

The Effectiveness of Icebreakers Using The Quizizz Mastery-Peak Mode Platform to Enhance PAI Learning Motivation at SMPN 2 Mantup

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Abstract: This study was conducted at SMPN 2 Mantup and aimed to evaluate the effectiveness of interactive digital platform-based icebreakers using Quizizz Mastery-Peak Mode in enhancing students' learning motivation in Islamic Religious Education (PAI). The study employed a quantitative approach using a quasi-experimental method. The research design involved two groups, with Class VII E as the experimental group and Class VII D as the control group, each consisting of 33 students. Students' learning motivation data were collected using a questionnaire based on Keller's ARCS (Attention, Relevance, Confidence, Satisfaction) theory and were analyzed using a paired-sample t-test to examine differences in learning motivation before and after the intervention. The research results show a significant increase in learning motivation in the experimental group, marked by an average score increase from 48.09 in the pre-test to 52.03 in the post-test ($p=0.000$). The effect size calculation (Cohen's $d = 0.496$) indicates a medium impact, demonstrating the substantive contribution of this method. The integration of icebreakers and Quizizz proved to create a more dynamic learning atmosphere, increase engagement, and enrich the learning experience. Nevertheless, challenges such as limited internet access need to be considered. Consistent implementation, varied activities, and supportive learning environments are key to the long-term sustainability of positive impacts. This study recommends further exploration on a larger scale to verify the robustness of the effect and provide a comprehensive overview of the contribution of this learning innovation to PAI learning.

Keywords: Ice Breaking, Islamic Religious Education, Learning Motivation, Quizizz Mastery-Peak Mode.

Abstrak: Penelitian ini dilaksanakan di SMPN 2 Mantup dan bertujuan untuk mengevaluasi efektivitas penggunaan ice breaking berbasis platform digital interaktif melalui Quizizz Mode Mastery-Peak dalam meningkatkan motivasi belajar Pendidikan Agama Islam (PAI) siswa. Penelitian ini menggunakan pendekatan kuantitatif dengan metode kuasi eksperimen. Desain penelitian melibatkan dua kelompok, yaitu kelas VII E sebagai kelompok eksperimen dan kelas VII D sebagai kelompok kontrol, dengan jumlah responden masing-

masing 33 siswa. Data motivasi belajar siswa dikumpulkan menggunakan angket berbasis teori ARCS (Attention, Relevance, Confidence, Satisfaction) dari Keller, kemudian dianalisis menggunakan uji paired-sample t-test untuk mengetahui perbedaan motivasi belajar sebelum dan sesudah perlakuan. Hasil penelitian menunjukkan peningkatan motivasi belajar yang signifikan pada kelompok eksperimen, ditandai dengan kenaikan skor rata-rata dari 48,09 pada *pre-test* menjadi 52,03 pada *post-test* ($p=0,000$). Perhitungan *effect size* (Cohen's $d = 0.496$) mengindikasikan dampak sedang, menunjukkan kontribusi substantif metode ini. Integrasi *ice breaking* dan Quizizz terbukti menciptakan suasana belajar yang lebih dinamis, meningkatkan keterlibatan, dan memperkaya pengalaman belajar. Meskipun demikian, tantangan seperti keterbatasan akses internet perlu diperhatikan. Konsistensi penerapan, variasi aktivitas, dan dukungan lingkungan belajar menjadi kunci untuk keberlanjutan dampak positif dalam jangka panjang. Penelitian ini merekomendasikan eksplorasi lebih lanjut dengan skala yang lebih besar untuk memverifikasi ketahanan efek dan memberikan gambaran komprehensif mengenai kontribusi inovasi pembelajaran ini terhadap pembelajaran PAI.

Kata Kunci: *Ice Breaking*, Motivasi Belajar, Pendidikan Agama Islam, Quizizz Mode Mastery-Peak

Introduction

Learning motivation serves as a crucial factor and a primary determinant within the global educational process. It is defined as an internal or external drive that compels individuals to engage actively in learning activities and to persist in achieving specific academic goals.¹ Etymologically, "motivation" comes from the Latin word "movere," meaning "to move." In educational psychology, learning motivation refers to the overall driving force within students that not only initiates learning activities but also ensures their continuity and provides direction to these activities.² When students possess a high level of interest in a subject, their cognitive capacity to master the material increases linearly.³ Student success is highly influenced by this

¹ Wilda Deliana Harahap and Herman Nirwana, "Building Motivation In Learning For Academic Success," *Journal Of Psychology, Counseling and Education* 2, no. 1 (2024): 22–30.

² Harbeng Masni, "Strategi Meningkatkan Motivasi Belajar Mahasiswa," *Jurnal Ilmiah Dikdaya* 5, no. 1 (2017): 34–45.

³ Amna Emda, "Kedudukan Motivasi Belajar Siswa Dalam Pembelajaran," *Lantanida Journal* 5, no. 2 (2018): 172–82; Yosua Damas Sadewo and Pebria Dheni Purnasari, "Peningkatan Hasil Belajar dan Self Efficacy

motivation, as a strong desire to learn encourages the achievement of optimal results.⁴

However, in the context of Islamic Religious Education (PAI), significant instructional challenges are frequently encountered. PAI learning in secondary schools is often trapped in a dogmatic and textual delivery of "knowledge about Islam." The reliance on monotonous, lecture-based models has proven ineffective in meeting the psychological needs of modern students and fails to awaken their intrinsic interest. This condition creates a risk of declining motivation toward PAI subjects, where religious lessons are viewed as a burden of memorization rather than a dynamic life guide.⁵

One strategy that can be used to overcome boredom and increase student engagement in learning is the application of icebreakers.⁶ Icebreakers are short, light activities conducted at the beginning, middle, or end of a lesson to lighten the atmosphere, boost enthusiasm, and enhance student attention to the material being or about to be learned.⁷

In the context of PAI learning, icebreakers play a vital role in bridging the transition from a passive to an active and responsive psychological state in students.⁸ Creatively designed icebreaker activities not only help create a positive learning environment but can also improve social interaction, reduce anxiety, and open up opportunities for active student participation.⁹

Siswa Melalui Model Pembelajaran Carousel Feedback dan Showdown pada Mata Pelajaran Kewirausahaan (Studi Kasus Pada SMA Negeri 1 Bengkayang)," *Sebatik* 23, no. 2 (2019): 522–27.

⁴ Sunarti Rahman, "Pentingnya Motivasi Belajar dalam Meningkatkan Hasil Belajar," in *Prosiding Seminar Nasional Pendidikan Dasar*, 2022.

⁵ Rifa Nur Fauziyah, "Strategi Guru dalam Menerapkan Pembelajaran Aktif Inovatif Kreatif Efektif dan Menyenangkan (PAIKEM) pada Pembelajaran Pendidikan Agama Islam di SDN X Astanaanyar Kota Bandung," *Jurnal Riset Pendidikan Agama Islam*, 2021, 120–26.

⁶ Indrawati Noor Kamila et al., "Upaya Meningkatkan Konsentrasi Belajar Anak Melalui Ice Breaking," *Jurnal Penelitian Tindakan Kelas* 3, no. 1 (2023).

⁷ Parulian Siregar, "Pemanfaatan Ice Breaking dalam Proses Pembelajaran Hidup Bersih di Tempat Bermain Pada Siswa Madrasah Ibtidaiyah," *Al-Madrasah: Jurnal Ilmiah Pendidikan Madrasah Ibtidaiyah* 8, no. 2 (2024): 683–93.

⁸ Rifka Nur Amalina, "Upaya Guru dalam Meningkatkan Minat Belajar Pendidikan Agama Islam Melalui Metode Ice Breaking Siswa Kelas II SDN Negeri 002 Bontang Selatan Tahun Pembelajaran 2022/2023," *Nabawi: Jurnal Penelitian Pendidikan Islam* 2, no. 1 (2024): 49–64.

⁹ May Muna Harianja and Sapri Sapri, "Implementasi dan Manfaat Ice Breaking untuk Meningkatkan Minat Belajar Siswa Sekolah Dasar," *Jurnal*

Therefore, integrating icebreakers with digital platforms can be a strategic approach to align students' emotional and intellectual needs for meaningful and enjoyable Islamic religious learning.

In today's digital era, efforts to increase students' learning motivation require an innovative approach, including selecting the right learning model and utilizing interesting media.¹⁰ Technological advancements offer various solutions to facilitate educators and enrich students' learning experiences. One effective way is to leverage technology to create more interactive and enjoyable learning, for instance, through interactive quizzes.¹¹

In this regard, Quizizz emerges as an interactive quiz-game based learning platform specifically designed to boost student learning motivation by making the learning process fun and competitive.¹² Gamification theory emphasizes that game elements are not merely for entertainment but serve as tools to enhance cognitive engagement by creating a challenging yet enjoyable atmosphere.¹³ Quizizz allows students to interact directly with the material through various question formats that include images, sounds, and animations.¹⁴ This platform accommodates diverse learning styles through features such as multiple-choice, matching, drag-and-drop, short answers,

Basicedu 6, no. 1 SE-Articles (January 28, 2022): 1324–30, <https://doi.org/10.31004/basicedu.v6i1.2298>.

¹⁰ Alifia Nisa Maghfiroh, Muhammad Ferelian El Hilaly Daksana, and Siti Nikhlatus Salma, "Efektivitas Penggunaan Media Pembelajaran Interaktif dalam Pembelajaran Matematika di Sekolah Dasar," *Griya Journal of Mathematics Education and Application* 4, no. 1 (2024): 55–64.

¹¹ Rukmana Rukmana et al., "Memperkuat Literasi Teknologi Melalui Pembelajaran Interaktif dengan Menggunakan Media Kahoot Di Kelas V Sekolah Dasar," *Madaniya* 5, no. 3 (2024): 790–96.

¹² Muhammad Reza Ilham Al Asrory, Maskuri Maskuri, and Dian Mohammad Hakim, "Implementasi Aplikasi Quizizz dalam Meningkatkan Motivasi Belajar Peserta Didik pada Mata Pelajaran Pendidikan Agama Islam," *Vicratina: Jurnal Ilmiah Keagamaan* 9, no. 4 (2024): 52–65.

¹³ Sebastian Deterding et al., "From Game Design Elements to Gamefulness: Defining" Gamification", in *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*, 2011, 9–15; Savira Rahmania, Irma Soraya, and Asep Saepul Hamdani, "Pemanfaatan Gamification Quizizz Terhadap Motivasi Belajar Siswa pada Mata Pelajaran Pendidikan Agama Islam," *Tadbir: Jurnal Manajemen Pendidikan Islam* 11, no. 2 (2023): 114–33.

¹⁴ Radit Pakudu, "Development Of Interactive Learning Media Based On Quizizz Games," *Journal of Education and Culture (JEaC)* 4, no. 1 (2024): 56–83.

audio/video responses, surveys, and even presentation slides.¹⁵ Quizizz's scoring system and instant reward delivery have also proven to increase student appeal and enthusiasm for learning.¹⁶

The integration of icebreakers and the utilization of the Quizizz platform, particularly with its Mastery-Peak Mode feature, offers a strong synergy for PAI learning. Traditional icebreakers play a role in creating a conducive atmosphere in the learning process, but Quizizz can extend the effect of "breaking the ice" and continuously increase engagement. The Mastery-Peak Mode feature in Quizizz is designed to encourage deep conceptual mastery through progressive challenges. This isn't just a quick quiz; it's an experience that requires students to truly understand the material to reach the "peak" of mastery. Through this mode, Quizizz functions as a more substantive and continuous form of icebreaker that can maintain and even enhance students' PAI learning motivation.

Based on this background, this study aims to examine the effectiveness of icebreakers using the Quizizz Mastery-Peak Mode platform in increasing PAI learning motivation at SMPN 2 Mantup. Based on the description above, the research question for this study is: How effective are interactive digital platform-based icebreakers via Quizizz Mastery-Peak Mode on the learning motivation of Islamic Religious Education students at SMPN 2 Mantup. It is hoped that this strategy will not only significantly increase student learning motivation but also enrich and deepen their understanding of Islamic religious subject matter through a more interactive and enjoyable approach.

Method

This study employed a quantitative approach with a quasi-experimental design. The subjects of this research were seventh-grade students at SMPN 2 Mantup Lamongan. Class VII E was designated as the experimental group, receiving treatment in the form of PAI (Islamic Religious Education) learning using icebreakers based on the Quizizz Mastery-Peak Mode platform. Meanwhile, Class VII D served as the control group, participating in learning without this specific treatment. Each class consisted of 33 students. This study aimed to measure students' learning motivation after the treatment was administered.

¹⁵ M Dio Rizkiansyah, "Pengembangan Instrumen Penilaian Berbasis HOTS Menggunakan Aplikasi Quizizz pada Pembelajaran PAI Fase E" (UIN Ar-Raniry Banda Aceh, 2024).

¹⁶ Yohanes Dwi Saputro and Muji Lestari, "Evaluasi Penggunaan Quizizz untuk Meningkatkan Motivasi Belajar Peserta Didik," *Journal of Informatics and Vocational Education* 5, no. 2 (2022).

The primary instrument in this study was a student learning motivation questionnaire developed based on John Keller's ARCS (Attention, Relevance, Confidence, Satisfaction) motivation theory. Students completed a questionnaire containing 12 statements, with 3 questions for each ARCS indicator. Students responded using a Likert scale with options: strongly agree, agree, slightly disagree, disagree, and strongly disagree. Scores were assigned to each answer: strongly agree=5, agree=4, slightly disagree=3, disagree=2, and strongly disagree=1. The total learning motivation score for each student was obtained by summing the scores from all questionnaire items. The validity and reliability of the instrument were tested by experts, namely Jiphie Gilia Indriyani and Dian Candrarini Novita Sari, before data collection. Data were analyzed using a paired-sample t-test to determine significant differences between the experimental and control groups after the treatment was administered.

Result and Discussion

Table 1. Normality Test

Motivasi_Pra Pembelajaran	Kelas	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
	Kelas_Kontrol	0.169	33	0.018	0.948	33	0.116
	Kelas_Eksperimen	0.081	33	0.200*	0.983	33	0.871

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on Table 1, the results of the Shapiro-Wilk normality test indicate that the motivation data in the control group had a significance (Sig.) of 0.116. For the experimental group, the Shapiro-Wilk test yielded a Sig. value of 0.871. Since both significance values are greater than 0.05, we can conclude that the motivation data in both classes are normally distributed.

Furthermore, the homogeneity test (Levene Test) results show a Sig. value of 0.074 > 0.05, meaning both groups have homogeneous variances and originate from the same population. As the assumptions of normality and homogeneity have been met, a parametric paired-sample t-test can be performed.

Table 2. Results of Paired Sample t-test for the Experimental Class

		Paired Differences					t	f	ig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Motivasi_Pra_Eksp erimen - Motivasi_Post_Eks perimen	-3.939	5.825	1.014	-6.005	-1.874	-3.885	32	0.000

Based on Table 2, the paired-samples t-test revealed a significant increase in student learning motivation in the experimental group after the implementation of icebreakers based on the Quizizz Mastery-Peak mode platform. A comparative analysis between the scores before treatment and after treatment yielded a mean difference of -3.939 with a two-tailed significance (p) of 0.000 (df = 32). This indicates that the difference is statistically significant ($p < 0.05$). These results confirm that the interactive icebreaking method using Quizizz Mastery-Peak mode made a tangible contribution to improving student learning motivation.

Tablel 3. Descriptive Statistics for the Experimental Class

		Mean	N	Std. Dev.	Std. Error Mean
Pair 1	Motivasi_Pra_Eksperi men	48.09	33	6.420	1.117
	Motivasi_Post_Eksperi men	52.03	33	5.411	0.942

Based on Table 3, the average student motivation score increased from 48.09 (before treatment) to 52.03 (after treatment). This rise indicates a positive shift in student motivation levels after the implementation of interactive digital platform-based icebreakers.

To visualize this improvement more clearly, the graph below illustrates the comparison of average student motivation scores before and after the treatment.

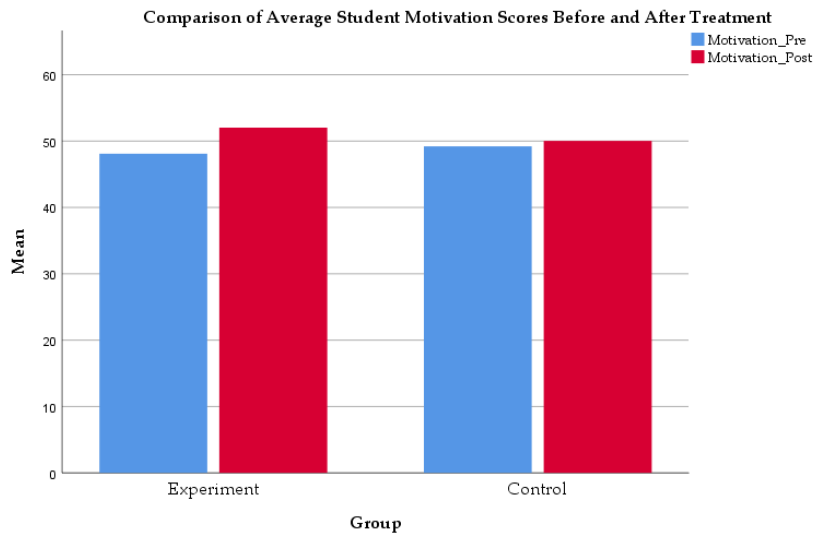


Figure 1. Comparison of Average Student Learning Motivation Scores (Pre- and Post-Treatment)

The chart above illustrates a consistent upward trend in learning motivation following the implementation of icebreakers and Quizizz. This increase is not only statistically significant ($p=0.000$) but also clearly visible from the comparison of average scores. Furthermore, it's important to quantify the effect size of this treatment. Based on the Cohen's d calculation, a value of $d=0.496$ was obtained, indicating a medium effect. This means that the use of Quizizz-based icebreakers had a substantive and meaningful impact on increasing student learning motivation, going beyond mere statistical significance.

Table 4. Results of Paired Sample t-test for the Control Class

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Motivasi_Pra_Kontrol - Motivasi_Post_Kontrol	0.818	2.811	0.489	1.815	0.179	1.672	2	0.104

On the other hand, in the control group, which did not receive the icebreaking treatment (see Table 4), no significant difference was found between learning motivation levels before and after the lesson ($p = 0.104$; $df=32$). A paired-samples analysis showed that the comparison between (Motivation_Pre_Control) and (Motivation_Post_Control) yielded a mean difference of -0.818 with a significance (2-tailed) of 0.104. Since the p-value is greater than 0.05, it can be concluded that there was no significant change in student learning motivation in the control group. This result supports the assumption that the interactive icebreaking intervention made a tangible contribution to improving student learning motivation.

This research aimed to evaluate the effectiveness of implementing interactive digital platform-based icebreakers via Quizizz Mastery-Peak Mode in boosting students' learning motivation in Islamic Religious Education (PAI) at SMPN 2 Mantup. Based on the paired-samples t-test analysis, a significant increase in learning motivation was observed, marked by an average score rise from 48.09 in the pre-test to 52.03 in the post-test (mean difference = -3.939, $p = 0.000$ with $df = 32$). These findings confirm that interactive icebreaking treatment using Quizizz had a significant positive impact on students' learning motivation. Statistically, these results indicate that the difference between pre-test and post-test scores meets the standards of quantitative analysis using a paired samples t-test; therefore, the observed change in learning motivation can be considered empirically significant rather than mere statistical coincidence.

The research results indicate that using digital icebreakers not only created a more lively and enjoyable learning atmosphere but also fundamentally enhances student engagement and readiness to absorb material. Icebreakers played a role in loosening up the classroom atmosphere

and reducing psychological barriers or awkwardness among students, making them more open to active participation. In the context of educational research, creating such a conducive environment is crucial to ensuring the internal validity of a learning intervention.¹⁷

Furthermore, interaction through Quizizz Mastery-Peak Mode provided positive stimuli through gamification elements such as challenges, immediate feedback, and healthy competition, which encouraged students to pursue gradual mastery of the material. The Mastery-Peak feature specifically encourages students to pursue material mastery gradually through a repetition system that is challenging yet non-intimidating. This finding aligns with the principle that integrating digital platforms in education should actively enhance student engagement and support data-driven instruction within modern classroom environments.¹⁸ The combination of these two strategies not only boosted motivation but also enriches students' overall cognitive and affective experiences.

When analyzed through the lens of Keller's ARCS Motivation Theory, the findings of this study demonstrate that the Quizizz-based learning environment comprehensively addresses four critical components of student motivation. This alignment is not merely coincidental but reflects a deliberate instructional design that caters to the psychological needs of secondary school students in a digital age.

First, the Attention (A) aspect is successfully captured through the sensory-rich interface of Quizizz. The platform utilizes vibrant visualizations, dynamic animations, and engaging auditory cues that trigger "perceptual arousal." For students at SMPN 2 Mantup, this initial sensory engagement is vital to break the monotony of traditional religious education. By capturing student focus from the very first second of the session, the digital icebreaker prevents cognitive drifting and ensures that students are mentally present for the subsequent material. As emphasized by research, capturing a subject's attention is the prerequisite for any meaningful data-driven instruction and long-term memory retention.¹⁹

Second, the Relevance (R) component is established by bridging the gap between the PAI curriculum and the daily lived experiences of "digital native" students. Relevance in this study is not just about the content of the

¹⁷ R. Burke Johnson and Cristensen Larry, *Educational Research Quantitative, Qualitative, and Mixed Approaches (Fifth Edition)* (SAGE Publications, Inc, 2014).

¹⁸ Paul D. Leedy and Jeanne Ellis Ormrod, *Practical Research: Planning and Design, Eleventh Edition* (Pearson Education, 2016).

¹⁹ Leedy and Ormrod.

Islamic lessons, but the *delivery mechanism* itself. When students use their devices to interact with religious concepts through a gamified platform, the material loses its "archaic" stigma and becomes personally significant. This connection demonstrates to students that religious values are compatible with modern technological fluency, thereby fostering a deeper sense of purpose in their learning journey.

Third, Confidence (C) is cultivated through the "Mastery-Peak" mechanism of immediate feedback. In traditional settings, students often wait days to receive feedback on their understanding, which can lead to persistent misconceptions and decreased self-esteem. In contrast, Quizizz provides an instantaneous feedback loop that allows students to identify their errors and correct them in real-time. This iterative process is crucial for building self-efficacy, as students realize that mastery is an attainable goal through persistence. The "Mastery" aspect ensures that students do not feel overwhelmed by difficulty but are instead empowered by their own incremental progress.

Finally, Satisfaction (S) is achieved through the structured reward system inherent in the Mastery-Peak Mode. As students navigate through challenges to reach the "peak," they experience a profound sense of emotional fulfillment and intrinsic reward. This feeling of accomplishment is amplified by the healthy competitive atmosphere of the leaderboard, where effort is visibly recognized. Satisfaction ensures that the motivation generated is not a one-time occurrence but a sustainable drive that encourages students to look forward to future PAI lessons.

These research findings are consistent with previous studies emphasizing the effectiveness of technology in the classroom. For instance, Ali et al. (2024), Rafiee et al. (2020), and Rahmania et al. (2023) showed that applications gamification like Quizizz can enhance student motivation by providing enjoyable challenges, encouraging good concept understanding, and offering healthy competition and direct feedback.²⁰ Similarly, Srimuliyani (2023) found that gamification can reduce boredom and increase students'

²⁰ Aisyah Ali et al., *Media Pembelajaran Interaktif: Teori Komprehensif Dan Pengembangan Media Pembelajaran Interaktif di Sekolah Dasar* (PT. Sonpedia Publishing Indonesia, 2024); Jamian Rafiee, Zainal Abidin Nurul Hafizah, and Arsad Roslah, "Analisis Deskriptif Bagi Penggunaan Aplikasi Quizizz Ke Atas Guru Dalam Penilaian Prestasi Murid Bagi Subjek Matematik/Rafiee Jamian, Nurul Hafizah Zainal Abidin and Roslah Arsad," *Mathematical Sciences and Informatics Journal (MIJ)* 1, no. 2 (2020): 87–97; Savira Rahmania, Irma Soraya, and Asep Saepul Hamdani, "Pemanfaatan Gamification Quizizz Terhadap Motivasi Belajar Siswa pada Mata Pelajaran Pendidikan Agama Islam," *Tadbir: Jurnal Manajemen Pendidikan Islam* 11, no. 2 (2023): 114–33.

desire to learn more.²¹ In the context of PAI learning, technology can facilitate material comprehension, make learning more engaging, and increase student involvement.²² Thus, the results of this study not only support previous findings but also strengthen the empirical evidence regarding the effectiveness of gamification in enhancing learning motivation, particularly in the context of Islamic Religious Education.

Although the research results demonstrate a significant positive impact on student motivation, it is crucial to analyze the contextual factors that contributed to these findings. A key element driving the success of this program is the enthusiasm and capability of the teacher in implementing Quizizz-based icebreakers. The role of the teacher in modern education has transformed from a mere purveyor of information to a dynamic facilitator of digital learning. The teacher's skill in managing classroom rhythm, facilitating interactive activities, and optimizing Quizizz features—particularly in providing verbal feedback during quiz transitions—profoundly influences the level of student cognitive engagement.²³ As emphasized in research design literature, the characteristics of the intervention implementer (the teacher) often serve as a variable that determines whether a method can yield consistent results.²⁴

Conversely, infrastructure challenges and technological readiness within the school emerged as significant inhibiting factors.²⁵ Based on field observations at SMPN 2 Mantup, it was found that reliance on the school's

²¹ Srimuliyani, "Menggunakan Teknik Gamifikasi untuk Meningkatkan Pembelajaran dan Keterlibatan Siswa di Kelas," *Educare: Jurnal Pendidikan Dan Kesehatan* 1, no. 1 (2023): 29–35.

²² Muaddyl Akhyar et al., "Implementasi Kepemimpinan Guru PAI dalam Meningkatkan Motivasi Belajar Siswa Melalui Pemanfaatan Teknologi di Era Digital," *Al Qalam: Jurnal Ilmiah Keagamaan Dan Kemasyarakatan* 18, no. 6 (2024): 4234–48; Asriani Alimuddin et al., "Teknologi dalam Pendidikan: Membantu Siswa Beradaptasi dengan Revolusi Industri 4.0," 2023; Fira Fira et al., "Meningkatkan Keterlibatan Siswa Melalui Teknologi Pendidikan: Tinjauan Sistematis," in *Seminar Nasional Paedagogia*, vol. 4, 2024, 1–13.

²³ Muldiyana Nugraha, "Manajemen Kelas dalam Meningkatkan Proses Pembelajaran," *Tarbawi: Jurnal Keilmuan Manajemen Pendidikan* 4, no. 01 (2018): 27–44; Muh Putra Pratama, "Quizizz Sebagai Media Evaluasi Pembelajaran Mata Kuliah Dasar-Dasar Komputer," *Prosiding Universitas Kristen Indonesia Toraja* 2, no. 1 (2022): 76–82.

²⁴ Vicki L Plano Clark and John W Creswell, *Understanding Research: A Consumer's Guide*, Second Edi (Pearson Education, 2014).

²⁵ Melda Hasna, "Digitalisasi Pengelolaan Sekolah Dasar Negeri Kota Banjarmasin: Tinjauan Analisis SWOT dalam Strategi Pengembangan Sekolah Digital," *Jurnal Pendidikan Modern* 10, no. 1 (2024): 32–42.

Wi-Fi network became a critical vulnerability. Fluctuating signal quality and the fact that not all students possess adequate personal devices or internet access are constraints that can distort the learning experience. In digital-based learning, network latency is not merely a technical issue but a psychological barrier that can break the motivational momentum being built within the students.

These infrastructure limitations indicate that the effectiveness of gamified learning methods cannot stand alone; it must be supported by a reliable technological ecosystem. Without adequate infrastructural readiness, the vast potential of interactive platforms like Quizizz will not be optimally accommodated. Therefore, the synergy between teacher pedagogical competence and the availability of digital facilities is important for the sustainability of PAI learning innovation in the future.

Ensuring the sustainability of the significant positive impact on student learning motivation is crucial, given the fluctuating nature of motivation. Strategies to maintain this long-term include the teacher's consistency in regularly applying methods like icebreakers and Quizizz, varying activities to keep students enthusiastic, and providing adequate learning environment support—both from the school's technological infrastructure and positive encouragement from parents at home.

The success of this innovation opens opportunities for developing other broader interactive learning methods. Overall, the use of icebreakers based on Quizizz Mastery-Peak Mode proved effective in creating a dynamic and enjoyable learning atmosphere, encouraging active participation, and increasing student motivation, ultimately contributing positively to academic achievement in Islamic Religious Education.

Conclusion

The use of icebreakers based on the Quizizz Mastery-Peak Mode platform has proven effective in increasing student learning motivation in Islamic Religious Education at SMPN 2 Mantup Lamongan. This is evidenced by a significant increase in learning motivation in the experimental class after receiving the treatment, whereas the control class showed no substantial change. Although the comparison between groups (experimental vs. control) did not yet show a statistically significant difference, these results still indicate that interactive technology-based learning can foster higher learning motivation and able to fulfill the ARCS (Attention, Relevance, Confidence, Satisfaction) motivational components more optimally than conventional methods. Therefore, the integration of digital media like Quizizz needs to be optimized in learning activities, especially in the context of PAI learning, which requires creative and enjoyable approaches. Further research is

recommended on a larger scale and with long-term evaluation to provide a comprehensive overview of this method's contribution compared to other strategies.

Bibliography

- Akhyar, Muaddy1, Junaidi Junaidi, Supriadi Supriadi, Susanda Febriani, and Ramadhoni Aulia Gusli. "Implementasi Kepemimpinan Guru PAI dalam Meningkatkan Motivasi Belajar Siswa Melalui Pemanfaatan Teknologi di Era Digital." *Al Qalam: Jurnal Ilmiah Keagamaan Dan Kemasyarakatan* 18, no. 6 (2024): 4234–48.
- Ali, Aisyah, Lidwina Cornelia Maniboey, Ruth Megawati, Catur Fathonah Djarwo, and Hanida Listiani. *Media Pembelajaran Interaktif: Teori Komprehensif Dan Pengembangan Media Pembelajaran Interaktif Di Sekolah Dasar*. PT. Sonpedia Publishing Indonesia, 2024.
- Alimuddin, Asriani, Justin Niaga Siman Juntak, R Jusnita, Indri Murniawaty, and Hilda Yunita Wono. "Teknologi dalam Pendidikan: Membantu Siswa Beradaptasi dengan Revolusi Industri 4.0," 2023.
- Amalina, Rifka Nur. "Upaya Guru dalam Meningkatkan Minat Belajar Pendidikan Agama Islam Melalui Metode Ice Breaking Siswa Kelas II SDN Negeri 002 Bontang Selatan Tahun Pembelajaran 2022/2023." *Nabawi: Jurnal Penelitian Pendidikan Islam* 2, no. 1 (2024): 49–64.
- Asrory, Muhammad Reza Ilham Al, Maskuri Maskuri, and Dian Mohammad Hakim. "Implementasi Aplikasi Quizizz dalam Meningkatkan Motivasi Belajar Peserta Didik Pada Mata Pelajaran Pendidikan Agama Islam." *Vicratina: Jurnal Ilmiah Keagamaan* 9, no. 4 (2024): 52–65.
- Clark, Vicki L Plano, and John W Creswell. *Understanding Research: A Consumer 's Guide*. Second Edi. Pearson Education, 2014.
- Deterding, Sebastian, Dan Dixon, Rilla Khaled, and Lennart Nacke. "From Game Design Elements to Gamefulness: Defining" Gamification"." In *Proceedings of the 15th International Academic MindTrek Conference: Envionisioning Future Media Environments*, 9–15, 2011.
- Emda, Amna. "Kedudukan Motivasi Belajar Siswa Dalam Pembelajaran." *Lantanida Journal* 5, no. 2 (2018): 172–82.
- Fauziyah, Rifa Nur. "Strategi Guru dalam Menerapkan Pembelajaran Aktif Inovatif Kreatif Efektif dan Menyenangkan (PAIKEM) Pada Pembelajaran Pendidikan Agama Islam Di SDN X Astanaanyar Kota Bandung." *Jurnal Riset Pendidikan Agama Islam*, 2021, 120–26.
- Fira, Fira, Ilham Ilham, Rima Rahmania, Irwandi Irwandi, and Muhammad Hudri. "Meningkatkan Keterlibatan Siswa Melalui Teknologi Pendidikan: Tinjauan Sistematis." In *Seminar Nasional Paedagoria*, 4:1–

13, 2024.

- Harahap, Wilda Deliana, and Herman Nirwana. "Building Motivation In Learning For Academic Success." *Journal Of Psychology, Counseling And Education* 2, no. 1 (2024): 22–30.
- Harianja, May Muna, and Sapri Sapri. "Implementasi dan Manfaat Ice Breaking untuk Meningkatkan Minat Belajar Siswa Sekolah Dasar." *Jurnal Basicedu* 6, no. 1 SE-Articles (January 28, 2022): 1324–30. <https://doi.org/10.31004/basicedu.v6i1.2298>.
- Hasna, Melda. "Digitalisasi Pengelolaan Sekolah Dasar Negeri Kota Banjarmasin: Tinjauan Analisis SWOT Dalam Strategi Pengembangan Sekolah Digital." *Jurnal Pendidikan Modern* 10, no. 1 (2024): 32–42.
- Johnson, R. Burke, and Cristensen Larry. *Educational Research Quantitative, Qualitative, and Mixed Approaches (Fifth Edition)*. SAGE Publications, Inc, 2014.
- Kamila, Indrawati Noor, Soni Samsu Rizal, Fanny Fauzy Hanifunni'am, Ega Zahra Inaya, and Nungki Dwi Agustin. "Upaya Meningkatkan Konsentrasi Belajar Anak Melalui Ice Breaking." *Jurnal Penelitian Tindakan Kelas* 3, no. 1 (2023).
- Leedy, Paul D, and Jeanne Ellis Ormrod. *Practical Research Planning and Design Eleventh Edition*. Pearson Education, 2016.
- Maghfiroh, Alifia Nisa, Muhammad Ferelien El Hilaly Daksana, and Siti Nikhlatus Salma. "Efektivitas Penggunaan Media Pembelajaran Interaktif dalam Pembelajaran Matematika di Sekolah Dasar." *Griya Journal of Mathematics Education and Application* 4, no. 1 (2024): 55–64.
- Masni, Harbeng. "Strategi Meningkatkan Motivasi Belajar Mahasiswa." *Jurnal Ilmiah Dikdaya* 5, no. 1 (2017): 34–45.
- Nugraha, Muldiyana. "Manajemen Kelas dalam Meningkatkan Proses Pembelajaran." *Tarbawi: Jurnal Keilmuan Manajemen Pendidikan* 4, no. 01 (2018): 27–44.
- Pakudu, Radit. "Development Of Interactive Learning Media Based On Quizizz Games." *Journal of Education and Culture (JEaC)* 4, no. 1 (2024): 56–83.
- Pratama, Muh Putra. "Quizizz Sebagai Media Evaluasi Pembelajaran Mata Kuliah Dasar-Dasar Komputer." *Prosiding Universitas Kristen Indonesia Toraja* 2, no. 1 (2022): 76–82.
- Rafiee, Jamian, Zainal Abidin Nurul Hafizah, and Arsad Roslah. "Analisis Deskriptif Bagi Penggunaan Aplikasi Quizizz Ke Atas Guru Dalam Penilaian Prestasi Murid Bagi Subjek Matematik/Rafiee Jamian, Nurul Hafizah Zainal Abidin Dan Roslah Arsad." *Mathematical Sciences and Informatics Journal (MIJ)* 1, no. 2 (2020): 87–97.

- Rahman, Sunarti. "Pentingnya Motivasi Belajar Dalam Meningkatkan Hasil Belajar." In *Prosiding Seminar Nasional Pendidikan Dasar*, 2022.
- Rahmania, Savira, Irma Soraya, and Asep Saepul Hamdani. "Pemanfaatan Gamification Quizizz Terhadap Motivasi Belajar Siswa pada Mata Pelajaran Pendidikan Agama Islam." *Tadbir: Jurnal Manajemen Pendidikan Islam* 11, no. 2 (2023): 114–33.
- Rizkiansyah, M Dio. "Pengembangan Instrumen Penilaian Berbasis HOTS Menggunakan Aplikasi Quizizz pada Pembelajaran PAI Fase E." UIN Ar-Raniry Banda Aceh, 2024.
- Rukmana, Rukmana, Husni Wakhyudin, Nuruliarsih Nuruliarsih, and Mira Azizah. "Memperkuat Literasi Teknologi Melalui Pembelajaran Interaktif dengan Menggunakan Media Kahoot di Kelas V Sekolah Dasar." *Madaniya* 5, no. 3 (2024): 790–96.
- Sadewo, Yosua Damas, and Pebria Dheni Purnasari. "Peningkatan Hasil Belajar dan Self Efficacy Siswa Melalui Model Pembelajaran Carousel Feedback dan Showdown pada Mata Pelajaran Kewirausahaan (Studi Kasus Pada SMA Negeri 1 Bengkayang)." *Sebatik* 23, no. 2 (2019): 522–27.
- Saputro, Yohanes Dwi, and Muji Lestari. "Evaluasi Penggunaan Quizizz untuk Meningkatkan Motivasi Belajar Peserta Didik." *Journal of Informatics and Vocational Education* 5, no. 2 (2022).
- Siregar, Parulian. "Pemanfaatan Ice Breaking dalam Proses Pembelajaran Hidup Bersih di Tempat Bermain pada Siswa Madrasah Ibtidaiyah." *Al-Madrasah: Jurnal Ilmiah Pendidikan Madrasah Ibtidaiyah* 8, no. 2 (2024): 683–93.
- Srimuliyani, Srimuliyani. "Menggunakan Teknik Gamifikasi untuk Meningkatkan Pembelajaran dan Keterlibatan Siswa Di Kelas." *Educare: Jurnal Pendidikan Dan Kesehatan* 1, no. 1 (2023): 29–35.