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The Effect of Educational Games on Generation Z Students' Interest in Fiqih Learning

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Abstract

Educational games offer an interactive approach to Fiqh instruction that may enhance students' engagement and interest in learning; however, comparative empirical evidence remains limited. This study examined the effect of educational game-based instruction on seventh-grade students' interest in learning Fiqh at MTs Negeri 2 Banyuwangi. A quasi-experimental pretest–posttest control group design was employed with 60 students from two classes selected through cluster random sampling, comprising 30 students in the experimental group and 30 in the control group. The experimental group received educational game-based Fiqh instruction for eight sessions, while the control group received conventional instruction. Learning interest was measured using a validated Likert-scale questionnaire with satisfactory internal consistency (Cronbach's α = .822). The experimental group's mean score increased from 46.06 to 67.23 (gain = 21.17), compared with an increase from 44.06 to 46.76 (gain = 2.70) in the control group. The posttest difference between groups was statistically significant ($t = 15.117$, $p < .001$). These findings indicate that educational game-based instruction was associated with substantially greater learning interest than conventional instruction within the study context. Nevertheless, the findings should be interpreted cautiously because the study involved only two intact classes from a single school and did not fully account for potential class-level and learning-environment differences.

Keywords: *Educational games, Fiqh learning, Learning interest, Quasi-experimental study, Seventh-grade students.*

I. INTRODUCTION

The rapid development of digital technology has transformed how students access information and interact with learning resources. Students growing up in digitally mediated environments are increasingly exposed to interactive media, creating new challenges for schools to provide learning experiences that sustain attention and engagement. Although Generation Z is often characterized as technologically oriented and inclined toward visual and interactive learning, such characteristics should not be generalized to all students. Learning interest remains shaped by individual characteristics, instructional quality, classroom environment, and teacher practices (Seituni & Isriyah, 2025; Urba et al., 2024).

This issue is particularly relevant to Fiqh learning, which requires students not only to understand concepts but also to recognize the application of Islamic law in everyday life. Instruction dominated by textual explanation, memorization, and one-way communication may limit students' opportunities to engage actively with the content. Learning interest, however, is dynamic rather than fixed and may vary according to the relevance of the material, instructional strategies, and interactions experienced during learning.

One approach that may facilitate greater student involvement is the use of educational games. Educational games integrate instructional objectives with game elements such as challenges, immediate feedback, points, rewards, and interactive activities. These features can provide opportunities for active participation while giving students immediate responses to their learning activities. Within Islamic Religious Education, educational games can therefore function as a pedagogical strategy rather than merely entertainment, supporting attention and participation without reducing the academic and religious substance of the content (Abdillah et al., 2024; Sujiah, 2025).

Previous studies have reported the potential of digital technologies and gamification in Islamic Religious Education to support student engagement, motivation, and learning experiences. However, much of the existing literature has addressed technology or gamification within Islamic Religious Education more broadly and has primarily focused on motivation, engagement, digital literacy, or academic achievement. Comparative evidence specifically examining students' interest in learning Fiqh under educational game-based and conventional instructional conditions remains limited.

This gap is important because an increase in scores following educational game-based instruction alone does not establish whether the observed change exceeds that which might occur under conventional instruction. Accordingly, this study employed a quasi-experimental pretest–posttest control group design to compare changes in learning interest between students receiving educational game-based Fiqh instruction and those receiving conventional instruction. Learning interest was conceptualized using the ARCS framework, encompassing attention, relevance, confidence, and satisfaction, thereby providing a structured basis for examining students' responses to the two instructional conditions.

Therefore, this study aimed to examine changes in seventh-grade students' interest in learning Fiqh at MTs Negeri 2 Banyuwangi following educational game-based instruction and to compare these changes with those observed under conventional instruction. Specifically, the study examined within-group changes from pretest to posttest and between-group differences in learning interest. By focusing on Fiqh, using learning interest as the primary outcome, and incorporating both pre-intervention measurement and a comparison group, the study seeks to provide more focused empirical evidence regarding the potential contribution of educational games to interactive Fiqh instruction.

II. METHOD

This study employed a quantitative quasi-experimental pretest–posttest control group design to compare changes in students' interest in learning Fiqh between educational game-based and conventional instruction. The population comprised 169 seventh-grade students at MTs Negeri 2 Banyuwangi during the 2025/2026 academic year. Two intact classes were selected through cluster random sampling, with Class VII A assigned as the experimental group (n = 30) and Class VII B as the control group (n = 30), resulting in a total sample of 60 students. Because randomization occurred at the class rather than individual level, the study retained its quasi-experimental character.

The intervention was conducted over four weeks, comprising two meetings per week for a total of eight instructional sessions. The experimental group received Fiqh instruction incorporating educational games for approximately 20–30 minutes during the exploration and reinforcement stages of each session. In contrast, the control group received conventional instruction consisting of lectures, question-and-answer activities, and assignments. Both groups completed a pretest before the intervention and a posttest after the eight instructional sessions.

Students' learning interest was measured using a 20-item questionnaire based on the four dimensions of the ARCS framework: Attention, Relevance, Confidence, and Satisfaction. Responses were recorded on a four-point Likert scale. Content validity was evaluated through expert judgment, while empirical item validity was examined using Pearson product–moment correlations. All items met the specified validity criteria, and the instrument demonstrated satisfactory internal consistency (Cronbach's $\alpha = .822$).

Data were analyzed using IBM SPSS Statistics. The assumptions of normality and homogeneity of variance were assessed using the Shapiro–Wilk test and Levene's test, respectively. A paired-samples t-test was used to examine pretest–posttest changes within each group, while an independent-samples t-test was used to compare the groups. Cohen's d was additionally calculated to quantify the magnitude of the observed differences, allowing the interpretation of practical effect size alongside statistical significance.

III. RESULTS AND DISCUSSION

A. Results

The quasi-experimental study involved 60 seventh-grade students, comprising 30 students in the experimental group (Class VII A) and 30 in the control group (Class VII B). Learning interest

was measured using the 20-item ARCS-based questionnaire covering Attention, Relevance, Confidence, and Satisfaction. All 20 items exceeded the validity criterion (r > .361), and the instrument demonstrated satisfactory internal consistency (Cronbach's α = .822). Before hypothesis testing, the assumptions of normality and homogeneity of variance were examined. The Shapiro–Wilk results are presented in Table 1.

Table 1. Normality Test for Learning Interest Scores

Group	Measurement	N	Shapiro–Wilk	*p*	Interpretation
Experimental	Pretest	30	0.936	.070	Normal
Experimental	Posttest	30	0.961	.336	Normal
Control	Pretest	30	0.932	.055	Normal
Control	Posttest	30	0.971	.566	Normal

All Shapiro–Wilk tests were nonsignificant (p > .05), indicating no evidence of substantial departures from normality. Homogeneity of posttest variances was subsequently examined using Levene's test.

Table 2. Homogeneity of Variance Test

Variable	Levene Statistic	df1	df2	*p*	Interpretation
Posttest Learning Interest	1.777	1	58	.188	Homogeneous

Levene's test was nonsignificant (p = .188), supporting the assumption of homogeneity of variance for the posttest comparison. The descriptive statistics for both groups are presented in Table 3.

Table 3. Descriptive Statistics for Learning Interest Scores

Group	Measurement	N	Mean	SD	Mean Gain
Experimental	Pretest	30	46.06	6.64	—
Experimental	Posttest	30	67.23	6.03	21.17
Control	Pretest	30	44.06	5.08	—
Control	Posttest	30	46.76	4.31	2.70

The experimental group showed a substantial increase in mean learning interest, from 46.06 to 67.23, corresponding to a mean gain of 21.17 points. The control group also increased, but to a considerably smaller extent, from 44.06 to 46.76, with a mean gain of 2.70 points. Thus, descriptively, the increase observed in the educational game group was substantially greater than that in the conventional-instruction group. Within-group changes were examined using paired-samples t-tests, as presented in Table 4.

Table 4. Paired-Samples t-Test Results

Group	Mean Difference	*t*	df	*p*	Cohen's *d*	Interpretation
Experimental (Pre–Post)	−21.166	16.555	29	< .001	3.023	Significant
Control (Pre–Post)	−2.700	6.772	29	< .001	1.236	Significant

Both groups demonstrated statistically significant pretest–posttest changes (p < .001). However, the magnitude of change was considerably larger in the experimental group (Cohen's d = 3.023) than in the control group (Cohen's d = 1.236). These within-group findings indicate substantial improvement in the experimental condition, although comparison of separate within-group significance tests alone is insufficient to establish a between-group intervention effect. The posttest scores were therefore compared directly using an independent-samples t-test.

Table 5. Independent-Samples t-Test for Posttest Learning Interest

Variable	*t*	df	*p*	Mean Difference	Cohen's *d*	Interpretation
Posttest Learning Interest	15.117	58	< .001	20.47	3.903	Significant

The posttest comparison showed a statistically significant difference between the experimental and control groups, t(58) = 15.117, p < .001, with the experimental group scoring 20.47 points higher on average. The reported effect size was very large (Cohen's d = 3.903),

indicating a substantial between-group difference within the study sample. Taken together with the descriptive gains, these findings show that students receiving educational game-based Fiqh instruction exhibited markedly higher post-intervention learning interest than those receiving conventional instruction.

Nevertheless, the findings should be interpreted within the quasi-experimental design. Because the intervention was implemented in two intact classes, factors such as teacher enthusiasm, classroom management, teacher–student interaction, and differences in classroom atmosphere could not be fully controlled. Accordingly, the observed between-group difference provides evidence consistent with a beneficial contribution of educational game-based instruction, but it should not be attributed exclusively to the educational games without considering these potential class-level influences.

B. Discussion

The findings demonstrate a marked difference in the development of students' interest in learning Fiqh across the two instructional conditions. The experimental group increased from 46.06 to 67.23 (gain = 21.17), whereas the control group increased from 44.06 to 46.76 (gain = 2.70). Although both groups showed statistically significant within-group improvement, the substantially larger increase in the experimental group suggests that educational game-based instruction provided additional conditions that supported students' learning interest. Interactive and visually engaging activities, immediate feedback, and opportunities for active participation may have contributed to this pattern, consistent with previous studies emphasizing the relevance of interactive learning environments for digitally accustomed students (Maddu et al., 2025).

The educational games used in Fiqh instruction incorporated interactive activities, challenges, feedback, and game elements intended to sustain students' participation. Such features can support the Attention, Relevance, Confidence, and Satisfaction dimensions underlying the ARCS framework used in this study. Interactive presentation may capture attention, contextualized Fiqh activities may strengthen perceived relevance, successful completion of learning tasks may support confidence, and immediate feedback or recognition may contribute to satisfaction. This interpretation is consistent with Nasution et al. (2025), who reported that gamification elements can strengthen students' motivation and engagement. The classroom observations also indicated greater participation and enthusiasm in the experimental group, providing contextual support for the quantitative findings.

The between-group analysis further showed that the experimental group achieved a significantly higher posttest score than the control group, $t(58) = 15.117$, $p < .001$, with a mean difference of 20.47 points. The reported Cohen's $d = 3.903$ indicates a very large difference between the two groups within the study sample. These findings are consistent with previous research suggesting that educational games can create more interactive learning experiences than predominantly teacher-directed instruction (Norvaizi & Iqbal, 2025; Supriadi et al., 2025). In Fiqh learning, interactive quizzes, simulations, and immediate feedback may provide students with opportunities to engage with religious concepts and practices more actively rather than receiving information primarily through verbal explanation.

The control group nevertheless demonstrated a statistically significant increase of 2.70 points, indicating that conventional instruction was also accompanied by some improvement in learning interest. Therefore, the findings should not be interpreted as indicating that conventional Fiqh instruction is ineffective. Rather, the substantially larger descriptive gain and posttest score in the experimental group suggest that integrating educational games may provide additional support for student interest. This is particularly relevant when digital activities are connected meaningfully to Fiqh content rather than used merely as entertainment (Kurniasih & Arhan, 2025; Sujiah, 2025).

Despite the very large observed effect size, a strictly causal interpretation is not warranted. The study involved only two intact classes, and class-level factors such as teacher enthusiasm, classroom management, teacher–student interaction, and classroom atmosphere were not fully controlled. Moreover, the posttest comparison does not completely account for the initial mean difference between the groups. Thus, the findings provide strong evidence of an association

between educational game-based instruction and greater learning interest within the studied classes, rather than definitive evidence that the educational games alone produced the observed difference. Future studies involving multiple classes and schools, stronger control of instructional conditions, and analyses that explicitly adjust for baseline scores could provide more robust evidence regarding the contribution of educational games to students' interest in learning Fiqh.

IV. CONCLUSION

This study showed that students receiving educational game-based Fiqh instruction demonstrated a substantially greater increase in learning interest than those receiving conventional instruction. The experimental group recorded a mean increase of 21.17 points, compared with 2.70 points in the control group, and the posttest difference between the groups was statistically significant, $t(58) = 15.117$, $p < .001$. These findings suggest that educational game-based instruction was associated with greater interest in learning Fiqh within the study sample and may provide a useful alternative for creating more interactive learning experiences. However, the findings should be interpreted within the study context because only two intact classes from a single school were involved, while potential class-level and learning-environment factors were not fully controlled. Future research should include more diverse samples across multiple schools and employ stronger experimental designs with appropriate baseline adjustment to examine whether these findings remain consistent across different Fiqh learning contexts.

CONFLICT OF INTEREST

The authors declare that there are no financial, professional, or personal relationships that could have influenced the design, implementation, interpretation, or reporting of this study.

AUTHOR CONTRIBUTIONS

Nana Shafira Nurrizki: *conceptualization, literature review, research implementation, data collection, data analysis, and preparation of the original manuscript.* ***Irfan Afandi:*** *research supervision, methodological guidance, interpretation of findings, and critical review of the manuscript.* ***Al Muftiyah:*** *theoretical guidance, research supervision, interpretation of results, and substantive revision of the manuscript. All authors reviewed and approved the final version of the manuscript.*

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DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

Generative artificial intelligence tools were used only to assist with language refinement, proofreading, and improvement of the manuscript's clarity and readability. AI tools were not used to generate or alter research data, perform statistical analyses, or determine the study findings and conclusions. All AI-assisted revisions were critically reviewed and verified by the authors, who assume full responsibility for the accuracy, originality, and integrity of the final manuscript.

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