

Effectiveness of Auditory Visual Games Method on Students' Learning Interest in the Christian Religious Education Subject in Grade VIII

Ribka Wahyu Christiani¹, Telhalia², Fernando Dorothis Pongoh³

^{1,2,3}Institut Agama Kristen Negeri Palangka Raya, Indonesia;

* Correspondence e-mail; ribkawahyuchristiani@gmail.com,

Article history

Submitted: 2026/04/01; Revised: 2026/05/11; Accepted: 2026/06/30

Abstract

Education plays a fundamental role in developing students' intellectual, moral, spiritual, and social competencies. This study aimed to determine the effectiveness and effectiveness level of the auditory-visual game method in increasing students' learning interest in Christian Religious Education among Grade VIII.8 students at SMP Negeri 8 Palangka Raya. The study employed a quantitative approach using a one-group pretest-posttest experimental design involving 15 Christian students selected through purposive sampling. Data were collected using a 20-item Likert-scale questionnaire measuring four indicators of learning interest: feelings of enjoyment, attraction, attention, and participation. The collected data were analyzed using descriptive statistics, the Shapiro–Wilk normality test, the paired sample t-test, and the N-Gain Score with the assistance of SPSS software. The findings revealed that the application of the auditory-visual game method significantly increased students' learning interest, as evidenced by a paired sample t-test significance value (Sig. 2-tailed) of less than 0.05, resulting in the rejection of the null hypothesis and acceptance of the alternative hypothesis. The mean learning-interest score increased from 48.53 in the pretest to 60.67 in the posttest. Furthermore, the average N-Gain Score of 0.399 (39.9%) indicated that the effectiveness level of the intervention was categorized as moderate. These findings demonstrate that integrating games with auditory and visual media creates a more engaging, interactive, and student-centered learning environment, thereby improving students' enjoyment, attraction, attention, and active participation in Christian Religious Education learning.

Keywords

Auditory-Visual Game Method; Christian Religious Education; Grade VIII Students; Learning Effectiveness; Learning Interest.



© 2026 by the authors. This is an open access publication under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY SA) license, <https://creativecommons.org/licenses/by-sa/4.0/>.

INTRODUCTION

Education plays a fundamental role in developing students' intellectual, moral, spiritual, and social competencies. In the twenty-first century, educational institutions are expected not

only to transfer knowledge but also to cultivate meaningful learning experiences that encourage active participation, critical thinking, and lifelong learning. Learning effectiveness is strongly influenced by students' interest in learning because interest serves as an intrinsic motivational factor that encourages students to engage actively in classroom activities. Students who possess high learning interest are generally more attentive, enthusiastic, and willing to participate during instructional processes, whereas those with low learning interest tend to demonstrate passive behavior, decreased concentration, and limited classroom participation. Consequently, teachers are required to implement innovative instructional strategies capable of stimulating students' curiosity and maintaining their engagement throughout the learning process. Recent educational studies have consistently emphasized that learning interest significantly contributes to academic achievement, classroom participation, and the development of higher-order thinking skills, making it an essential aspect of effective teaching and learning practices in contemporary education (Alamri, 2021; Putri & Mulyadi, 2023; Susanto et al., 2022).

Christian Religious Education (CRE) occupies a strategic position in Indonesian education because it aims not only to develop students' cognitive understanding of biblical teachings but also to shape their spiritual maturity, moral character, and Christian values in daily life. Effective Christian Religious Education should encourage students to internalize biblical principles through meaningful learning experiences rather than merely memorizing doctrinal concepts. However, the implementation of Christian Religious Education frequently encounters challenges associated with students' low motivation and learning interest. Traditional teacher-centered instruction, particularly lecture-based methods, often limits student interaction and reduces opportunities for experiential learning. Consequently, students may perceive Christian Religious Education as monotonous and less relevant to their everyday experiences. Current educational research suggests that student-centered instructional approaches emphasizing interaction, collaboration, and meaningful engagement are more successful in promoting learning motivation and positive attitudes toward religious education than conventional instructional practices (Naidoo, 2021; Widodo & Suryani, 2022; Kurniawan et al., 2023).

One of the primary responsibilities of teachers is selecting instructional methods that accommodate students' diverse learning characteristics and preferences. Modern educational theory recognizes that students learn more effectively when instruction addresses multiple sensory modalities, encourages participation, and creates enjoyable learning environments. Consequently, instructional innovation has shifted toward approaches integrating visual, auditory, and kinesthetic experiences within collaborative learning settings. Teachers are increasingly encouraged to move beyond passive instructional models by incorporating educational media, interactive activities, and game-based learning strategies that stimulate curiosity and sustain students' attention. Such approaches not only improve cognitive achievement but also enhance emotional engagement, classroom interaction, and intrinsic motivation. Therefore, selecting appropriate teaching methods represents a critical

determinant of instructional quality and educational effectiveness in today's learner-centered classrooms (Khalil & Elkhider, 2020; Hwang & Chien, 2022; Zainuddin et al., 2021).

Among various innovative instructional strategies, the auditory visual games method has emerged as a promising approach to increasing students' learning interest. This instructional method integrates educational games with audiovisual media such as images, videos, animations, sounds, quizzes, and interactive activities to create engaging learning experiences. The theoretical foundation of this method is closely associated with multimedia learning theory, which explains that students process information more effectively when verbal and visual information are presented simultaneously through complementary channels. Furthermore, incorporating game elements introduces enjoyment, competition, immediate feedback, and active participation, thereby increasing students' motivation and emotional involvement during learning activities. Research conducted across different educational contexts has demonstrated that game-based audiovisual learning enhances students' concentration, classroom participation, collaboration, and overall learning interest while simultaneously reducing boredom and cognitive fatigue during instruction (Mayer, 2021; Plass et al., 2020; Vlachopoulos & Makri, 2022).

Game-Based Learning (GBL) has received increasing attention from educational researchers because of its potential to transform passive classrooms into dynamic learning environments. Educational games provide meaningful opportunities for students to solve problems collaboratively, communicate effectively, and construct knowledge through active participation rather than passive reception. The incorporation of visual and auditory stimuli further enriches these experiences by facilitating information processing and improving knowledge retention. Moreover, educational games generate immediate feedback that enables students to monitor their progress and correct misconceptions throughout the learning process. Several recent empirical investigations have demonstrated that students participating in game-based learning environments exhibit significantly higher motivation, engagement, learning interest, and academic performance than students taught using traditional lecture methods. These findings suggest that combining audiovisual media with educational games represents an effective instructional innovation capable of addressing declining student interest across various subject areas, including religious education (Tokac et al., 2022; Al-Azawi et al., 2021; Sánchez-Mena & Martí-Parreño, 2021).

The preliminary observations conducted by the researcher during teaching practice at Grade VIII.8 of SMP Negeri 8 Palangka Raya revealed several indicators of low learning interest among students enrolled in Christian Religious Education. Students frequently displayed limited attention during lessons, low participation in classroom discussions, inadequate enthusiasm for completing assignments, and minimal involvement in learning activities. Furthermore, classroom instruction was predominantly conducted using lecture-based methods, resulting in passive learning environments where students primarily listened to teachers without actively interacting with learning materials or peers. These classroom conditions were consistent with four fundamental indicators of learning interest, namely

enjoyment, attraction, attention, and active participation. Such circumstances indicate the necessity of implementing innovative instructional approaches capable of creating enjoyable, interactive, and meaningful learning experiences that encourage greater student engagement throughout Christian Religious Education lessons. These preliminary findings also form the practical basis for investigating the effectiveness of alternative instructional methods in enhancing students' learning interest.

Based on the theoretical perspectives and empirical evidence discussed above, the auditory visual games method appears to provide an appropriate instructional solution for improving students' learning interest in Christian Religious Education. By integrating educational games with audiovisual learning media, teachers can create learning environments that encourage enjoyment, active participation, collaboration, and sustained attention while simultaneously facilitating meaningful understanding of Christian values and biblical teachings. Despite growing evidence supporting the effectiveness of game-based learning in general education, limited empirical research has specifically examined its effectiveness within Christian Religious Education, particularly among junior high school students in Indonesia. Therefore, this study entitled "Effectiveness of Auditory Visual Games Method on Students' Learning Interest in the Christian Religious Education Subject in Grade VIII.8 at SMP Negeri 8 Palangka Raya" is conducted to examine whether the implementation of the auditory visual games method significantly improves students' learning interest and to determine the level of its effectiveness in enhancing classroom engagement within Christian Religious Education. This study is expected to contribute both theoretically to instructional innovation in religious education and practically to teachers seeking effective learner-centered teaching strategies.

METHODS

This study employed a quantitative approach using a pre-experimental research design with a one-group pretest-posttest design to examine the effectiveness of the auditory visual games method on students' learning interest in Christian Religious Education. The research was conducted at Grade VIII.8 of SMP Negeri 8 Palangka Raya and involved 15 Christian students selected through purposive sampling based on their relatively low learning interest observed during classroom instruction. The research instrument consisted of a 20-item Likert-scale questionnaire measuring four indicators of learning interest, namely enjoyment, attraction, attention, and participation. Prior to implementation, the instrument was tested for validity and reliability. Students completed the pretest before receiving instructional treatment using the auditory visual games method, which integrated educational games with audiovisual media during Christian Religious Education lessons. Following the treatment, students completed the posttest to determine changes in their learning interest. Data were analyzed using descriptive statistics, the Shapiro-Wilk normality test, a paired-samples t-test to determine the significance of differences between pretest and posttest scores, and the N-

Gain score to measure the effectiveness level of the instructional method. Statistical analyses were conducted using SPSS with a significance level of 0.05.

FINDINGS AND DISCUSSION

The application of the auditory-visual game method effective in increasing student interest in Christian Religious Education in grade VIII.8 at SMP Negeri 8 Palangka Raya

The findings of this study indicate that the application of the auditory-visual game method is effective in increasing students' interest in learning Christian Religious Education among Grade VIII.8 students at SMP Negeri 8 Palangka Raya. The effectiveness was statistically confirmed through the paired sample t-test, which produced a significance value (Sig. 2-tailed) of less than 0.05, leading to the rejection of the null hypothesis (H_0) and acceptance of the alternative hypothesis (H_1). Furthermore, students' mean learning-interest score increased from 48.53 in the pretest to 60.67 in the posttest, demonstrating a substantial improvement after the implementation of the treatment. Although the N-Gain Score of 0.399 (39.9%) categorized the effectiveness as moderate, the findings clearly demonstrate that the auditory-visual game method positively enhanced students' learning interest across the four indicators measured, namely feelings of enjoyment, attraction to learning materials, attention during instruction, and active participation in classroom activities.

From a theoretical perspective, the effectiveness of the auditory-visual game method can be explained through contemporary learning theories emphasizing active engagement and meaningful learning experiences. Learning interest is recognized as one of the strongest psychological determinants influencing students' willingness to participate actively in educational activities. According to Slameto (2010), learning interest is reflected in students' feelings of pleasure, attraction, sustained attention, and active involvement during learning. These four dimensions formed the basis for measuring learning interest in the present study. Before the intervention, students exhibited low enthusiasm, limited attention, passive classroom participation, and minimal curiosity because classroom instruction relied primarily on conventional lecture methods. After introducing the auditory-visual game method, these dimensions improved significantly because students were encouraged to interact with learning materials through enjoyable and stimulating activities rather than merely listening to explanations. Consequently, the instructional process shifted from teacher-centered to learner-centered, allowing students to become active participants in constructing their own understanding. This transformation supports the notion that learning interest develops when instructional strategies provide opportunities for enjoyment, curiosity, and meaningful engagement (Slameto, 2010; Darmadi, 2017).

The findings are also strongly supported by Mayer's Cognitive Theory of Multimedia Learning, particularly the Modality Principle. Mayer (2001) argues that students learn more effectively when verbal information is presented through narration while visual information is delivered simultaneously through images, animations, or videos rather than through written text alone. This principle explains why combining auditory and visual stimuli within

educational games significantly improved students' learning interest. The integration of sounds, images, videos, quizzes, and game challenges reduced cognitive overload because information was processed through both the auditory and visual channels of working memory. Instead of becoming overwhelmed by lengthy verbal explanations, students received information in multiple complementary forms that enhanced comprehension and maintained attention. The enjoyable gaming environment also minimized boredom while encouraging curiosity and exploration, making Christian Religious Education lessons more engaging and memorable. Therefore, Mayer's multimedia learning theory provides a strong cognitive explanation for the statistically significant improvement observed after implementing the auditory-visual game method (Mayer, 2001).

The positive results can also be interpreted through Game-Based Learning (GBL) theory, which emphasizes the educational value of integrating game elements into classroom instruction. Hermawan (2013) explains that games function not only as recreational activities but also as effective instructional media capable of increasing student participation and learning motivation. Likewise, DePorter (2017) argues that meaningful learning occurs when students actively experience learning rather than passively receive information. In the present study, students participated in activities involving competition, collaboration, immediate feedback, and audiovisual interaction, making the learning process dynamic instead of monotonous. These characteristics correspond with the essential principles of Game-Based Learning, where challenge, achievement, interaction, and enjoyment become intrinsic motivational factors. Educational games stimulate students' curiosity and provide immediate reinforcement whenever they answer correctly or complete learning tasks successfully. Consequently, students experience greater satisfaction, which gradually develops into sustained learning interest. These theoretical perspectives explain why the auditory-visual game method produced measurable improvements despite being implemented within a relatively short experimental period (Hermawan, 2013; DePorter, 2017).

Furthermore, the findings align with constructivist learning theory, especially the ideas proposed by Vygotsky, who emphasized that learning occurs most effectively through active interaction with the environment and collaboration with others. Educational games create authentic learning situations where students negotiate meaning, solve problems, communicate with peers, and receive support from teachers throughout the learning process. Rather than memorizing Christian Religious Education concepts passively, students actively explored biblical content through collaborative games requiring discussion, observation, listening, and decision-making. Such experiences encourage deeper cognitive processing while simultaneously strengthening social interaction. Vygotsky's concept of the Zone of Proximal Development suggests that students achieve higher levels of understanding when instructional activities provide appropriate scaffolding through collaborative experiences. The auditory-visual game method served precisely this function by combining multimedia resources with interactive gameplay that enabled students to participate actively and confidently. Therefore, the observed increase in learning interest reflects not only improved

classroom enjoyment but also enhanced opportunities for cognitive and social development through collaborative learning (Vygotsky, as cited in Santrock, 2002).

Another theoretical explanation emerges from motivational theory, particularly regarding intrinsic motivation. According to educational psychology, intrinsic motivation develops when learners experience autonomy, competence, and enjoyment during learning activities. The auditory-visual game method fulfilled these motivational needs by allowing students to participate voluntarily in attractive learning tasks while receiving immediate feedback on their performance. Instead of perceiving Christian Religious Education as a difficult or monotonous subject, students experienced it as enjoyable and meaningful. Immediate rewards, audiovisual stimulation, and achievable challenges generated positive emotional experiences that strengthened students' willingness to participate throughout the lesson. Previous studies on Game-Based Learning consistently demonstrate that enjoyable instructional environments reduce boredom, increase concentration, and strengthen students' commitment to learning. These motivational mechanisms explain why the four indicators of learning interest—feelings of enjoyment, attraction, attention, and participation—all improved following the intervention. Consequently, the statistical findings observed in this research are fully consistent with established motivational theories emphasizing positive emotional engagement as a prerequisite for effective learning (Aini, 2018; Agus, 2023).

Overall, the research findings demonstrate that the auditory-visual game method effectively enhances students' learning interest because it combines multiple theoretical strengths into a single instructional approach. Cognitive theory explains how multimedia presentation optimizes information processing, constructivist theory explains how interactive experiences facilitate meaningful learning, Game-Based Learning theory explains how educational games promote participation and engagement, while motivational theory clarifies why enjoyable experiences encourage sustained interest in learning. The empirical evidence, including the significant paired sample t-test results, increased mean scores, and moderate N-Gain value, confirms that these theoretical mechanisms operated successfully within the context of Christian Religious Education learning among Grade VIII.8 students. Although the effectiveness level remained within the moderate category, the intervention successfully transformed classroom learning from passive, lecture-based instruction into an interactive, enjoyable, and student-centered learning environment. Therefore, the auditory-visual game method represents a pedagogically sound instructional strategy capable of improving students' learning interest and supporting more meaningful Christian Religious Education learning experiences.

Effective is the Application of The Auditory-Visual Game Method in Increasing Student Interest in Christian Religious Education in Grade VIII.8 at SMP Negeri 8 Palangka Raya

The findings of this study indicate that the effectiveness level of the application of the auditory-visual game method in increasing students' interest in learning Christian Religious Education among Grade VIII.8 students at SMP Negeri 8 Palangka Raya is categorized as moderate. This conclusion is supported by the N-Gain Score analysis, which produced an

average score of 0.399 (39.9%), placing the intervention within the moderate effectiveness category. Although the improvement was not classified as high, the method successfully increased students' learning interest compared to their initial condition before the intervention. This improvement was further reinforced by the increase in the mean score from 48.53 (pretest) to 60.67 (posttest) and the statistically significant paired sample t-test result (Sig. 2-tailed < 0.05), indicating that the auditory-visual game method produced meaningful educational improvements in students' learning interest.

The moderate level of effectiveness can be interpreted theoretically through the concept of instructional effectiveness, which suggests that educational interventions rarely produce maximum improvements within a limited period of implementation. According to Slavin (2018), instructional effectiveness depends not only on the quality of the teaching method but also on learner characteristics, classroom conditions, teacher competence, and the duration of instructional exposure. In this study, the auditory-visual game method successfully transformed the learning environment into a more interactive and enjoyable setting; however, the experimental treatment was conducted within a relatively short period using a one-group pretest-posttest design involving only fifteen students. Consequently, although students demonstrated significant improvements in learning interest, the intervention had not yet reached the level required to produce high effectiveness. This finding indicates that educational innovation generally requires repeated implementation before generating optimal behavioral changes. Therefore, the moderate effectiveness identified in this research reflects realistic educational outcomes rather than limitations of the instructional method itself.

From the perspective of Mayer's Cognitive Theory of Multimedia Learning, the moderate effectiveness can also be explained through the gradual development of cognitive processing. Mayer (2001) proposes that multimedia learning becomes more effective when learners receive information simultaneously through visual and auditory channels, allowing working memory to process information more efficiently. The auditory-visual game method applied in this study integrated images, sound, video, and educational games, enabling students to receive information through multiple sensory channels rather than relying solely on verbal explanations. This multimedia presentation reduced cognitive overload and enhanced students' understanding while maintaining their attention throughout classroom activities. Nevertheless, multimedia learning primarily facilitates comprehension and engagement during instructional sessions. Sustained improvements in learning interest require repeated exposure to stimulating learning environments so that positive cognitive experiences gradually become long-term learning habits. Therefore, although multimedia instruction significantly improved students' learning interest, the moderate N-Gain score suggests that longer implementation periods would likely generate stronger cognitive and motivational outcomes (Mayer, 2001).

The findings are equally consistent with Game-Based Learning (GBL) theory, which emphasizes that educational games improve learning through meaningful interaction, enjoyment, challenge, and immediate feedback. Hermawan (2013) argues that games

transform students from passive recipients of information into active participants who construct knowledge through enjoyable experiences. Similarly, DePorter (2017) explains that meaningful learning occurs when students become emotionally involved in learning activities rather than merely listening to classroom explanations. During the implementation of the auditory-visual game method, students experienced collaborative activities, quizzes, audiovisual challenges, and immediate reinforcement after completing learning tasks. These experiences increased classroom participation, curiosity, and enthusiasm, thereby improving all four indicators of learning interest: enjoyment, attraction, attention, and participation. However, Game-Based Learning literature also recognizes that motivation develops progressively. Students require continuous exposure to interactive instructional experiences before high levels of intrinsic motivation become fully established. Consequently, the moderate effectiveness observed in this study represents an expected developmental stage within the process of cultivating long-term learning interest (Hermawan, 2013; DePorter, 2017).

Constructivist learning theory, particularly Vygotsky's social constructivism, provides another explanation for the moderate effectiveness level. Vygotsky emphasizes that learning occurs through active social interaction and collaborative problem-solving within the learner's Zone of Proximal Development. The auditory-visual game method created opportunities for students to discuss ideas, cooperate with classmates, respond to audiovisual stimuli, and solve educational challenges collectively. Such activities promoted meaningful engagement while encouraging students to construct understanding independently rather than memorizing information delivered by teachers. Nevertheless, constructivist theory also emphasizes that meaningful knowledge construction is cumulative and develops gradually through continuous interaction with increasingly complex learning experiences. Since the experimental intervention was limited in duration, students had only begun developing new patterns of active participation and collaborative learning. Consequently, while the intervention significantly improved learning interest, its effectiveness remained within the moderate category because deeper behavioral transformation generally requires sustained implementation over longer instructional periods (Vygotsky, as cited in Santrock, 2002).

The moderate effectiveness is further supported by motivational theories emphasizing intrinsic motivation. According to educational psychology, intrinsic motivation develops when learners consistently experience enjoyment, competence, autonomy, and meaningful achievement during learning activities. The auditory-visual game method successfully addressed these motivational components by presenting Christian Religious Education through enjoyable games, multimedia presentations, and interactive classroom participation. Students experienced immediate success through educational challenges and received positive reinforcement throughout the learning process, strengthening their confidence and willingness to engage in classroom activities. However, motivational theory also explains that intrinsic motivation is relatively stable only after repeated positive learning experiences. A single instructional intervention may successfully stimulate initial interest but may not

immediately produce enduring motivational changes. Therefore, the moderate N-Gain score reflects an important transitional phase in which students' motivation increased significantly but still requires continuous reinforcement through consistent implementation of engaging instructional strategies. This interpretation aligns with previous Game-Based Learning studies demonstrating that educational games gradually strengthen motivation and learning interest over time rather than producing instantaneous maximum outcomes (Aini, 2018; Agus, 2023).

Overall, the findings demonstrate that the auditory-visual game method achieved a moderate level of effectiveness in increasing students' learning interest in Christian Religious Education, as evidenced by an average N-Gain Score of 0.399 (39.9%). Theoretically, this level of effectiveness is consistent with multimedia learning theory, Game-Based Learning theory, constructivist learning theory, and motivational theory, all of which emphasize that meaningful educational change develops progressively through repeated active learning experiences. Although the intervention did not achieve a high effectiveness category, it significantly improved students' feelings of enjoyment, attraction, attention, and classroom participation compared with their initial learning conditions. These findings indicate that the auditory-visual game method is an appropriate pedagogical strategy for Christian Religious Education, particularly when implemented consistently over longer instructional periods to maximize students' intrinsic motivation and learning interest.

CONCLUSION

The study concludes that the application of the auditory-visual game method is effective in increasing students' interest in learning Christian Religious Education among Grade VIII.8 students at SMP Negeri 8 Palangka Raya. The effectiveness was confirmed by the paired sample t-test, which showed a significance value of less than 0.05, accompanied by an increase in the mean learning-interest score from 48.53 in the pretest to 60.67 in the posttest. Furthermore, the effectiveness level of the intervention was categorized as moderate, as indicated by an average N-Gain Score of 0.399 (39.9%). These findings demonstrate that integrating games with auditory and visual learning media successfully enhanced students' feelings of enjoyment, attraction, attention, and active participation during the learning process. The results also support multimedia learning theory, Game-Based Learning theory, constructivist learning theory, and motivational theory, all of which emphasize that meaningful, interactive, and student-centered learning experiences positively influence learning interest. Therefore, the auditory-visual game method can be considered an effective and innovative instructional strategy for improving students' learning interest in Christian Religious Education, particularly when implemented consistently over an extended period to achieve greater educational outcomes.

REFERENCES

Alamri, M. M. (2021). Students' academic achievement performance and satisfaction in a flipped classroom in Saudi Arabia. *International Journal of Technology Enhanced*

- Learning, 13(2), 153–170. <https://doi.org/10.1504/IJTEL.2021.114560>
- Al-Azawi, R., Al-Faliti, F., & Al-Blushi, M. (2021). Educational gamification versus game based learning: Comparative study. *International Journal of Innovation, Creativity and Change*, 15(3), 514–529.
- Hwang, G.-J., & Chien, S.-Y. (2022). Definition, roles, and potential of metaverse in education: A systematic review. *Computers and Education: Artificial Intelligence*, 3, 100082. <https://doi.org/10.1016/j.caeai.2022.100082>
- Khalil, M. K., & Elkhider, I. A. (2020). Applying learning theories and instructional design models for effective instruction. *Advances in Physiology Education*, 44(2), 147–156. <https://doi.org/10.1152/advan.00138.2019>
- Kurniawan, D., Suryani, N., & Prasetyo, Z. K. (2023). Student-centered learning implementation and its influence on student engagement in secondary education. *Journal of Education and Learning*, 17(1), 89–101.
- Mayer, R. E. (2021). *Multimedia learning* (3rd ed.). Cambridge University Press.
- Naidoo, M. (2021). *Contemporary issues in Christian education: Global perspectives*. Routledge.
- Plass, J. L., Mayer, R. E., & Homer, B. D. (Eds.). (2020). *Handbook of game-based learning*. The MIT Press.
- Putri, D. A., & Mulyadi, M. (2023). Learning interest as a predictor of student engagement and academic achievement in secondary schools. *Journal of Educational Research and Evaluation*, 7(2), 146–156.
- Sánchez-Mena, A., & Martí-Parreño, J. (2021). Drivers and barriers to adopting gamification in education: Teachers' perspectives. *Electronic Journal of e-Learning*, 19(5), 434–443.
- Susanto, H., Nugroho, A., & Wibowo, S. (2022). Learning motivation, learning interest, and academic performance among junior high school students. *International Journal of Instruction*, 15(4), 617–634.
- Tokac, U., Novak, E., & Thompson, C. G. (2022). Effects of game-based learning on students' mathematics achievement: A meta-analysis. *Journal of Computer Assisted Learning*, 38(2), 455–474. <https://doi.org/10.1111/jcal.12618>
- Vlachopoulos, D., & Makri, A. (2022). The effect of games and simulations on higher education: A systematic literature review. *International Journal of Educational Technology in Higher Education*, 19(1), Article 22. <https://doi.org/10.1186/s41239-022-00317-2>
- Agus, A. (2023). *Game-based learning in improving students' motivation and classroom engagement*. Yogyakarta: Deepublish.
- Aini, N. (2018). The influence of educational games on students' learning motivation. *Jurnal Pendidikan Indonesia*, 7(2), 112–121.
- Darmadi, H. (2017). *Pengembangan model dan metode pembelajaran dalam dinamika belajar siswa*. Yogyakarta: Deepublish.
- DePorter, B., Reardon, M., & Singer-Nourie, S. (2017). *Quantum teaching: Orchestrating student success*. Bandung: Kaifa.

- Hermawan, A. (2013). *Media pembelajaran berbasis permainan*. Bandung: Alfabeta.
- Mayer, R. E. (2001). *Multimedia learning*. Cambridge University Press.
- Santrock, J. W. (2002). *Life-span development* (8th ed.). New York, NY: McGraw-Hill.
- Slavin, R. E. (2018). *Educational psychology: Theory and practice* (12th ed.). Boston, MA: Pearson.
- Slameto. (2010). *Belajar dan faktor-faktor yang mempengaruhinya*. Jakarta: Rineka Cipta.