

ENHANCING STUDENT ENGAGEMENT AND MOTIVATION THROUGH EDUCATIONAL GAMES: A SYSTEMATIC LITERATURE REVIEW ON TECHNOLOGY INTEGRATION IN SCHOOLS

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Abstrak: Information and communication technology is experiencing very rapid development, especially in the world of education, which is increasingly developing, especially in learning media, where many schools have not utilized technology in learning, so students feel bored in class. This type of literature review research uses the systematic literature review method. Based on the results of a systematic literature review, several researchers used Publish or Perish with the help of other applications such as Zotero Mendeley, VOSViewer, and Microsoft Excel. The selected articles all have good values for the influence of educational games on student learning motivation. The analysis results show that educational games provide an engaging and interactive way to learn, thus encouraging students to be more active and involved in the educational process. These studies support integrating technology in education as an effective strategy to improve school learning quality.

Keywords: Educational Games, Learning Motivation, Students

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INTRODUCTION

Information and communication technology is currently experiencing very rapid development, especially in the world of education which is increasingly developing, especially in learning media where many schools have not utilized technology in learning so that students feel bored when they are in class. Therefore, the existence of technology combined with learning media can help students and teachers to make learning in the classroom more active. Syofiyah (2024). Educational games are a learning medium that is now widely used by several teachers because they are very helpful for teachers in making the atmosphere in the classroom more active. Educational games are designed with specific learning objectives, which aim to not only provide knowledge but also foster meaningful learning experiences through interactive games (Hasanah et al., 2024).

Games can be used to motivate users and support learning so that they can achieve better learning outcomes. According to Widiastuti (2022), educational games are games designed for learning, but can still offer to play and have fun. Games make students feel comfortable, happy, and challenged to complete missions and avoid boredom in learning (Hermansyah et al., 2023). In addition, other studies also show results stating that educational games can support students in learning independently (Sulistiyarini et al., 2023).

The positive impact of playing educational games is to improve 4 main domains such as cognitive, motivational, social, and emotional aspects (Marsiami, 2021). The cognitive aspect is the ability of human thinking power, Evaluation of learning in the cognitive aspect at the elementary education level aims to measure the extent to which students have achieved

learning objectives related to knowledge and understanding (Pramita, 2023). Motivation is an encouragement for students so that what is called learning objectives is achieved, according to Oka et al., (2024) learning motivation is the overall driving force within students that gives rise to the intention to learn, to achieve the desired learning goals. Olive Christin Nathanis and Khaerunnisa (2024) explain that students who are bored with learning will become lethargic, lazy, and have decreased learning motivation. So learning motivation

Student motivation to learn is a prerequisite for successful learning. Teachers must be innovative to get the best learning outcomes. Maryati et al., (2024) to achieve educational goals, skilled educators or teachers are needed, as well as facilities that facilitate learning activities, related materials that must be provided, and appropriate techniques to evaluate student abilities. Teachers have an important role in increasing student learning motivation. With motivation, students are more likely to develop interest and curiosity about the material being studied, so that learning becomes more enjoyable and meaningful (Azhar & Wahyudi, 2024).

Natasya et al., (2024) learning motivation can be fulfilled both from within and outside the individual. If someone is motivated to learn, then he will carry out learning activities within a certain time. Therefore, student learning motivation is very important to develop in students so that they have the self-awareness to learn and achieve the desired results (Natalia et al., 2024). So games that can act as models in learning can increase students' motivation and interest in learning (Islam et al., 2024).

In addition, teachers are motivators who can increase students' motivation to learn in various creative and effective ways. They realize that motivation is the main key to achieving academic success and the personal development of students. Therefore, teachers use various approaches to motivate students and help them find interest and enthusiasm in the learning process (Hanaris, 2023). Motivation is one of the factors that determines the effectiveness of learning because students will study seriously if they have high motivation. Wandira et al., (2024) argue that students' learning motivation is influenced by factors from within the students (intrinsic) and from outside the students (extrinsic). Factors from within the students include the desire to know and have something that is their hope, whether in the form of knowledge, attitudes, skills, or skills needed to overcome all problems in life. Meanwhile, factors from outside the students can come from teachers, classmates, and other parties in the form of positive encouragement such as praise, flattery, gifts, numbers, and so on, and negative encouragement such as teasing, nagging, competition, and conflict.

In its role as a motivator, teachers can help build intrinsic motivation in students, because this motivation will affect long-term success. Educational games also play an important role in increasing students' learning motivation. So from the explanation above, in the end, researchers are interested in researching the Influence of Educational Games on Student Learning and Motivation.

METHOD

This type of literature review research uses the systematic literature review method. Based on the results review literature several researchers using Publish or Perish and other apps like Zotero Mendeley, VOSViewer, and Microsoft Excel selected articles For analysis in a way descriptive (Simamora1 et al., 2024). Systematic literature review (SLR) is a qualitative approach in the systematic review used to summarize the results of descriptive studies (Wiryanto et al., 2023). The subject of this study is the effect of educational games

on student learning and motivation. The data collection for this study is a review of electronic journals, namely Google Scholar, Eric, and SagePub between 2020-2024 using seven steps in conducting this research analysis, namely Wiryanto et al., (2023). (1) Literature search phase, (2) literature search screening phase, (3) screening phase, (4) literature mapping phase, (5) quality assessment phase, (6) findings synthesis phase, and (7) conclusion phase. The review questions of the Systematic literature review (SLR), namely: (RQ1) How does the use of educational games affect student learning outcomes? and (RQ2) How does the use of educational games affect student motivation?



Figure 1. Seven Steps in a Systematic Literature Review (SLR)

The next step is to collect article sources related to educational games and learning motivation. The researcher selected 5 article sources related to the keywords used.

RESULT AND DISCUSSION

Result

In this literature review, the researcher analyzed 5 articles published in the last 5 years related to educational games and learning motivation. The results of the literature review analysis conducted by the researcher are as follows.

NO	Name and Year	Article Title	Journal	Results
1	(Nisa & Susanto, 2022)	The Influence of Using Wordwall-Based Educational Games in Mathematics Learning on Learning Motivation	JPGI (Indonesian Teacher Research Journal)	The results of the hypothesis obtained based on partial testing (t-test) are 11,796 (count) > 2,045 (table) with a significance of $0.000 < 0.05$. These results indicate that H_1 is accepted and H_0 is rejected, which means that there is a positive and significant influence between word wall-based educational games on learning motivation in mathematics learning for VC class students at SDN Kapuk Muara 03.

2	(Walidah et al., 2022))	The Effect Of Using Wordwall Educational Games On Motivation And Students' Mathematics Learning Outcomes	UJMES (Uninus Journal of Mathematics Education and Science)	The results of this study indicate that the use of word wall educational games in Mathematics learning activities have a significant influence on student's motivation and learning outcomes. This can be seen from The percentage of learning motivation in the experimental class was higher than in the control class and the average value was experimental class is higher than the control class.
3	(Novayani, 2022)	Learning Impact Educational Role-Playing Game On Students' Motivation to Learn History	Applied Computer Journal	The method used in this study is a quantitative research method. The subjects of the study were 32 students of SMAN 9 Pekanbaru. Data collection was carried out through a questionnaire with a reliability value of $r_{xy} = 0.884$ and a validity value $= 0.645 (> 0.349)$. The results of learning impact on learning motivation got a value of 89%, attitude values (critical thinking, moral values, and patriotism) of 87%, increasing historical knowledge by 88% with a very strong assessment
4	(Olive Christin Nathanis, Khaerunnisa, 2024)	The Effect Of Using Wordwall Educational Games On Students' Learning Motivation In The Science Subject Of Grade Iv Upt Spf Sd Inpres Campus Unhas 1 Makassar City	Global Journal of Edu Center	The results of the descriptive statistical analysis show that (1) the use of the Wordwall educational game is very effective, (2) the increase in learning motivation based on the

				results of the post-nontest in the experimental group is in the high category, while the control group is in the low category. The results of the inferential statistical analysis using the Independent Sample t-test obtained a Sig. (2-tailed) value of $0.000 < 0.05$ so that the hypothesis H_0 is rejected and H_a is accepted. Based on this, it can be concluded that the Wordwall educational game affects students' learning motivation in the Science subject of class IV UPT SPF SD Inpres Campus Unhas 1 Makassar City
5	(Arimbawa, 2021)	Implementation Of Word Wall Game Quiz Incorporation With Classroom To Improve Biology Learning Motivation And Achievement	Indonesian Journal of Educational Development	The results of the study showed: 1) there was an increase in the motivation to learn Biology of class XI MIPA 1 student of SMA N 1 Petang in the 2020/2021 academic year. The average motivation to learn Biology of students was 80.15 with a high category in cycle I, and increased in cycle II to 85.85 with a very high category; 2) there was an increase in the biology learning achievement of class XI MIPA 1 students of SMA N 1 Petang in the 2020/2021 academic year through the implementation of Wordwall Game Quiz

				combined with Classroom. The average biological learning achievement of students was 21.43 with a very low category in cycle I and experienced an increase in cycle II to 84.00 with a very good category
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Based on the results of the table above, it can be clarified that journals published in 2020-2024 related to the keyword "Educational Games and Learning Motivation" there are 5 journals found. Of the 5 journals, they have the same keyword "Educational Games and Learning Motivation"

Discussion

RQ1: How does the use of educational games affect student learning outcomes?

The use of educational games in the learning process has been proven to have a positive effect on student learning outcomes. According to research by Lisnaini et al., (2024), it was concluded that educational games affect increasing student learning motivation. The hypothesis test value that has been carried out using IBM statistical software version 27 in this study is 0.000, which is less than the significance level of 0.05, so H_a is accepted and H_o is rejected. This means that the use of educational games on student learning motivation in class XI of high school. The results of the t-test obtained sig (2-tailed) obtained $0.000 < 0.05$ and the average score of the experimental class learning motivation was 87.97 and the control class score was 69.69. It can be stated that the learning motivation of class XI students who use educational game media in their learning activities is better than learning activities using PowerPoint.

Budi et al., (2021) research entitled "The Influence of Construct-Based Educational Game Learning Media on Problem Solving Skills and Student Learning Outcomes" resulted in his research showing that there is an influence of construct-based educational game learning media on student learning outcomes even though the teaching material is complicated. The complexity of the teaching material that will be delivered to students can be simplified with the help of learning media so that students can understand the teaching material faster.

In the study Windawati & Koeswanti (2021) producing learning media in the form of Android-based educational games to improve the learning outcomes of grade IV students has gone through a validity test from material experts and media experts. The percentage obtained from the material expert validation test was 73% with the assessment criteria obtained being high and the percentage obtained from the media expert validation test was 97% with the assessment criteria obtained being very high. Based on the validation test from media experts and material experts, it can be concluded that the learning media in the form of Android-based educational games to improve the learning outcomes of theme 7 in grade IV students can be said to be suitable for use

Based on the description of several studies above, Overall, the use of educational games in learning not only increases student motivation but also has a positive impact on their learning outcomes. Educational games provide an interesting and interactive way to learn, thus encouraging students to be more active and involved in the educational process. These studies support integrating technology in education as an effective strategy to improve the quality of learning in schools.

RQ2: How does the use of educational games affect students' motivation?

The use of educational games has a significant influence on students' learning motivation. Lisnaini et al., (2024) in their study entitled "The Effect of Using Educational Games on Students' Learning Motivation of Class XI at SMA Negeri 1 Kabun" concluded that educational games affect increasing students' learning motivation. The hypothesis test value that has been carried out using IBM statistical software version 27 in this study is 0.000, which is less than the significance level of 0.05, so H_a is accepted and H_o is rejected. This means that the use of educational games on students' learning motivation in class XI of SMA. The results of the t-test obtained sig (2-tailed) obtained $0.000 < 0.05$ and the average score of the experimental class' learning motivation was 87.97 and the control class score was 69.69. It can be stated that the learning motivation of class XI students who use educational game media in their learning activities is better than learning activities using PowerPoint.

Saputra et al., (2024) in his research, he stated that data processing showed that online games (variable X) affected learning motivation (variable Y), as evidenced by the t-value of 15.134 and a significance of 0.000 which was less than 0.05. The correlation value of 0.429 and the determination coefficient of 0.184, means that the magnitude of the influence of online games on learning motivation is 8.4%, while the remaining 81.6% is influenced by other factors outside this study.

Overall, educational games have proven to be effective in increasing students' motivation to learn. Through an interactive and fun approach, educational games not only make learning more interesting but also encourage students to be more actively involved in their learning process. This creates a conducive environment for a better understanding of the material and the development of critical thinking skills.

CONCLUSION

Based on the results of the study, it can be concluded that educational games have a significant positive impact gamification has a significant positive impact. Educational games have a significant influence on student learning and motivation. Thanks to its interactive and fun approach, educational games can increase students' interest in the subject. The learning process through games tends to be more interesting, students are more motivated to actively participate in learning activities. In addition, the use of educational games helps students understand difficult concepts more realistically and intuitively. This supports experiential learning, where students can apply the knowledge gained directly to the game context. Motivational and educational games provide challenges and rewards to encourage students to achieve their learning goals. Mechanisms such as levels, points, or prizes in games can increase a sense of achievement and a healthy competitive spirit. However, the effectiveness of educational games depends on the game design that follows the curriculum, a balance between fun and educational aspects, and good supervision by teachers or parents. If implemented well, educational games can be an effective tool to improve the quality of learning and student motivation.

REFERENCES

- Arimbawa, IGPA (2021). Implementation of Wordwall Game Quiz combined with Classroom to Improve Biology Learning Motivation and Achievement. *Indonesian Journal of Educational Development* , 2 (2), 324–332. <https://doi.org/10.5281/zenodo.5244716>
- Azhar, M., & Wahyudi, H. (2024). Uluwwul Himmah Education Research Journal. *Uluwwul Himmah Education Research Journal* , 1 (1), 1–15.
- Budi, TL, Akbar, S., & Ana, RW (2021). The Effect of Construct-Based Educational Game Learning Media on Problem Solving Skills and Student Learning Outcomes Mosharafa: Journal of Mathematics Education Mosharafa: Journal of Mathematics Education. *Mosharafa: Journal of Mathematics Education* , 10 (1), 129–140.
- Hanaris, F. (2023). The Role of Teachers in Improving Student Learning Motivation: Effective Strategies and Approaches. *Journal of Educational and Psychological Studies* , 1 (1), 1–11. <https://doi.org/10.61397/jkpp.v1i1.9>
- Hasanah, NA, Hafiza, E., & Irianto, ME (2024). The Role of Kahoot Educational Game in Increasing Student Motivation to Learn. *Multidisciplinary Scientific Journal* , 2 (4), 305–316. <https://doi.org/10.5281/zenodo.11194824>
- Hermansyah, H., Nurhairunnisah, N., Suji Ardianti, & I Gusti Made Sulindra. (2023). The Effect of Using Educational Games on Physics Cognitive Abilities Viewed from Student Gender. *Journal of Science Education* , 13 (3), 833–838. <https://doi.org/10.37630/jpm.v13i3.1184>
- Islam, KR, Komalasari, K., Masyitoh, IS, Juwita, J., & Adnin, I. (2024). The Influence of Game Based Learning Model on Students' Learning Motivation . *Ideas: Journal of Education, Social, and Culture* , 10 (3), 619. <https://doi.org/10.32884/ideas.v10i3.1640>
- Lisnaini, W., Hendri, N., & Anugrah, S. (2024). *THE EFFECT OF EDUCATIONAL GAME USE ON STUDENTS' LEARNING MOTIVATION IN GRADE XI AT STATE HIGH SCHOOL 1 KABUN to carry out learning activities. In this condition, teachers have the responsibility to ensure that there are problems by teachers in classroom learning, such as teachers still using conventional learning processes with equipment that is not yet able to accommodate independent learning and are still fixated on textbooks in using their media, and also curriculum demands that require teachers to be more material, resulting in low student learning motivation, such as decreased self-confidence* . 5 (5), 6293–6300.
- Marsiami, AS (2021). The Effect of Implementing Reproductive Health Education Games (Kepo) on Adolescent Skills. *Scientific Journal of Health* , 10 (2), 77–84. <https://doi.org/10.52657/jik.v10i2.1471>
- Maryati, E., Sholeh, M., Saputra, MR, Viqri, D., Simarmata, DE, Yunizha, TD, & Syafitr, A. (2024). Analysis of Teacher Strategies in Improving Student Learning Motivation in Class. *Journal of Innovation, Evaluation and Learning Development (JIEPP)* , 4 (2), 165–170. <https://doi.org/10.54371/jiepp.v4i2.408>

- Natalia, N., Wahid, S., & Muchyidin, A. (2024). Development of Web-Based Mathematics Learning Media Using the Educandy Application to Improve Student Learning Motivation. *ANARGYA: Scientific Journal of Mathematics Education* , 7 (1), 38–48. <https://doi.org/10.24176/anargya.v7i1.12742>
- Natasya Nurul Lathifa, Khairil Anisa, Sri Handayani, & Gusmaneli Gusmaneli. (2024). Cooperative Learning Strategy in Improving Students' Learning Motivation. *CENDEKIA: Journal of Social Sciences, Language and Education* , 4 (2), 69–81. <https://doi.org/10.55606/cendikia.v4i2.2869>
- Nisa, MA, & Susanto, R. (2022). The Effect of Using Wordwall-Based Educational Games in Mathematics Learning on Learning Motivation. *JPGI (Journal of Indonesian Teacher Research)* , 7 (1), 140. <https://doi.org/10.29210/022035jpgi0005>
- Novayani, W. (2022). Learning Impact of Educational Role Playing Games on Students' History Learning Motivation. *Applied Computer Journal* , 8 (1), 94–102. <https://doi.org/10.35143/jkt.v8i1.5365>
- Oka, DN, Nyoman, N., & Adi, S. (2024). *Widyadari THE EFFECT OF USING QUIZIZZ EDUCATIONAL GAMES ON SMP The Effect of the Use of Quizizz Educational Games on Motivation and Higher Cognitive Learning Outcomes of Junior High School Students INTRODUCTION The development of education in excels sof* . 25 (2), 281–291. <https://doi.org/10.59672/widyadari.v25i2.4129>
- Olive Christin Nathanis, Khaerunnisa, Y. (2024). Global Journal of Edu Center. *Global Journal of Edu Center* , 1 , 70–78.
- Pramita, KN (2023). Evaluation of Learning in the Cognitive Aspect Domain at the Elementary Education Level at MI Assalafiyah Timbangreja. *Journal of Education and Teaching Review* , 6 (2), 403–411.
- Saputra, AR, Yunida, F., Hasriani, H., Utami, IF, & Soleha, S. (2024). The Influence of Online Games on Students' Learning Motivation at SDN 1 Pringsewu Timur. *Journal of Elementary School Teacher Education* , 1 (3), 8. <https://doi.org/10.47134/pgsd.v1i3.287>
- Simamora1, SC, Gaffar2, V., & Meta Arief3. (2024). Systematic Literature Review Using Prisma Method: Impact of Blockchain Technology on Digital Advertising. *M-Progress Scientific Journal* , 14 (1), 1–11. <https://doi.org/10.35968/m-pu.v14i1.1182>
- Sulistiyaning, D., Ramadhani, D., & Sabirin, F. (2023). The effect of using educational games as independent learning media on ICT literacy of junior high school students in Pontianak City. *Journal of Informatics and Science Education* , 12 (1), 236–249. <https://doi.org/10.31571/saintek.v12i1.5794>
- Syofiyah, G. (2024). Business Simulation Game Participant Satisfaction Survey as an Evaluation before Releasing New Offerings: A Study at PT. Harfan Tri Megah (EDUGATE). In *Universitas Islam Indonesia* .
- Walidah, GN, Mudrikah, A., & Saputra, S. (2022). The Effect of Using Wordwall Educational Games on Students' Motivation and Mathematics Learning Outcomes.

UJMES (Uninus Journal of Mathematics Education and Science) , 7 (2), 105–115.
<https://doi.org/10.30999/ujmes.v7i2.2140>

- Wandira, I., Hardin, Ali, A., & Ngandoh, ST (2024). Implementation of Problem Based Learning Model Assisted by Educational Games to Improve Students' Learning Motivation . *Journal of Learning Thought and Development Implementation* , 6 (2), 876–888. <http://ejournal-jp3.com/index.php/Pendidikan/article/view/1194>
- Widiastuti, KK (2022). Improving Learning Outcomes of Vegetative Plant Propagation Through Educational Games Assisted by Wordwall. *Dewantara National Seminar on Education* , 1 (1), 1–11.
<https://katadata.co.id/sitinuraeni/berita/61babe1b8b2e1/perkembangbiaka>
- Windawati, R., & Koeswanti, HD (2021). Development of Android-Based Educational Games to Improve Student Learning Outcomes in Elementary Schools. *Basicedu Journal* , 5 (2), 1027–1038. <https://doi.org/10.31004/basicedu.v5i2.835>
- Wiryanto, W., Fauziddin, M., Suprayitno, S., & Budiyo, B. (2023). Systematic Literature Review: Implementation of STEAM in Lower Elementary Schools. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini* , 7 (2), 1545–1555.
<https://doi.org/10.31004/obsesi.v7i2.4268>