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The Impact of the 5E Learning Cycle Model on Students' Motivation in Islamic Education

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A B S T R A C T

This research investigates the effectiveness of the 5E Learning Cycle instructional model in improving students' learning outcomes and academic engagement motivation in Islamic Religious Education at SMP Negeri 11 Bandar Lampung. The research was conducted in response to preliminary findings indicating low levels of student motivation, particularly in intrinsic learning drive, which reached only 18%. A quasi-experimental posttest-only control group design was employed, involving two randomly selected Grade VII classes: an experimental group taught using the Learning Cycle 5E model and a control group receiving conventional instruction. The research instrument was a structured learning motivation questionnaire initially consisting of 15 items. Following the validity analysis, 10 items met the required criteria and were retained for further analysis. The reliability test conducted on these valid items yielded a Cronbach's Alpha coefficient of 0.704, indicating an acceptable level of internal consistency. Accordingly, this reliability coefficient is consistently reported throughout the manuscript to ensure methodological clarity and avoid interpretative bias. Data were analyzed using tests of normality, homogeneity, and an independent sample t-test. The results revealed a statistically significant difference between the experimental and control groups ($p < 0.05$), indicating that the Learning Cycle 5E model effectively improved students' learning motivation. Notable improvements were observed in enthusiasm, responsibility, independence, and active engagement. This research provides empirical evidence supporting the effectiveness of the 5E instructional model in enhancing the quality of the learning process and improving students' academic engagement Islamic Religious Education beyond science-based instruction.

Keywords
Learning Cycle 5E, learning motivation, Islamic Religious Education, innovative learning, junior high school students

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1. INTRODUCTION

Learning motivation constitutes a fundamental factor in determining students' success within the learning process. According to Wlodkowski and Jaynes, motivation represents an internal process that stimulates learners' enthusiasm, directs their efforts toward goal attainment, and fosters self-development (Ardiansyah 2021; Henny Dh, et al. 2023; Hidayati

et al. 2022; Nainggolan et al. 2024; Sari et al. 2025). Maryam M. Hammad emphasizes three core components of motivation (energy, emotion, and goals) that shape learners' learning behavior (Sabrina et al. 2022). Motivation is also reflected in characteristics such as perseverance, independence, self-confidence, attentiveness, and responsibility (Habbah & Sari 2023). This view aligns with Kurnia's assertion that motivation functions as a driving force that directs and regulates students' learning efforts (Bayhaqi et al. 2024; Hapsari et al. 2024; Kurnia et al. 2024). Therefore, motivation not only serves as a driving force but also acts as a guiding mechanism in shaping effective and sustainable learning behavior (Alsa et al. 2021; Muharam et al. 2025).

Ideal learning is a student-centered process in which learners are actively engaged, think creatively, and learn in an enjoyable environment. Learning is not solely oriented toward the attainment of academic achievement but also aims to develop intelligence, perseverance, and ethical, aesthetic, logical, and kinesthetic values (Utari & Suriansyah 2023). The support of instructional media plays a crucial role in clarifying information, enhancing motivation, and facilitating interaction in accordance with students' characteristics and abilities (Fitri & Ardipal 2021). Students' activeness is reflected in their engagement in discussions, problem-solving abilities, and independence in learning (Pertiwi et al. 2024). Within the context of Islamic Religious Education (IRE), encompassing Qur'anic learning and memorization activities, learning motivation serves a pivotal function in developing students' perseverance, resilience, and enthusiasm in confronting learning challenges and independently seeking solutions (Agustina et al. 2020; Amien et al. 2024). Therefore, Islamic Religious Education learning needs to be oriented toward the holistic development of students, encompassing knowledge, skills, and attitudes

Nevertheless, the results of a preliminary study conducted at SMP Negeri 11 Bandar Lampung through interviews and documentation with an Islamic Religious Education teacher, Mr. Hendar, S.Pd., and several Grade VII students revealed a number of issues in the IRE learning process. These issues included the continued use of conventional and less varied instructional methods, limited learning media, low levels of student activeness and focus during instruction, as well as learning barriers such as difficulties in memorization, lack of self-confidence, and unevenly low learning motivation among students.

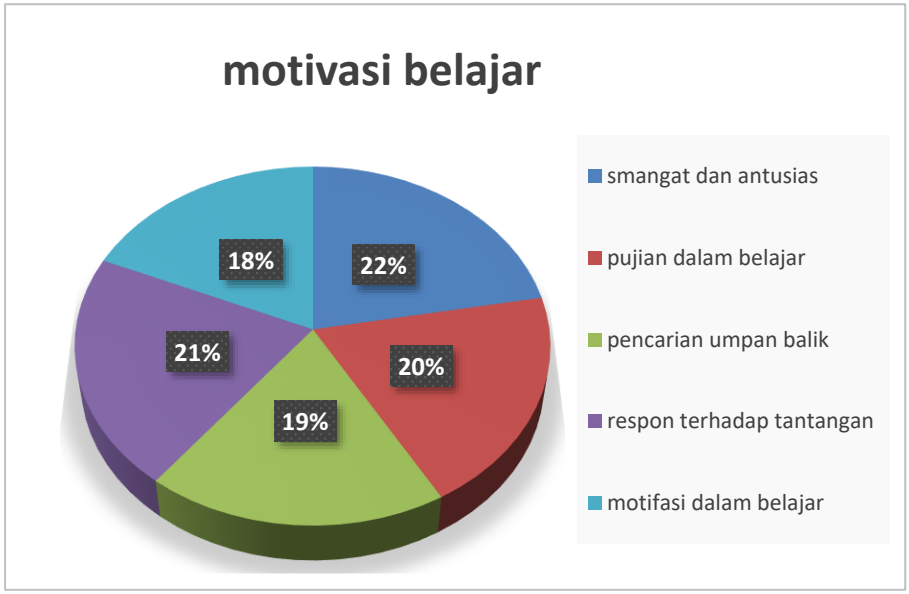

Figure 1. Distribution Results of the Learning Motivation Questionnaire

Based on the pie chart, the lowest indicator was learning motivation, with a percentage of only 18%, which was far below the other indicators. This condition reflects a weak level of students' internal drive that has the potential to disrupt the quality of the learning process. Meanwhile, the indicators of enthusiasm and eagerness (22%) as well as responsiveness to challenges (21%) showed relatively better results. This low level of learning motivation requires serious attention, as students without sufficient motivation Students tend to demonstrate limited engagement and show suboptimal levels of understanding of the instructional content.

To strengthen students' learning motivation, especially within the framework of Islamic Religious Education (IRE) instruction that integrates Qur'anic literacy competencies, understanding of Islamic values, and the formation of religious attitudes, an instructional model that is effective, contextual, and engaging is required. One relevant model is the Learning Cycle 5E (Engage, Explore, Explain, Elaborate, and Evaluate), which is grounded in constructivist theory and emphasizes student-centered learning. Empirical evidence indicates that this model effectively enhances students' learning motivation through active involvement in each stage of the learning process, as students are directly involved in each stage of the learning process, both individually and collaboratively, thereby making learning more meaningful, enjoyable, and aligned with students' needs. Empirical evidence suggests that although the Learning Cycle 5E model promotes meaningful and active learning experiences that foster conceptual understanding, creativity, responsibility, and critical thinking skills, preliminary findings revealed that students' learning motivation remained at only 18%, lower than enthusiasm (22%) and responsiveness to challenges (21%), indicating a weak internal drive that may hinder engagement and diminish the overall quality of the learning process. This condition indicates a weak level of students' internal drive that may adversely affect the quality of the learning process. Meanwhile, the indicators of enthusiasm and eagerness (22%) and responsiveness to challenges (21%) showed relatively better outcomes. This low level of learning motivation requires serious attention, as students Insufficient learning motivation often leads to passive engagement and suboptimal comprehension of instructional content. (Djadir et al. 2021; Henny Dh et al. 2023; Salong & Lasaiba 2024)

The Learning Cycle 5E instructional model is carried out through five core phases: engagement, exploration, explanation, elaboration, and evaluation which provide students with opportunities to connect new knowledge with their prior learning experiences. (Agusti et al. 2022; Imran et al. 2021; Makur et al. 2023; Pramudytha et al. 2025; Salong & Lasaiba 2024; Setyowati et al. 2024; Wulandari et al. 2024). Thus, students do not merely receive information passively from the teacher but actively engage in observing, exploring, analyzing, and applying concepts to new situations. This process fosters interactive, experience-based learning that strengthens problem-solving skills. Numerous studies indicate indicating that the application of the Learning model Cycle 5E model can enhance instructional effectiveness, increase learning motivation, and promote active student engagement, both in science subjects and in value-based educational contexts such as Islamic Religious Education (Fuadi et al. 2020).

Based on previous studies, the Learning Cycle 5E instructional model has been empirically demonstrated to enhance the overall quality of students' learning outcomes, as demonstrated by Muryadi (2024) in the context of chemistry learning motivation, as reported by Ummi (2024) and Andini (2021) in the context of science learning outcomes, Aksari (2021) in the development of critical thinking skills related to alternative energy

concepts, including studies that integrated interactive media such as Quizwhizzer to enhance cognitive learning outcomes. Although previous studies have demonstrated the effectiveness of the Learning Cycle 5E model in science education, particularly in improving cognitive achievement and critical thinking skills, its application in IRE at the junior high school level especially in Bandar Lampung remains limited. This gap is significant because IRE emphasizes not only cognitive understanding but also affective development and the internalization of moral and religious values. Therefore, examining the 5E model within the IRE context is essential to determine its relevance in fostering both learning motivation and value-based character formation, thereby strengthening the conceptual and contextual novelty of this study. Therefore, this study addresses both a research gap and novelty by examining the effectiveness of the Learning Cycle 5E model on learning motivation in Islamic Religious Education, with the expectation of contributing new insights to value- and morality-based active learning strategies at the lower secondary education level.

The urgency of this study lies in the need to introduce more innovative instructional strategies in Islamic Religious Education (Ummi et al. 2024) and aligned with students' characteristics, considering that the conventional methods commonly employed have proven to be less effective in enhancing students' motivation, participation, and activeness. Through this study, it is expected that an instructional model capable of addressing issues related to low interest, limited focus, and lack of self-confidence among students can be identified. The implications of this research extend beyond providing alternative solutions for teachers in selecting more varied instructional methods, as it also encourages schools to offer adequate support in the form of facilities and a conducive learning environment, thereby enabling the learning process to become more interactive, enjoyable, and student-centered.

2. METHOD

The study was carried out at SMP Negeri 11 Bandar Lampung in the second semester of the 2026/2027 academic year. A quasi-experimental design employing a posttest-only control group framework was implemented, in which two Grade VII classes were randomly selected and assigned as the experimental and control groups. A pretest was not administered to avoid potential testing effects and response bias that might influence students' answers on the learning motivation questionnaire. Instead, initial group comparability was ensured through random selection of classes and the assumption that both groups shared relatively similar academic characteristics within the same school context. Furthermore, statistical assumption testing, including normality and homogeneity analyses, was conducted prior to the independent samples t-test to confirm that the data met parametric requirements. Through these procedures, the design maintained adequate control over baseline differences, thereby supporting the internal validity of the study within the existing school setting. Participants were randomly selected from Grade VII students and divided into two groups: one class served as the experimental group, while the other functioned as the control group. The experimental group was instructed using the Learning Cycle 5E model, which consists of five sequential phases: Engagement, Exploration, Explanation, Elaboration, and Evaluation. Meanwhile, the control group was taught using the Direct Instruction model. The learning process was carried out in accordance with the allocated instructional time for IRE as regulated by the school.

This study employed a structured questionnaire as the primary research instrument. intended to measure students' learning motivation, which was developed based on specific learning motivation indicators. The questionnaire consisted of 15 items, including 8 positively phrased statements and 7 negatively phrased statements. The findings of the validity analysis indicated that 10 out of the 15 items fulfilled the required criteria, The correlation coefficients exceeded the critical R-value at the 5% significance level. In addition, the reliability analysis using Cronbach's Alpha yielded a coefficient of 0.074, reflecting a strong level of internal consistency. Consequently, the instrument was regarded as dependable and suitable for use in this research.

The implementation of the Learning Cycle 5E model was conducted systematically throughout the learning process systematically throughout the learning process. During the Engagement phase, the teacher provided initial motivation by posing stimulating questions related to the previous material. In the Exploration phase, students were divided into discussion groups to explore the subject matter, followed by the Explanation phase, in which the teacher guided the discussion process. The Elaboration phase involved presenting the outcomes of each group's discussion to the class, after which the teacher offered reinforcement and clarification. Finally, the Evaluation phase was conducted by posing follow-up questions and assessing students' understanding. The research data were subsequently analyzed using the data analysis involved preliminary assumption testing, including normality and homogeneity assessments, followed by an independent samples t-test to examine differences in learning motivation between the experimental and control groups.

3. RESULTS AND DISCUSSION

According to the results of the normality assessment performed using the Shapiro–Wilk test, as presented in the Tests of Normality table, the significance values (Sig.) were 0.274 for Group 1 and 0.272 for Group 2. All obtained significance values were greater than 0.05, indicating that the distribution of the research data did not significantly differ from a normal distribution. Accordingly, the data from both groups in this study can be regarded as normally distributed. The fulfillment of the normality assumption confirms that the data satisfy one of the essential requirements for applying parametric statistical analysis, thereby ensuring that the research data are valid and appropriate for further analysis in accordance with the objectives of the study.

Table 1. One-Sample Kolmogorov-Smirnov Test

Group	Kolmogorov-Smirnov Statistic	df	Sig.	Shapiro-Wilk Statistic	df	Sig.
1.00	.146	32	.080	.960	32	.274
2.00	.116	32	.200*	.960	32	.272

The homogeneity test was performed to examine whether the variances of the two data groups were equivalent. According to the results of Levene's test reported in the Test of Homogeneity of Variances table, The obtained significance values were 0.490 based on the mean, 0.525 based on the median, 0.526 based on the median with adjusted degrees of freedom, and 0.483 based on the trimmed mean. All of these significance values were

greater than 0.05, indicating the absence of significant differences in variance between the groups. Therefore, it can be concluded that the data in this study exhibited homogeneous variances. The fulfillment of this homogeneity assumption confirms that the data meet one of the essential requirements for parametric statistical analysis, thereby making them suitable for further analysis in accordance with the research objectives.

Table 2. Test of Homogeneity of Variances

Data	Levene Statistic	df1	df2	Sig.
Based on Mean	.483	1	62	.490
Based on Median	.408	1	62	.525
Based on Median and with adjusted df	.408	1	51.985	.526
Based on trimmed mean	.498	1	62	.483

An independent samples t-test was employed to assess the presence of statistically significant differences in mean scores between the two data groups. Referring to the results shown in the Independent Samples Test table, the significance value obtained from Levene's test was 0.490, which exceeded the threshold of 0.05, This result indicates that the variances between the two groups were homogeneous. Accordingly, the subsequent analysis was conducted based on the assumption of equal variances. The t-test results revealed a calculated t-value of −2.125 with 62 degrees of freedom and a two-tailed significance value of 0.038, indicating a statistically significant difference between the mean scores of the two groups ($p < 0.05$). In addition to statistical significance, the effect size was calculated using Cohen's d, yielding a value of 0.54, which represents a moderate practical effect of the Learning Cycle 5E model on students' learning motivation. These results suggest that the implemented instructional model not only produced statistically significant differences but also had a meaningful impact in practice, strengthening the evidence that the 5E model effectively enhances learning motivation among students.

Table 3. Independent Samples t-Test Results

Test	F	p	t	df	p	95% CI
Equal variances assumed	0.483	0.49	-2.125	62	0.038	[-3.76, -0.11]

Note. Cohen's d = 0.54 (moderate effect size).

The findings demonstrate that the application of the Learning Cycle 5E instructional approach led to a significant improvement in students' learning motivation in IRE. This improvement was not only reflected quantitatively in the questionnaire scores but also manifested in students' active engagement throughout the learning process. These findings suggest that a constructivist-based approach can provide a more meaningful learning experience, enabling students not merely to receive information but to engage both emotionally and cognitively in the learning process.

Compared to Direct Instruction-based learning, which predominantly relies on lecture methods, the Learning Cycle 5E model offers more varied stimuli through the Engage and Explore phases. This approach provides students with opportunities to connect the material to their personal experiences while simultaneously fostering curiosity. Such active engagement directly contributes to the enhancement of intrinsic motivation, which,

according to Wlodkowski and Jaynes, is a fundamental aspect for sustaining the learning process.

Prior research has demonstrated that the Learning Cycle 5E model significantly improves students' academic achievement and critical thinking abilities in science education (Anggitasari et al. 2021; Arzyana et al. 2024; Aselinda et al. 2023; Dewi et al. 2025; Laoli et al. 2022; Maula & Widiyono 2024; Mayasari et al. 2024; Ridha et al. 2025) However, this study expands the scope by situating Islamic Religious Education (IRE) as the research context. This distinction is significant because IRE emphasizes not only cognitive aspects but also affective and psychomotor domains. Consequently, the study demonstrates that the 5E model is not limited to science subjects but is also relevant for value- and character-based learning.

The novelty of this study lies in the implementation of the Learning Cycle 5E at SMP Negeri 11 Bandar Lampung, specifically within the context IRE, which has been relatively underexplored in prior research. This contrasts with previous studies that focused more on science subjects or on combining this model with digital media (Frasiska, 2025). By concentrating on learning motivation in IRE, this study contributes to the literature by demonstrating that experience-based learning cycles can enhance students' engagement with religious material while simultaneously fostering their self-confidence. Furthermore, the findings indicate that the improvement in motivation was not limited to students' enthusiasm for learning but also extended to indicators of responsibility and independence. These results align with Maryam M. Hammad's perspective on motivation, which encompasses energy, emotion, and purpose, appearing in this context as integrated through the Elaboration and Evaluation phases. Students perceived opportunities to demonstrate their abilities, which ultimately fostered intrinsic satisfaction and strengthened their commitment to the learning process.

From a theoretical perspective, the effectiveness of the Learning Cycle 5E model in addressing low learning motivation in IRE can be explained through constructivist learning theory and the principles of intrinsic motivation. The sequential phases of Engagement, Exploration, Explanation, Elaboration, and Evaluation systematically facilitate students' active involvement in constructing knowledge rather than passively receiving information. The Engagement and Exploration phases stimulate curiosity and cognitive conflict, encouraging autonomy and personal relevance, while the Elaboration and Evaluation phases strengthen students' sense of competence through application and reflection. These processes activate core components of intrinsic motivation, namely autonomy, competence, and meaningful engagement, thereby explaining the observed increase in students' motivation. Accordingly, the impact of the 5E model should be understood not merely as a pedagogical shift toward learner-centered instruction, but as a theoretically grounded mechanism that supports sustained motivational development within value-based educational contexts.

A broader implication of this study is the need to reposition IRE teaching strategies in secondary schools to be More flexible and responsive in addressing the diverse needs of learners' current generation. Although the findings support previous research, the study's contribution lies in emphasizing learning motivation within the context of religious education, a domain that has been relatively underexplored using the 5E model. Therefore, this study not only confirms the validity of the Learning Cycle 5E model in enhancing

motivation but also enriches the theoretical and practical discourse on IRE instruction, promoting approaches that are innovative, contextual, and transformative.

4. CONCLUSION

Based on the research findings, it can be concluded that the implementation of the Learning Cycle 5E instructional model is effective in enhancing students' learning motivation in Islamic Religious Education (IRE) at SMP Negeri 11 Bandar Lampung, as the model promotes active student engagement through systematic, student-centered instructional phases that strengthen not only cognitive understanding but also students' emotional and affective motivation. These findings affirm that constructivist-based instructional strategies may serve as an innovative alternative to address low levels of learning motivation while simultaneously fostering the development of more interactive, contextual, and learner-relevant IRE instruction. Nevertheless, this study is subject to several limitations, including its implementation in a single school with a limited sample size, which necessitates caution in generalizing the findings; the relatively short duration of the intervention, which may not fully capture its long-term impact; and its primary focus on learning motivation without comprehensively examining effects on cognitive achievement or character development. Therefore, future research is recommended to involve larger and more diverse samples, extend the duration of implementation, and incorporate additional variables (such as academic achievement, religious attitudes, and critical thinking skills) to provide a more comprehensive understanding of the effectiveness of the Learning Cycle 5E model in IRE instruction.

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