometry learning. The average motivation score increased from 57.69 (low category) to 88.72 (very high category). This increase demonstrates the positive impact of educational game-based learning strategies in increasing students' emotional engagement, interest, participation, and social interaction. These findings align with teacher statements in interviews that educational games can improve students' learning motivation.

DISCUSSION

The results of the study show that the use of educational games in geometry learning has a positive effect on shaping students' learning motivation. Game activities not only make students more active but also foster curiosity and a healthy competitive spirit. This aligns with the findings of Matos et al. (2024) , who stated that implementing games in mathematics learning can increase students' emotional and cognitive engagement, particularly in understanding abstract concepts like geometry.

In a qualitative context, this indicates a functional relationship between learning methods and learning motivation where games function as emotional and cognitive stimuli that encourage overall student engagement. In addition, there are previous studies that support this, such as Game-Based Learning in Enhancing Learning Motivation by Sugianto (2023) , which states that game-based learning (GBL) is effective in increasing student engagement and learning motivation through immersive experiences. Furthermore, The Influence of Game-Based Learning on Student Motivation in the Digital Era: Literature Review by Putri et al. (2025) reports that GBL increases intrinsic motivation, active engagement, and 21st-century skills such as collaboration and problem-solving. The quality of social interactions has a significant contribution to the formation of student learning motivation. Positive relationships between students create a supportive learning environment, where each individual feels valued and motivated to participate. This finding is in line with the research of YC et al. (2025) which states that the quality of social interactions in the school environment has a significant influence on the formation of learning motivation, because emotional and social support can create a safe and positive learning atmosphere.

In educational games, social interaction is a crucial tool for building a sense of community, empathy, and responsibility. Students learn to understand their respective roles, listen to others' opinions, and work together to achieve common goals.

Research by Erbil (2020) confirms that social interaction improves student motivation, engagement, and learning outcomes through a process of mutual support between students . Furthermore, a study by Maghfiroh and Muttaqin (2025) confirmed that collaborative learning, from a social constructivist perspective (Vygotsky 1978) , plays a crucial role in building intrinsic motivation and meaningful learning experiences.

The two factors of educational game methods and social interaction have a synergistic relationship in increasing motivation to learn geometry. Games provide a fun learning context, while social interactions strengthen students' emotional and social engagement.

This combination creates an inclusive and student-centered learning atmosphere, where the teacher acts as a facilitator, not just as an information provider.

Thus, the results of this study confirm that mathematics learning that integrates educational games with strengthening social interactions can increase students' learning motivation significantly and sustainably.

Literature on collaboration/social interaction suggests that synergy between interactions can increase motivation. Educational game methods in the collaborative process will create an inclusive and student-centered learning environment that is conceptually aligned with the social-constructivist framework (Vygotsky in Maghfiroh and Muttaqin 2025)

CONCLUSION

Based on the results of research on " The Role of Using Educational Games and Social Interaction in Cultivating Geometry Learning Motivation in Students", it can be concluded that the educational game method plays a positive and significant role in elementary school students' geometry learning motivation. Learning packaged through games such as searching for and making objects from a combination of geometric plane shapes has been proven to be able to create a fun learning atmosphere, increase activity, and encourage students' emotional and cognitive involvement in understanding geometric concepts.

The quality of social interaction has a significant influence on students' motivation to learn geometry. A harmonious relationship between students and teachers, as well as support from peers, encourages self-confidence, courage to express opinions, and a desire to achieve in mathematics learning. This shows that a communicative and collaborative classroom atmosphere is an important factor in building high learning motivation.

Educational game methods and the quality of social interaction simultaneously have a significant influence on the motivation to learn geometry. These two variables support each other in creating meaningful learning experiences. When educational games are applied in a positive social context, students become more enthusiastic, feel valued, and are able to develop intrinsic motivation to learn mathematics, especially in understanding abstract geometric concepts.

Overall, the results of this study emphasize that interactive, collaborative, and enjoyable mathematics learning is the key to improving student motivation and learning outcomes at the elementary school level.

REFERENCES

Abrianto, O. R. (2019). Penerapan Metode Tutor Sebaya Untuk Meningkatkan Hasil Belajar Dan Motivasi Belajar Siswa Pada Materi Trigonometri Kelas Xi Mipa 4 Sma Negeri 1 Ambarawa. *Satya Widya*, *35*(1), 62–74. Https://Doi.Org/10.24246/J.Sw.2019.V35.I1.P62-74

Adrillian, H., Mariani, S., Prabowo, A., Zaenuri, Z., & Walid, W. (2024). Media Pembelajaran Berbasis Game Edukasi Matematika Untuk Meningkatkan Motivasi Dan Hasil Belajar

Peserta Didik: Systematic Literature Review. *Jurnal Riset Dan Inovasi Pembelajaran*, *4*(2), 751–767. Https://Doi.Org/10.51574/Jrip.V4i2.1444

Aisyah, S., Rahmani, N. A. B., & Hasibuan, S. (2023). Pengaruh Pengetahuan Kewirausahaan, Motivasi, Lingkungan Keluarga Dan Media Sosial Terhadap Minat Berwirausaha Mahasiswa Muslim. *Journal On Education*, *5*(4), 11740–11757. Https://Doi.Org/10.31004/Joe.V5i4.2131

Aliyyah, R. R., Rahayu, Y., & Ramdhani, M. R. (2022). Pengaruh Interaksi Edukatif Terhadap Minat Belajar Matematika Siswa Sekolah Dasar. *Didaktika Tauhidi: Jurnal Pendidikan Guru Sekolah Dasar*, *9*(2), 185–198. Https://Doi.Org/10.30997/Dt.V9i2.6844

Arimbawa, I. G. P. A. (2021). Classroom Untuk Meningkatkan Motivasi Dan Prestasi Belajar Biologi. *Indonesian Journal Of Educational Development*, *2*(2), 324–332. Https://Doi.Org/10.5281/Zenodo.5244716

Di Bernardo, G. A., Vezzali, L., Stathi, S., Mckeown, S., Cocco, V. M., Saguy, T., & Dixon, J. (2021). Fostering Social Change Among Advantaged And Disadvantaged Group Members: Integrating Intergroup Contact And Social Identity Perspectives On Collective Action. *Group Processes & Intergroup Relations*, *24*(1), 26–47. Https://Doi.Org/10.1177/1368430219889134

Erbil, D. G. (2020). A Review Of Flipped Classroom And Cooperative Learning Method Within The Context Of Vygotsky Theory. *Frontiers In Psychology*, *11*(June), 1–9. Https://Doi.Org/10.3389/Fpsyg.2020.01157

Fadillah, A. S., & Ratnasari, L. (2023). Fanaticism Of Consumptive Behavior Of Merchandise Purchasing In Student Boyband Fans. *Formosa Journal Of Science And Technology*, *2*(1), 27–38. Https://Doi.Org/10.55927/Fjst.V2i1.2339

Fatimah, A. S., Santiana, S., & Saputra, Y. (2019). Digital Comic: An Innovation Of Using Toondoo As Media Technology For Teaching English Short Story. *English Review: Journal Of English Education*, *7*(2), 101. Https://Doi.Org/10.25134/Erjee.V7i2.1526

Fitriati, I., Purnamasari, R., Fitrianingsih, N., Irawati, I., & Belajar, M. (2021). Implementasi Digital Game Based Learning Menggunakan Aplikasi Educandy Untuk Evaluasi Dan Motivasi Belajar Mahasiswa Bima. *Prosiding Seminar Nasional Penelitian Dan Pengabdian 2021 : Penelitian Dan Pengabdian Inovatif Pada Masa Pandemi Covid-19*, 307–312.

Ina, I., Sastrawan Noor, A., & Salim, I. (2019). Analisis Interaksi Pendidikan Antara Guru Dan Siswa Dalam Proses Pembelajaran Ips Terpadu Pada Kelas Viii. *Jurnal Pendidikan Dan Pembelajaran Khatulistiwa*, *8*(11), 1–14.

Maghfiroh, W., & Muttaqin, A. I. (2025). The Relevance Of Collaborative Learning In The Perspective Of Lev Vygotsky's Social Constructivism: A Literature Review. *Journal Of Islamic Education Research*, *7*(2), 110–125.

Matos, G. A., Agetta, Y. M., & Kowiyah. (2024). Persepsi Kesulitan Belajar Matematika Geometri Bangun Ruang Di Sekolah Dasar. *Cendekia Pendidikan*, *4*(4), 50–54. Https://Doi.Org/10.9644/Sindoro.V3i9.252

Matthew B. Miles, A. Michael Huberman, J. S. (2020). *Qualitative Data Analysis: A Methods Sourcebook*. Sage Publications.

Nisa, M. A., & Susanto, R. (2024). Pengaruh Penggunaan Game Edukasi Berbasis Wordwall Dalam Pembelajaran Ipas Terhadap Hasil Belajar Siswa. *Ainara Journal (Jurnal Penelitian Dan Pkm Bidang Ilmu Pendidikan)*, *5*(4), 544–552. Https://Doi.Org/10.54371/Ainj.V5i4.664

Nurazizah, R., & Rinaningsih, R. (2021). Review: Effect Size Model Mastery Learning Dalam Pembelajaran Kimia. *Chemistry Education Review (Cer)*, *4*(2), 94. Https://Doi.Org/10.26858/Cer.V4i2.19988

Nurlatifah, P. A., & Purniati, T. (2025). *Systematic Literature Review : Penerapan Game Edukasi Untuk Meningkatkan Motivasi Belajar Matematika*. *4*(1), 115–127.

Putri, A. M. K., Akhwani, A., Nafiah, N., & Djazilan, M. S. (2021). Pengaruh Media Educandy Pada Pembelajaran Ppkn Terhadap Motivasi Belajar Daring Siswa Sekolah Dasar. *Jurnal Basicedu*, *5*(5), 4206–4211. Https://Doi.Org/10.31004/Basicedu.V5i5.1537

Putri, M. A., Herpratiwi, H., & Firdaus, R. (2025). The Influence Of Game Based Learning On Student Motivation In The Digital Era: Literature Review. *Jurnal Teknologi Pendidikan : Jurnal Penelitian Dan Pengembangan Pembelajaran*, *10*(1), 122. Https://Doi.Org/10.33394/Jtp.V10i1.13814

Putri, N. A., Hadi Wijoyo, S., & Herlambang, A. D. (2021). Pengaruh Media Pembelajaran Interaktif Mentimeter Terhadap Keaktifan, Motivasi, Dan Hasil Belajar Siswa Dalam Pembelajaran Daring Di Kelas X Program Keahlian Multimedia Mata Pelajaran Teknik Pengolahan Audio Dan Video Smk Negeri 7 Malang. *Jurnal Pengembangan Teknologi Informasi Dan Ilmu Komputer*, *5*(7), 3062–3068.

Ramadhani, N., Andriansah, M., Erfansyah, M., & Zuliana, E. (2024). Peran Permainan Edukatif Tangram Dalam Pembelajaran Matematika Realistik Indonesia (Pmri) Untuk Meningkatkan Pemahaman Bangun Datar Siswa. *Al-Irsyad Journal Of Mathematics Education*, *3*(1), 11–21. Https://Doi.Org/10.58917/Ijme.V3i1.100

Rambe, I. Wardani, Delviananda Harahap, Siti Rifa, Ruth Miranda, Putri Lingga, & Polin Jeremia. (2024). Eksplorasi Permainan Engklek Untuk Pengenalan Geometri Kepada Siswa Kelas Iii Sdn 068044 Medan. *Jurnal Math-Umb.Edu*, *12*(1), 32–41. Https://Doi.Org/10.36085/Mathumbedu.V12i1.7136

Rohmayanti, R., Hermayanti, Y., & Mardiah, W. (2016). Persepsi Siswa Kelas Vi Sekolah Dasar Tentang Perubahan Yang Terjadi Selama Masa Pubertas. *Journal Of Holistic Nursing Science*, *3*(1), 44–58.

Sari, Y., Ikhwan, M. S., & Iffah, R. D. L. (2024). Management Of Infrastructure Facilities In Improving The Quality Of Education At Sd Nahdlatul Ulama, Sleman, Yogyakarta. *Jurnal Dedikasi Pendidikan*, *8*(2). Https://Doi.Org/10.30601/Dedikasi.V8i2.4860

Sugianto, H. (2023). Game-Based Learning In Enhancing Learning Motivation Research Methodology. *International Journal Of Instructional Technology*, *02*(01), 22–33.

Tasya, C. H., Sangka, K. B., & Octoria, D. (2025). Pengaruh Pemanfaatan Artificial Intelligence (Ai) Terhadap Motivasi Belajar Mahasiswa Dengan Literasi Digital Sebagai Variabel Moderating. *Jurnal Pendidikan Ekonomi (Jupe)*, *13*(2), 153–165. Https://Doi.Org/10.26740/Jupe.V13n2.P153-165

Vygotsky, L. (1978). Mind In Society: The Development Of Higher Psychological Processes. *Harefuah*, *108*(3–4), 101–103. Https://Doi.Org/10.3928/0048-5713-19850401-09

Wati, R. S. (2019). Pengaruh Model Pembelajaran Think Pair Share Terhadap Motivasi Dan Hasil Belajar Pelajaran Ekonomi. *Tajdidukasi: Jurnal Penelitian Dan Kajian Pendidikan Islam*, *8*(2). Https://Doi.Org/10.47736/Tajdidukasi.V8i2.249

Widana, I. W. (2017). Higher Order Thinking Skills Assessment (Hots). *Jisae: Journal Of Indonesian Student Assessment And Evaluation*, *3*(1), 32–44. Https://Doi.Org/10.21009/Jisae.V3i1.4859

Yc, W., Lestary, I., Amira, J., Sugiarti, L. R., & Suhariadi, F. (2025). Influence Of Self-Efficacy And Peer Social Support On High School Students' Motivation To Learn Mathematics. *Cendikia : Media Jurnal Ilmiah Pendidikan*, *15*(6), 366–373. Https://Doi.Org/10.35335/Cendikia.V15i6.6396