

The Contribution of Interactive Card Game-Based Learning Media in Stimulating Student Learning Motivation

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Abstract

Student learning motivation plays a crucial role in achieving successful learning outcomes, particularly in vocational education where theoretical knowledge must be integrated with practical competencies. However, theoretical instruction in the Basics of the Culinary Expertise Program is frequently delivered using conventional teacher-centered approaches, resulting in limited student participation and declining learning motivation. This study aimed to examine the relationship between the use of interactive card game learning media and the learning motivation of tenth-grade Culinary students at SMK Negeri 1 Pasaman. A quantitative correlational research design was employed involving all 65 students in the population through a total sampling technique. Data were collected using two structured Likert-scale questionnaires measuring the implementation of interactive card game learning media and students' learning motivation. The research instruments were validated and tested for reliability prior to data collection. Data were analyzed using descriptive statistics, the Shapiro Wilk normality test, the linearity test, Pearson Product Moment correlation analysis, and the coefficient of determination with the assistance of IBM SPSS Statistics version 25. The findings revealed that the implementation of interactive card game learning media was categorized as good (mean = 84.49), while students' learning motivation was categorized as high (mean = 87.83). Pearson correlation analysis demonstrated a positive and statistically significant relationship between the use of interactive card game learning media and learning motivation ($r = 0.664$, $p < 0.001$). Furthermore, the coefficient of determination indicated that interactive card game learning media explained 44.1% of the variance in students' learning motivation. These findings suggest that interactive card game learning media represent an effective instructional strategy for promoting active learning, strengthening student motivation, and improving the quality of learning management in vocational education.

Introduction

Education plays a fundamental role in developing high-quality human resources capable of adapting to rapid scientific, technological, and industrial advancements. The success of educational processes is influenced not only by curriculum design and teacher competence but also by the selection and implementation of effective learning media that facilitate meaningful learning experiences. Learning media serve as an essential bridge between teachers and

students by presenting information in a more engaging, understandable, and interactive manner. Well-designed instructional media can stimulate students' attention, improve knowledge retention, encourage active participation, and ultimately foster greater learning motivation (Hafiza et al., 2024; Meirani, 2021). Consequently, educators are increasingly encouraged to adopt innovative learning approaches that move beyond conventional teaching practices to create student-centered learning environments.

Vocational High Schools (Sekolah Menengah Kejuruan/SMK) have a strategic responsibility in preparing graduates with competencies that meet the demands of the labor market and industrial sectors. Unlike general education, vocational education emphasizes the integration of theoretical knowledge with practical skills, requiring students to master both conceptual understanding and technical competencies. In the Culinary Expertise Program, students are expected not only to develop cooking techniques but also to understand fundamental concepts such as food ingredients, nutrition, sanitation and hygiene, occupational safety and health, customer service, and food preparation management. Therefore, learning activities should be designed to encourage active engagement and sustained motivation so that students can effectively acquire both theoretical and practical competencies required in professional culinary settings (Putra, 2024).

Despite the importance of active learning in vocational education, classroom observations indicate that theoretical instruction in the Basics of the Culinary Expertise Program is still predominantly delivered through teacher-centered methods such as lectures and textbook-based explanations. Although these approaches remain useful for introducing fundamental concepts, they often limit opportunities for student interaction, exploration, and collaborative learning (Jiang et al., 2022; Mollick & Mollick, 2023; Pahi et al., 2024). As a result, many students become passive recipients of information, experience boredom during classroom activities, and demonstrate low enthusiasm for participating in discussions or problem-solving tasks. Such learning conditions may reduce students' intrinsic motivation and negatively affect their academic achievement as well as their readiness to apply theoretical knowledge in practical situations (Prasetyo, 2023; Ilahude et al., 2023).

Learning motivation is widely recognized as one of the most influential psychological factors affecting students' academic success. Motivation encourages students to initiate learning activities, maintain persistence when encountering challenges, and actively seek opportunities to improve their understanding. Highly motivated students tend to demonstrate greater curiosity, responsibility, confidence, and perseverance throughout the learning process, whereas students with low motivation often show limited participation, decreased concentration, and reduced academic performance (Harahap et al., 2021; Fernando et al., 2024). Furthermore, motivation serves as a driving force that enables students to transform learning experiences into meaningful knowledge and practical competencies. Therefore, improving learning motivation has become an important objective in educational innovation, particularly in vocational education where students are expected to master both cognitive and psychomotor skills (Maulana et al., 2025; Yusuf, 2024).

One instructional strategy that has attracted considerable attention in recent years is the implementation of game-based learning. This approach integrates educational content with game elements to create enjoyable, challenging, and interactive learning experiences (Hsbollah & Hassan, 2022; Zhao et al, 2022; Lampropoulos et al., 2023). Rather than functioning merely as entertainment, educational games encourage students to solve problems, collaborate with peers, communicate ideas, and receive immediate feedback during learning activities. These

characteristics make game-based learning particularly suitable for vocational education because it promotes active participation while simultaneously reinforcing conceptual understanding (Redy & Made, 2020; Putra et al., 2024). Among the various forms of game-based learning, card game learning media have emerged as practical and flexible instructional tools that can be adapted to different subjects and classroom conditions. Card games enable students to review concepts repeatedly through collaborative activities, thereby increasing classroom interaction and reducing the monotony frequently associated with conventional instruction (Sadiyah et al., 2023).

Previous empirical studies have consistently reported the educational benefits of card game-based learning media. Yulianti & Minsih (2022) found that educational card games significantly enhanced students' classroom participation and engagement by presenting learning materials in a more attractive and interactive format. Similarly, Isnania & Narulita (2023) demonstrated that quartet card media positively influenced both students' learning motivation and academic achievement in science education. Furthermore, Anggraeni et al. (2025) reported that Uno card-based learning media successfully improved students' motivation while strengthening conceptual understanding through collaborative and enjoyable classroom activities. Additional studies have also emphasized that game-based learning contributes to higher student engagement, promotes active learning behaviors, and supports meaningful knowledge construction across different educational settings (Hoerudin, 2023; Putra et al., 2024). These findings collectively suggest that integrating card game learning media into classroom instruction represents a promising strategy for increasing students' motivation and improving learning quality.

Although previous studies have demonstrated the effectiveness of educational card games in various disciplines, empirical evidence concerning their implementation in vocational culinary education remains relatively limited (Muthiyan et al., 2023; Tursyngozhayev et al., 2024; Rafiq et al., 2025). In particular, few studies have specifically examined the relationship between the use of interactive card game learning media and students' learning motivation in the Basics of the Culinary Expertise Program. Considering the unique characteristics of vocational education, further investigation is needed to determine whether similar positive outcomes can be achieved in culinary classrooms. Therefore, this study aims to analyze the level of implementation of card game learning media, identify the level of learning motivation among tenth-grade Culinary students at SMK Negeri 1 Pasaman, and examine the relationship between the use of card game learning media and students' learning motivation. The findings are expected to contribute to the development of innovative instructional strategies that enhance student engagement and strengthen the quality of vocational education.

Method

Research Design

This study employed a quantitative research approach using a correlational design to investigate the relationship between the use of interactive card game learning media and students' learning motivation. A quantitative approach was selected because it enables researchers to measure variables objectively through numerical data and perform statistical analyses to examine the strength and direction of relationships between variables (Muin, 2023). The correlational design was considered appropriate because the primary objective of this study was not to manipulate the learning process or establish causal effects, but rather to determine whether a statistically significant relationship exists between the implementation of card game learning media and the learning motivation of students. Through this approach, empirical

evidence was obtained regarding the extent to which variations in the use of interactive card game learning media are associated with variations in students' learning motivation (Sari et al., 2021).

The research was conducted at SMK Negeri 1 Pasaman, West Sumatra, Indonesia, during the even semester of the 2025/2026 academic year. The study focused on students enrolled in the tenth-grade Culinary Expertise Program because this course contains substantial theoretical content that often requires innovative instructional media to maintain students' engagement and motivation throughout the learning process.

Population and Sampling

The target population consisted of all tenth-grade students enrolled in the Culinary Expertise Program at SMK Negeri 1 Pasaman during the 2025/2026 academic year. The total population comprised 65 students distributed across the available classes within the program.

Considering the relatively small population size, this study employed a total sampling technique, whereby every member of the population was included as a research participant. Total sampling is appropriate when the entire accessible population can be observed without requiring sample selection, thereby minimizing sampling bias and increasing the representativeness of the findings. Consequently, all 65 students participated in the study, allowing the research findings to accurately represent the characteristics of the target population without the need for sampling estimation (Makbul, 2021).

Research Variables

This study involved two research variables. The independent variable (X) was the use of interactive card game learning media, while the dependent variable (Y) was students' learning motivation.

The independent variable referred to students' perceptions regarding the implementation of card game learning media during classroom instruction. This variable included indicators such as students' engagement with the learning media, attractiveness of the media, ease of use, clarity of instructional content, opportunities for interaction, and the ability of the media to create enjoyable learning experiences.

Meanwhile, the dependent variable represented students' learning motivation, defined as the internal and external drive that encourages students to actively participate, maintain persistence, demonstrate enthusiasm, and achieve learning objectives. The indicators of learning motivation included learning interest, learning persistence, participation during classroom activities, willingness to complete learning tasks, responsibility toward learning, and enthusiasm for achieving academic success.

Research Instrument

Data were collected using a structured questionnaire developed based on the operational indicators of each research variable. The questionnaire employed a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) to measure respondents' perceptions objectively.

The research instrument consisted of forty statement items, including twenty items measuring the use of interactive card game learning media and twenty items measuring students' learning motivation. Prior to data collection, the instrument underwent validity and reliability testing to

ensure that every statement accurately represented the intended construct and consistently measured the variables under investigation.

Item validity was evaluated using product-moment correlation analysis by comparing each item's correlation coefficient with the critical value at the predetermined significance level. Items with correlation coefficients exceeding the critical value were considered valid and retained in the questionnaire. Instrument reliability was subsequently assessed using Cronbach's Alpha coefficient. An instrument with a Cronbach's Alpha value greater than 0.70 was considered to possess satisfactory internal consistency, indicating that the questionnaire produced reliable and consistent measurements suitable for statistical analysis.

Data Collection Procedure

Data collection was conducted after obtaining permission from the school administration and coordinating with the subject teachers responsible for the Culinary Expertise Program. The questionnaires were administered directly to students during scheduled learning sessions.

Before completing the questionnaire, respondents received explanations regarding the objectives of the research, the voluntary nature of participation, and the confidentiality of their responses. Students were informed that the collected data would be used solely for academic research purposes and that their identities would remain anonymous throughout the research process. Respondents then completed the questionnaires independently under the supervision of the researcher to ensure that all items were answered completely and accurately. After all questionnaires were collected, the responses were coded and entered into IBM SPSS Statistics Version 25 for further statistical analysis.

Data Analysis

Data analysis was performed using IBM SPSS Statistics Version 25 through descriptive and inferential statistical procedures.

Descriptive statistics were first conducted to describe the characteristics of each research variable using the mean, median, standard deviation, minimum score, maximum score, percentage distribution, and category classification. This analysis provided an overview of the level of implementation of interactive card game learning media and the level of students' learning motivation.

Prior to hypothesis testing, the data were examined using prerequisite analyses to ensure compliance with the assumptions of parametric statistical testing. Data normality was evaluated using the Shapiro Wilk test because the sample size was fewer than 100 respondents. Data were considered normally distributed when the significance value exceeded 0.05. Subsequently, the linearity of the relationship between the independent and dependent variables was assessed using Analysis of Variance (ANOVA) for linearity. A significance value greater than 0.05 in the Deviation from Linearity test indicated that the relationship between variables was linear.

The research hypothesis was tested using the Pearson Product Moment correlation coefficient to determine both the strength and direction of the relationship between interactive card game learning media and students' learning motivation. The hypothesis was accepted when the significance value (p-value) was less than 0.05. Furthermore, the coefficient of determination (R^2) was calculated to determine the proportion of variance in students' learning motivation that could be explained by the use of interactive card game learning media. All statistical analyses were performed using a significance level of $\alpha = 0.05$.

Result and Discussion

This section presents the findings of the statistical analyses conducted to examine the relationship between the use of interactive card game learning media and students' learning motivation among tenth-grade Culinary students at SMK Negeri 1 Pasaman. The analysis consists of descriptive statistics, assumption testing (normality and linearity), Pearson Product Moment correlation analysis, and coefficient of determination analysis. These analyses provide empirical evidence regarding the characteristics of the research variables, the suitability of the data for parametric analysis, the strength and direction of the relationship between variables, and the contribution of card game learning media to students' learning motivation.

Table 1. Descriptive Statistics of Card Game Learning Media (X)

Statistic	Value
Mean	84.49
Median	90.00
Range	26
Standard Deviation	6.63
Minimum	74
Maximum	100

Source: Processed Research Data (2026)

Table 1 presents the descriptive statistics for the interactive card game learning media variable. The results indicate that students perceived the implementation of card game learning media positively, with a mean score of 84.49, suggesting that the learning media was utilized at a high level. The median value of 90.00 indicates that more than half of the respondents provided relatively high evaluations regarding the use of the learning media. The standard deviation of 6.63 demonstrates relatively low variability among respondents' responses, indicating that students generally shared similar perceptions. Furthermore, the observed scores ranged from 74 to 100, yielding a range of 26, which suggests that although individual perceptions differed slightly, the overall evaluation consistently reflected positive acceptance of the card game learning media. These findings indicate that the interactive card game was effectively implemented in classroom learning.

Table 2. Descriptive Statistics of Learning Motivation (Y)

Statistic	Value
Mean	87.83
Median	88.00
Range	26
Standard Deviation	6.53
Minimum	74
Maximum	100

Source: Processed Research Data (2026)

Table 2 summarizes the descriptive statistics for students' learning motivation. The mean score of 87.83 indicates that students generally possessed a high level of learning motivation during the learning process. The median value (88.00) closely approximates the mean, suggesting that the distribution of responses was relatively symmetrical. In addition, the standard deviation of

6.53 reflects low variability among respondents, implying that students' motivation levels were relatively consistent across the sample. Scores ranged from 74 to 100, indicating that the majority of respondents demonstrated strong motivation toward learning. Overall, these descriptive findings suggest that students exhibited favourable learning motivation during the implementation of card game learning media.

Table 3. Results of the Shapiro Wilk Normality Test

Variable	Shapiro–Wilk Statistic	df	Sig.
Card Game Learning Media	0.970	65	0.112
Learning Motivation	0.980	65	0.388

Source: Processed Data Using IBM SPSS Statistics Version 25 (2026)

The Shapiro Wilk test was conducted to examine whether the research data satisfied the normality assumption required for parametric statistical analysis. As presented in Table 3, the significance value for the card game learning media variable was 0.112, while the significance value for the learning motivation variable was 0.388. Since both significance values are greater than the predetermined significance level of 0.05, the null hypothesis of normality cannot be rejected. Therefore, both variables are normally distributed, indicating that the dataset satisfies the assumptions required for subsequent parametric analyses, including Pearson Product Moment correlation analysis.

Table 4. Results of the Linearity Test

Test	F	Sig.
Linearity	41.170	0.000
Deviation from Linearity	0.487	0.961

Source: Processed Data Using IBM SPSS Statistics Version 25 (2026)

The linearity test was performed to determine whether the relationship between the use of card game learning media and students' learning motivation follows a linear pattern. The significance value for Deviation from Linearity was 0.961, which exceeds the threshold of 0.05, indicating that no significant deviation from linearity exists. Furthermore, the significance value for the Linearity component was 0.000, demonstrating that the linear relationship between the variables is statistically significant. These findings confirm that the assumption of linearity has been satisfied, thereby supporting the application of Pearson Product Moment correlation analysis.

Table 5. Pearson Product Moment Correlation between Card Game Learning Media and Learning Motivation

Variables	r	Sig. (2-tailed)	N
Card Game Learning Media ↔ Learning Motivation	0.664	0.000	65

Source: Processed Data Using IBM SPSS Statistics Version 25 (2026)

The Pearson Product Moment correlation analysis revealed a correlation coefficient (r) of 0.664 with a significance value of 0.000. Because the probability value is lower than the significance level of 0.05, the null hypothesis is rejected, indicating a statistically significant relationship between the two variables. The positive coefficient demonstrates that increased implementation of interactive card game learning media is associated with higher levels of students' learning motivation. Based on commonly accepted correlation interpretation

guidelines, a coefficient of 0.664 represents a strong positive relationship, suggesting that the use of card game learning media plays an important role in encouraging students to become more motivated during classroom learning activities.

Table 6. Coefficient of Determination

Statistic	Value
Correlation Coefficient (R)	0.664
Coefficient of Determination (R ²)	0.441
Eta	0.742
Eta Squared	0.550

Source: Processed Data Using IBM SPSS Statistics Version 25 (2026)

The coefficient of determination analysis produced an R² value of 0.441, indicating that 44.1% of the variation in students' learning motivation can be explained by the use of interactive card game learning media. The remaining 55.9% of the variance is attributable to other variables not examined in the present study, such as students' intrinsic motivation, teacher instructional strategies, classroom environment, parental support, peer interaction, and other educational factors. This result suggests that although card game learning media is not the sole determinant of learning motivation, it represents a substantial contributing factor capable of enhancing students' motivation within the vocational learning environment. Overall, the findings demonstrate that the implementation of interactive card game learning media provides meaningful educational benefits by fostering a more engaging and motivating classroom atmosphere.

Interactive Card Game Learning Media as a Driver of Student Learning Motivation

The findings of this study provide important evidence that interactive card game learning media constitute more than an instructional innovation designed to increase classroom enjoyment; they represent a strategic pedagogical mechanism capable of fostering students' learning motivation within vocational education. The significant positive relationship identified between the implementation of card game learning media and learning motivation indicates that students respond more positively when instructional activities emphasize interaction, collaboration, and active knowledge construction rather than passive information transmission. In the context of vocational education, this finding is particularly meaningful because students are expected to develop conceptual understanding alongside practical competencies that require sustained engagement throughout the learning process. Traditional lecture-based instruction often positions students as passive recipients of information, limiting opportunities for interaction and reducing the perceived relevance of theoretical content. In contrast, interactive card game learning media restructure the classroom into a participatory learning environment where students are encouraged to communicate, negotiate meaning, solve problems collectively, and receive immediate feedback. Consequently, motivation emerges not simply because the instructional activities are enjoyable but because students become cognitively, emotionally, and behaviourally involved in meaningful learning experiences that increase their commitment to achieving instructional objectives (Reeve & Jang, 2022; Skinner et al., 2022; Al-Said, 2023).

The implications of these findings extend beyond the effectiveness of a particular learning medium to the broader management of instructional processes. Effective learning management requires teachers to organize classroom experiences that sustain students' attention while

simultaneously encouraging autonomy, collaboration, and continuous participation. Interactive card game learning media appear to satisfy these requirements by transforming theoretical learning into structured activities that require students to actively process information instead of memorizing content delivered by teachers. Such instructional conditions reduce classroom monotony and create opportunities for repeated interaction with learning materials, thereby strengthening students' confidence in mastering academic content. More importantly, the learning process becomes increasingly learner-centered, allowing students to assume greater responsibility for constructing their own understanding. This shift reflects contemporary educational management principles, which emphasize active engagement, collaborative learning, and student-centered instructional design as essential components of high-quality educational practice. Therefore, the contribution of interactive card game learning media should not be interpreted merely as an improvement in teaching techniques but rather as an effective strategy for managing learning experiences capable of sustaining students' motivation throughout vocational education.

From a broader educational perspective, the present findings reinforce the growing recognition that motivation is fundamentally shaped by instructional design rather than existing solely as an individual psychological characteristic. Students' willingness to participate, persist, and invest effort in learning develops when educational environments provide meaningful opportunities for exploration, interaction, and achievement. Interactive card game learning media facilitate these conditions by integrating academic content with collaborative activities that encourage continuous engagement and immediate reinforcement. Consequently, the educational value of the media lies not in the game itself but in its ability to transform classroom dynamics into environments where learning becomes socially interactive, intellectually stimulating, and professionally relevant (Alam & Mohanty, 2023; Vashishth et al., 2024; Zhou, 2025). For vocational institutions, this finding has strategic implications because preparing graduates for increasingly competitive industries requires instructional approaches that cultivate not only technical competence but also communication, teamwork, adaptability, and problem-solving abilities. Interactive card game learning media therefore represent an instructional innovation that simultaneously supports cognitive development, motivational enhancement, and the broader objectives of vocational education in preparing students for future professional environments (Fenezia & Armiami, 2025).

Interactive Card Game Learning Media as a Driver of Student Learning Motivation

The findings of this study provide compelling evidence that interactive card game learning media constitute a meaningful pedagogical strategy for enhancing students' learning motivation in vocational education. Rather than interpreting this finding merely as evidence that students prefer enjoyable classroom activities, the results should be understood from the broader perspective of instructional management, where learning motivation is shaped by the quality of learning experiences created by teachers. In vocational education, effective instruction extends beyond transferring knowledge; it requires learning environments that continuously encourage students to participate, collaborate, and construct knowledge actively. The significant relationship identified in this study suggests that interactive card game learning media successfully facilitate these conditions by transforming classroom interaction from teacher-centered knowledge transmission into student-centered knowledge construction (Mavroudi et al., 2022; Mutiara, 2025). Such transformation is particularly important within culinary education, where students must integrate theoretical understanding with practical competencies. Consequently, instructional media should no longer be viewed as supplementary

teaching aids but as strategic educational resources capable of supporting the achievement of instructional objectives through increased student engagement and participation.

The educational value of interactive card game learning media lies not simply in the incorporation of game elements but in their ability to redesign students' learning experiences. Conventional theoretical instruction frequently positions students as passive listeners, resulting in declining attention, limited classroom interaction, and reduced willingness to participate actively during learning activities. Interactive card games fundamentally alter these classroom dynamics by introducing collaborative tasks, immediate feedback, structured challenges, and opportunities for repeated interaction with learning content. These characteristics encourage students to become intellectually involved in solving problems while simultaneously fostering communication and teamwork among peers. As students become increasingly engaged in classroom activities, learning shifts from being perceived as an obligation toward becoming a meaningful process of exploration and discovery. This transition represents a critical dimension of effective learning management because sustained motivation develops when students perceive instructional activities as relevant, attainable, and personally valuable. Therefore, the contribution of card game learning media should be interpreted not merely as increasing classroom enjoyment but as strengthening the psychological conditions necessary for meaningful learning to occur.

Another important implication concerns the relationship between motivation and instructional quality. The findings indicate that motivation is not an isolated psychological characteristic residing exclusively within individual students but rather a dynamic educational outcome that develops through continuous interaction between learners and their instructional environment. Interactive card game learning media create learning situations in which students receive immediate reinforcement for their participation, collaborate in achieving shared learning objectives, and experience greater autonomy during classroom activities. Such learning conditions contribute to higher levels of confidence, persistence, and willingness to engage with increasingly complex learning tasks. More importantly, students become active contributors to classroom learning instead of functioning solely as recipients of teacher explanations. This finding suggests that educational innovation should focus less on adopting sophisticated instructional technologies and more on designing learning environments that maximize meaningful interaction. Schools frequently invest considerable resources in educational technology without fundamentally changing classroom pedagogy. The present findings demonstrate that relatively simple instructional innovations can generate substantial motivational benefits when they successfully reorganize learning experiences around active student participation rather than passive content delivery.

From the perspective of vocational education management, the present findings also carry broader implications regarding workforce preparation. Vocational institutions are expected to produce graduates possessing not only technical competencies but also transferable skills including communication, teamwork, critical thinking, adaptability, and collaborative problem-solving. These competencies cannot be developed effectively through passive instructional methods alone. Interactive card game learning media create authentic opportunities for students to negotiate ideas, justify decisions, exchange knowledge, and solve problems collectively, thereby supporting the simultaneous development of academic understanding and professional competencies. This dual contribution is particularly relevant in culinary education, where future employment requires individuals capable of functioning effectively within collaborative professional environments characterized by rapid decision-making and continuous interpersonal interaction. Consequently, the educational significance

of interactive learning media extends beyond improving immediate classroom motivation to supporting the broader mission of vocational education in preparing graduates for increasingly dynamic labor markets.

The findings further suggest that teachers should reconsider their instructional roles within contemporary vocational education. Rather than serving primarily as transmitters of knowledge, teachers increasingly function as learning designers responsible for organizing educational experiences that maximize students' engagement and participation. This shift requires teachers to move beyond conventional lecture-oriented approaches toward instructional strategies emphasizing interaction, collaboration, inquiry, and experiential learning. Interactive card game learning media provide one practical mechanism through which such transformation can be achieved because they encourage students to assume greater responsibility for their own learning while enabling teachers to facilitate rather than dominate classroom activities. Accordingly, improving learning motivation should not be viewed solely as an issue of student psychology but as an outcome of effective instructional leadership demonstrated within classroom practice. Educational innovation therefore depends not only on the availability of instructional media but also on teachers' capacity to integrate these resources into coherent pedagogical strategies aligned with curriculum objectives and students' learning needs.

Taken together, these findings contribute to the broader discourse on instructional innovation by demonstrating that the effectiveness of game-based learning is fundamentally determined by its capacity to improve the quality of educational interaction rather than by its novelty alone. Interactive card game learning media become valuable because they restructure classroom relationships, increase students' ownership of learning, and strengthen engagement with academic content throughout the instructional process. The findings therefore reinforce the proposition that sustainable improvements in learning motivation require educational institutions to prioritize learner-centered instructional management rather than relying exclusively on curriculum revision or technological investment. Within vocational education, where students' future professional competence depends heavily upon continuous engagement with both theoretical and practical learning, instructional media that promote meaningful participation should be regarded as strategic educational investments capable of enhancing not only students' motivation but also the overall quality of vocational learning outcomes.

Conclusion

This study concludes that the implementation of interactive card game learning media is positively associated with students' learning motivation among tenth-grade Culinary students at SMK Negeri 1 Pasaman. The findings demonstrate that interactive learning media contribute to creating a more engaging, participatory, and student-centered learning environment, enabling students to become actively involved in the learning process rather than remaining passive recipients of information. The contribution of card game learning media indicates that instructional innovation plays a meaningful role in enhancing learning motivation, although motivation is also influenced by various educational and contextual factors beyond the scope of this study. These findings highlight the importance of integrating innovative learning media into instructional management within vocational education to improve classroom engagement and support the development of students' academic and professional competencies. Therefore, teachers and school leaders should consider interactive game-based learning as part of broader instructional improvement strategies aimed at fostering sustainable student motivation and improving educational quality. Future research is recommended to employ experimental or

longitudinal designs involving larger and more diverse vocational education settings while incorporating additional variables, such as instructional quality, classroom climate, self-efficacy, and digital learning readiness, to obtain a more comprehensive understanding of the factors influencing students' learning motivation.

References

- Al-Said, K. (2023). Influence of teacher on student motivation: Opportunities to increase motivational factors during mobile learning. *Education and information technologies*, 28(10), 13439-13457. <https://doi.org/10.1007/s10639-023-11720-w>
- Alam, A., & Mohanty, A. (2023). Educational technology: Exploring the convergence of technology and pedagogy through mobility, interactivity, AI, and learning tools. *Cogent Engineering*, 10(2), 2283282. <https://doi.org/10.1080/23311916.2023.2283282>
- Anggraeni, R., Alamsyah, M. R. N., & Utami, F. P. (2025). Media Permainan Kartu Uno Untuk Meningkatkan Motivasi Belajar Dan Pemahaman Konsep Siswa Pada Materi Perubahan Lingkungan. *Didaktika Biologi: Jurnal Penelitian Pendidikan Biologi*, 9(1), 11-21. <https://doi.org/10.32502/didaktikabiologi.v9i1.202>
- Fenezia, F., & Armianti, A. (2025). The effectiveness of the team games tournament (TGT) cooperative learning model supported by digital interactive media: A systematic literature review. *Indonesian Journal of Education and Social Studies*, 4(3), 324-336.
- Fernando, Y., Andriani, P., & Syam, H. (2024). Pentingnya motivasi belajar dalam meningkatkan hasil belajar siswa. *ALFIHRIS: Jurnal Inspirasi Pendidikan*, 2(3), 61-68. <https://doi.org/10.59246/alfihris.v2i3.843>
- Hafiza, H., Fitriani, W. R., & Mariyani, T. (2024). Peningkatan kemampuan kognitif anak usia dini melalui berbagai macam media pembelajaran. *Abata: Jurnal Pendidikan Islam Anak Usia Dini*, 4(2), 154-167.
- Harahap, N. F., Anjani, D., & Sabrina, N. (2021). Analisis artikel metode motivasi dan fungsi motivasi belajar siswa. *Indonesian Journal of Intellectual Publication*, 1(3), 198-203. <https://doi.org/10.51577/ijipublication.v1i3.121>
- Hoerudin, C. W. (2023). Upaya Meningkatkan Motivasi Belajar Siswa Pada Pembelajaran Bahasa Indonesia Dengan Menggunakan Media Pembelajaran Kartu Huruf. *Jurnal Bakti Tahsinia*, 1(2), 89-99.
- Hsbollah, H. M., & Hassan, H. (2022). Creating meaningful learning experiences with active, fun, and technology elements in the problem-based learning approach and its implications. *Malaysian Journal of Learning and Instruction (MJLI)*, 19(1), 147-181. <https://doi.org/10.32890/mjli2022.19.1.6>
- Ilahude, N. M., Wantu, A., & Lukum, R. (2023). Faktor penghambat motivasi belajar siswa pada mata pelajaran PPKn di SMA Negeri 1 Popayato Kabupaten Pohuwato. *Jurnal Kewarganegaraan*, 7(2), 2294-2303. <https://doi.org/10.31316/jk.v7i2.5702>

- Isnania, H., & Narulita, E. (2023). Pengaruh penggunaan media kartu kuartet terhadap hasil dan motivasi belajar siswa SMP dalam pembelajaran IPA. *LENSA (Lentera Sains): Jurnal Pendidikan IPA*, 13(1), 39-46. <https://doi.org/10.24929/lensa.v13i1.295>
- Jiang, M. Y. C., Jong, M. S. Y., Lau, W. W. F., Chai, C. S., Liu, K. S. X., & Park, M. (2022). A scoping review on flipped classroom approach in language education: Challenges, implications and an interaction model. *Computer Assisted Language Learning*, 35(5-6), 1218-1249. <https://doi.org/10.1080/09588221.2020.1789171>
- Lampropoulos, G., Keramopoulos, E., Diamantaras, K., & Evangelidis, G. (2023). Integrating augmented reality, gamification, and serious games in computer science education. *Education Sciences*, 13(6), 618. <https://doi.org/10.3390/educsci13060618>
- Makbul, M. (2021). Metode pengumpulan data dan instrumen penelitian.
- Maulana, I., Husain, M. T., & Hanif, M. M. (2025). Peran Motivasi Intrinsik dan Ekstrinsik dalam Upaya Meningkatkan Minat Belajar Siswa. *Al-Ilmiya: Jurnal Pendidikan Islam*, 1(3), 746-750.
- Mavroudi, A., Almeida, T., Frennert, S., Laaksolahti, J., & Viberg, O. (2022). A card game for designing activities for technology-enhanced learning in higher education. *Education and Information Technologies*, 27(2), 2367-2383. <https://doi.org/10.1007/s10639-021-10668-z>
- Meirani, M. (2021). Analisis Penggunaan Jenis-Jenis Media Pembelajaran Untuk Meningkatkan Hasil Belajar Siswa Di SMP Negeri 15 Kota Bengkulu. *Jurnal Economic Edu*, 1(2).
- Mollick, E., & Mollick, L. (2023). Assigning AI: Seven approaches for students, with prompts. *arXiv preprint arXiv:2306.10052*. <https://doi.org/10.48550/arXiv.2306.10052>
- Muin, M. P. (2023). Metode penelitian kuantitatif.
- Muthiyan, G., Kasat, P., Vij, V., Solanki, R. S., Sontakke, B., & Solanki IV, R. S. (2023). Effectiveness of an innovative card game as a supplement for teaching factual content to medical students: a mixed method study. *Cureus*, 15(10).
- Mutiara, N. (2025). Interactive Card Game Media to Improving Understanding of The Prophet's Morals at SD Negeri Kuning Atas. *Journal of Indonesian Teacher Development and Reflection*, 1(2), 25-34. <https://doi.org/10.62945/jitdr.v1i2.226>
- Pahi, K., Hawlader, S., Hicks, E., Zaman, A., & Phan, V. (2024). Enhancing active learning through collaboration between human teachers and generative AI. *Computers and Education Open*, 6, 100183. <https://doi.org/10.1016/j.caeo.2024.100183>
- Prasetyo, Y. D. (2023). *Pengaruh Media Pembelajaran Terhadap Motivasi Belajar Siswa Sma Negeri 01 Anak Ratu Aji* (Doctoral dissertation, IAIN Metro).

- Putra, L. D., Arlinsyah, N. D., Ridho, F. R., Syafiqa, A. N., & Annisa, K. (2024). Pemanfaatan Wordwall pada Model Game Based Learning terhadap Digitalisasi Pendidikan Sekolah Dasar. *Jurnal Dimensi Pendidikan Dan Pembelajaran*, 12(1), 81-95. <https://doi.org/10.22373/pjp.v11i2.14133>
- Putra, P. A. N. (2024). Penerapan Pembelajaran Berbasis Permainan (Game-Based Learning) Pada Teori Konstruksi Bangunan. *Jurnal Salome: Multidisipliner Keilmuan*, 2(2), 813-818.
- Rafiq, R., Matthews, H., Abedalreza, D., Yahya, F., & Jones, M. A. (2025). Card games are effective tools to enhance foundation year health and safety inductions. *FEBS Open bio*, 15(12), 2080-2095. <https://doi.org/10.1002/2211-5463.70140>
- Redy Winatha, K., & Made Dedy Setiawan, I. (2020). Pengaruh Game-Based Learning Terhadap Motivasi dan Prestasi Belajar The Effect Of Game-Based Learning Towards The Learning Motivation And Achievement. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, 10(3), 198–206.
- Reeve, J., & Jang, H. (2022). Agentic engagement. In *Handbook of research on student engagement* (pp. 95-107). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-07853-8_5
- Sadiyah, S., Maspupah, M., & Yuliawati, A. (2023). Kemampuan Berpikir Kritis Siswa menggunakan Model Pembelajaran Game-Based Learning (GBL) Berbantu Wordwall pada Materi Ekosistem. *Bioedutech: Jurnal Biologi, Pendidikan Biologi, Dan Teknologi Kesehatan*, 2(2), 130-140.
- Sari, W. N., Murtono, M., & Ismaya, E. A. (2021). Peran guru dalam meningkatkan motivasi dan minat belajar siswa kelas V SDN tambahmulyo 1. *Jurnal Inovasi Penelitian*, 1(11), 2255-2262.
- Skinner, E. A., Kindermann, T. A., Vollet, J. W., & Rickert, N. P. (2022). Complex Social Ecologies and the Development of Academic Motivation: Complex Social Ecologies of Motivational Development. *Educational Psychology Review*, 34(4), 2129-2165. <https://doi.org/10.1007/s10648-022-09714-0>
- Tursyngozhayev, K., Kavak, N., & Akhmetov, N. K. (2024). Enhancing chemistry education for students through a novel card game: Compound Chain. *Journal of Chemical Education*, 101(3), 1367-1372. <https://doi.org/10.1021/acs.jchemed.3c00983>
- Vashishth, T. K., Sharma, V., Sharma, K. K., Kumar, B., Chaudhary, S., & Panwar, R. (2024). Transforming classroom dynamics: The social impact of AI in teaching and learning. In *AI-enhanced teaching methods* (pp. 322-346). IGI Global Scientific Publishing.
- Yulianti, D., & Minsih, M. (2022). Pengembangan media pembelajaran kartu pak alam berbasis game edukatif IPS di Sekolah Dasar. *Jurnal Basicedu*, 6(3), 5086-5096.
- Yusuf, M. A. (2024). Motivasi dalam Organisasi; Pengertian Motivasi dan Proses Motivasi; Teori-Teori Motivasi; Penerapan Motivasi dalam Organisasi; Motivasi dan Kinerja. *MUTAADDIB: Islamic Education Journal*, 2(2), 1-24.

- Zhao, D., Muntean, C. H., Chis, A. E., Rozinaj, G., & Muntean, G. M. (2022). Game-based learning: Enhancing student experience, knowledge gain, and usability in higher education programming courses. *IEEE transactions on education*, 65(4), 502-513.
- Zhou, H. (2025). Exploring the dynamic teaching-learning relationship in interactive learning environments. *Interactive learning environments*, 33(7), 4363-4393.
<https://doi.org/10.1080/10494820.2025.2462149>