



## **E-Learning Implementation and Its Influence on Students' Learning Achievement in Islamic Religious Education**

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### **Abstract**

This study examines e-learning implementation and its influence on students' learning achievement in Islamic Religious Education (PAI) at Pondok Pesantren IMMIM Putra Makassar. The study responds to the growing demand for technology-supported Islamic education that is able to improve academic outcomes while maintaining the internalization of religious values. A quantitative correlational design was employed involving 45 eleventh-grade students selected through total sampling. Data were collected using a structured questionnaire on e-learning-based instructional media, classroom observation, documentation, and students' PAI achievement records. The instruments were tested for validity and reliability, and the data were analyzed using descriptive statistics, simple linear regression, t-test, and coefficient of determination with SPSS version 26. The findings indicate that students' perception of e-learning implementation is positive, with an average score of 4.28. Students' learning achievement in PAI is also high, with a mean score of 91.80. Regression analysis shows that e-learning implementation has a positive and significant influence on students' learning achievement, as indicated by  $t\text{-count} = 3.395$ ,  $\text{sig.} = 0.001$ , and  $R^2 = 0.211$ . This means that 21.1% of the variation in students' learning achievement is explained by e-learning implementation, while 78.9% is influenced by other factors. The study concludes that e-learning can strengthen students' learning achievement when supported by teacher competence, digital infrastructure, value-based content, and sustainable institutional support.

*Keywords: E-Learning Implementation, Learning Achievement, Islamic Religious Education, Digital Learning, Educational Technology*

### **Introduction**

The rapid development of digital technology has transformed learning practices in many educational institutions, including Islamic educational institutions. Islamic Religious Education (PAI) is no longer limited to face-to-face explanation, memorization, and classroom-based assignments. It is increasingly supported by digital platforms that provide access to learning materials, assignment submission, learning evaluation, and interactive communication between teachers and students. In this

context, e-learning implementation becomes an important strategy to improve the quality of PAI learning and to strengthen students' learning achievement.

E-learning in Islamic Religious Education offers several advantages. It enables students to access religious learning materials more flexibly, revisit teacher explanations, complete digital assignments, and participate in online quizzes or discussions. These features support independent learning and encourage students to become more responsible for their academic development. At the same time, e-learning can be used to present Islamic values through multimedia materials, digital worksheets, videos, interactive assessment, and reflective tasks. Therefore, e-learning is not merely a technical tool but also a pedagogical medium that can support cognitive, affective, and spiritual development.

The importance of e-learning has become more visible after the digital transformation of education. During and after the COVID-19 pandemic, many schools and pesantren began to use digital platforms such as Google Classroom, Google Forms, web-based learning materials, and messaging applications to support learning continuity. Although face-to-face learning has resumed in many institutions, the use of e-learning remains relevant because it provides additional space for enrichment, evaluation, and independent learning. For PAI, this development is significant because religious learning requires repeated reflection, contextual understanding, and consistent practice in daily life.

In pesantren settings, e-learning implementation has a distinctive meaning. Pesantren education emphasizes not only academic achievement but also discipline, religious character, moral behavior, and spiritual awareness. The use of digital learning media should therefore be designed to support both learning achievement and the internalization of Islamic values. If e-learning is only used to distribute materials, its contribution may remain limited. However, when it is integrated with value-based pedagogy, feedback, discussion, and reflective activities, e-learning can strengthen students' comprehension and learning motivation.

Previous studies have shown that e-learning can improve student engagement, learning flexibility, and academic outcomes. Digital platforms allow learners to organize their learning process, receive immediate feedback, and access various learning resources. At the same time, several studies also warn that e-learning implementation faces challenges such as limited digital literacy, unstable internet access, inadequate devices, and insufficient teacher readiness. These challenges indicate that the success of e-learning depends not only on the availability of technology but also on how teachers design, manage, and evaluate digital learning activities.

The initial problem addressed in this study is the need to understand whether e-learning implementation truly contributes to students' learning achievement in Islamic Religious Education. In practice, some students can use digital platforms independently and complete assignments on time, while others still need guidance. Teachers also need to ensure that digital learning does not reduce the spiritual atmosphere of PAI. Therefore, empirical evidence is required to measure the influence of e-learning implementation on students' learning achievement in a pesantren context.

This study focuses on Grade XI students at Pondok Pesantren IMMIM Putra Makassar. The institution provides a relevant context because it combines religious education, academic learning, and pesantren-based character formation. The use of e-learning-based instructional media in this context includes web-based access to materials, assignment submission through Google Classroom, and

quizzes through Google Forms. These practices represent a digital learning model that supports both instruction and evaluation.

Based on this background, this study aims to analyze e-learning implementation and its influence on students' learning achievement in Islamic Religious Education. The research specifically describes students' perception of e-learning-based instructional media, examines students' PAI learning achievement, and tests the statistical influence of e-learning implementation on learning achievement. The findings are expected to provide practical insights for PAI teachers, pesantren administrators, and educational policymakers in improving digital Islamic education.

## **Research Method**

This study employed a quantitative correlational approach. The approach was selected because the research aims to examine the relationship and influence between two variables: e-learning implementation as the independent variable (X) and students' learning achievement in Islamic Religious Education as the dependent variable (Y). A correlational design allows the researcher to determine whether changes in the quality of e-learning implementation are associated with changes in students' learning achievement.

The research was conducted at Pondok Pesantren IMMIM Putra Makassar. The sample consisted of 45 Grade XI students who participated in PAI learning supported by e-learning-based instructional media. Total sampling was applied because the entire population relevant to the study was included as research respondents. This sampling technique was considered appropriate because the number of respondents was manageable and all students had experience using the e-learning media examined in the study.

Data were collected through a structured questionnaire, observation, documentation, and students' academic records. The questionnaire consisted of 15 statement items designed to measure students' perceptions of e-learning-based instructional media, including access to materials, digital assignment submission, online quizzes, learning flexibility, and ease of use. Observation was used to support the interpretation of digital learning practices, while documentation was used to obtain students' learning achievement scores in Islamic Religious Education.

The research instrument was tested for validity and reliability before being used for further analysis. The validity test was conducted by comparing  $r$ -count with  $r$ -table. With 45 respondents, the degree of freedom was 43, and the  $r$ -table value was 0.248. All questionnaire items showed  $r$ -count values greater than  $r$ -table, indicating that the instrument was valid. The reliability test used Cronbach's Alpha, and the instrument obtained a value of 0.761, which is higher than the minimum reliability standard of 0.60. This indicates that the questionnaire was reliable and suitable for data collection.

The data were analyzed using descriptive statistics and inferential statistics with SPSS version 26. Descriptive analysis was used to present the distribution, mean, median, mode, standard deviation, minimum score, and maximum score of students' learning achievement. Simple linear regression was used to determine the influence of e-learning implementation on learning achievement. The  $t$ -test was used to test the significance of the regression coefficient, while the coefficient of determination ( $R^2$ ) was used to identify the percentage contribution of e-learning implementation to students' learning achievement.

## Research Findings and Discussion

### 1. Description of E-Learning Implementation in Islamic Religious Education

Data on e-learning implementation were obtained from 15 questionnaire items. The items measured students' experience in using e-learning-based instructional media for accessing PAI materials, submitting assignments, completing quizzes, and participating in learning activities. The descriptive results are presented in Table 1.

**Table 1. Distribution of the E-Learning-Based Instructional Media Variable (X)**

| Item          | 1 F | 1 % | 2 F | 2 % | 3 F | 3 %  | 4 F | 4 %  | 5 F | 5 %  | Mean  |
|---------------|-----|-----|-----|-----|-----|------|-----|------|-----|------|-------|
| X1            | 0   | 0   | 1   | 2.2 | 5   | 11.1 | 17  | 37.8 | 22  | 48.9 | 4.33  |
| X2            |     |     |     |     | 7   | 15.6 | 27  | 60.0 | 11  | 24.4 | 4.09  |
| X3            |     |     | 2   | 4.4 | 6   | 13.3 | 11  | 24.4 | 26  | 57.8 | 4.36  |
| X4            |     |     |     |     | 8   | 17.8 | 13  | 28.9 | 24  | 53.3 | 4.36  |
| X5            |     |     | 2   | 4.4 | 10  | 22.2 | 14  | 31.1 | 19  | 42.2 | 4.11  |
| X6            |     |     |     |     | 2   | 4.4  | 12  | 26.7 | 31  | 68.9 | 4.64  |
| X7            |     |     | 2   | 4.4 | 10  | 22.2 | 15  | 33.3 | 18  | 40.0 | 4.09  |
| X8            |     |     | 1   | 2.2 | 10  | 22.2 | 18  | 40.0 | 16  | 35.6 | 4.09  |
| X9            |     |     | 2   | 4.4 | 8   | 17.8 | 12  | 26.7 | 23  | 51.1 | 4.24  |
| X10           |     |     | 2   | 4.4 | 6   | 13.3 | 17  | 37.8 | 20  | 44.4 | 4.22  |
| X11           |     |     | 2   | 4.4 | 1   | 2.2  | 22  | 48.9 | 20  | 44.4 | 4.33  |
| X12           |     |     | 1   | 2.2 | 2   | 4.4  | 12  | 26.7 | 30  | 66.7 | 4.58  |
| X13           |     |     | 2   | 4.4 | 4   | 8.9  | 12  | 26.7 | 27  | 60.0 | 4.42  |
| X14           |     |     |     |     | 5   | 11.1 | 18  | 40.0 | 22  | 48.9 | 4.38  |
| X15           |     |     | 2   | 4.4 | 7   | 15.6 | 21  | 46.7 | 15  | 33.3 | 4.09  |
| Total         |     |     |     |     |     |      |     |      |     |      | 64.33 |
| Mean Variable |     |     |     |     |     |      |     |      |     |      | 4.28  |

*Source: Primary Data Processed, 2025*

The table shows that the mean score of the e-learning implementation variable is 4.28. This score indicates that students' responses toward e-learning-based instructional media are positive. The highest item score appears in X6 with a mean of 4.64, suggesting that students strongly perceived one aspect of digital learning as useful and accessible. Other items also show consistently high mean scores, mostly above 4.00, which indicates that the e-learning practices used in PAI learning were generally well received by the respondents.

The results also indicate that students were able to access learning materials independently through web-based platforms, submit assignments through Google Classroom, and complete quizzes through Google Forms. These findings show that e-learning implementation has become part of the learning process rather than a supplementary activity only. In Islamic Religious Education, this digital integration allows teachers to extend learning beyond the classroom and provide students with additional opportunities to review and deepen religious learning materials.

### 2. Description of Students' Learning Achievement in Islamic Religious Education

Students' learning achievement was obtained from PAI test results. The descriptive statistics show that the achievement level of the respondents is relatively high. The mean score was 91.80, with a median score of 93.00 and a mode of 98.00. The minimum score was 83.00, while the maximum score was 98.00. The standard deviation was 5.039, indicating that the students' scores were relatively concentrated around the high achievement range.

**Table 2. Descriptive Statistics of PAI Learning Achievement**

| Statistic      | Learning Achievement |
|----------------|----------------------|
| N Valid        | 45                   |
| Missing        | 0                    |
| Mean           | 91.80                |
| Median         | 93.00                |
| Mode           | 98.00                |
| Std. Deviation | 5.039                |
| Minimum        | 83.00                |
| Maximum        | 98.00                |

Source: Data Processing Results, 2025

The high mean score suggests that most students achieved strong performance in Islamic Religious Education. This achievement may be related to several factors, including the pesantren learning environment, teacher guidance, student discipline, and the use of e-learning media that allows students to review materials and complete learning tasks more efficiently.

**Table 3. Frequency Distribution of PAI Learning Achievement**

| Value Interval | Predicate     | Frequency (F) | Percentage (%) |
|----------------|---------------|---------------|----------------|
| 94-100         | Excellent (A) | 20            | 44.4           |
| 87-93          | Good (B)      | 18            | 40.0           |
| 80-86          | Enough (C)    | 7             | 15.6           |
| < 80           | Less (D)      | 0             | 0              |
| Total          |               | 45            | 100            |

Source: Data Processing Results, 2025

The distribution shows that 20 students, or 44.4%, obtained an Excellent (A) predicate, 18 students, or 40.0%, obtained a Good (B) predicate, and 7 students, or 15.6%, obtained an Enough (C) predicate. No student fell into the Less (D) category. These results confirm that the majority of students achieved good to excellent learning outcomes in Islamic Religious Education.

### 3. Instrument Validity and Reliability

The validity test was conducted to ensure that each questionnaire item could appropriately measure e-learning implementation. With 45 respondents, the degree of freedom was 43, and the r-table value was 0.248. All 15 items had r-count values greater than 0.248, indicating that all items were valid and suitable for further analysis.

**Table 4. Instrument Validity Test Results**

| Variable                             | Item | R Count | R Table / Criteria |
|--------------------------------------|------|---------|--------------------|
| E-Learning-Based Instructional Media | X1   | 0.472   | 0.248 / Valid      |
|                                      | X2   | 0.439   | 0.248 / Valid      |
|                                      | X3   | 0.459   | 0.248 / Valid      |
|                                      | X4   | 0.576   | 0.248 / Valid      |
|                                      | X5   | 0.470   | 0.248 / Valid      |
|                                      | X6   | 0.499   | 0.248 / Valid      |
|                                      | X7   | 0.521   | 0.248 / Valid      |
|                                      | X8   | 0.518   | 0.248 / Valid      |
|                                      | X9   | 0.449   | 0.248 / Valid      |
|                                      | X10  | 0.468   | 0.248 / Valid      |
|                                      | X11  | 0.453   | 0.248 / Valid      |
|                                      | X12  | 0.522   | 0.248 / Valid      |
|                                      | X13  | 0.450   | 0.248 / Valid      |
|                                      | X14  | 0.550   | 0.248 / Valid      |
|                                      | X15  | 0.426   | 0.248 / Valid      |

Source: SPSS Processing Results, 2025

The reliability test used Cronbach's Alpha. The result showed an alpha value of 0.761. Because this value is above 0.60, the questionnaire instrument is reliable. This means that the instrument has internal consistency and can be used to measure students' perceptions of e-learning implementation.

**Table 5. Instrument Reliability Test Results**

| Variable                             | Cronbach's Alpha | Information |
|--------------------------------------|------------------|-------------|
| E-Learning-Based Instructional Media | 0.761            | Reliable    |

#### 4. The Influence of E-Learning Implementation on Students' Learning Achievement

Simple linear regression analysis was used to determine the influence of e-learning implementation on students' learning achievement in Islamic Religious Education. The regression result is presented in Table 6.

**Table 6. Simple Linear Regression Test**

| Model                         | B      | Std. Error | Beta | t      | Sig. |
|-------------------------------|--------|------------|------|--------|------|
| Constant                      | 86.135 | 1.671      |      | 51.507 | .000 |
| E-Learning Implementation (X) | .086   | .025       | .460 | 3.395  | .001 |

*Dependent Variable: Students' Learning Achievement in PAI. Source: SPSS Processing Results, 2025*

The regression equation based on Table 6 is  $Y = 86.135 + 0.086X$ . This equation means that when the e-learning implementation score increases by one unit, students' learning achievement is predicted to increase by 0.086 units. The positive regression coefficient indicates a positive relationship between e-learning implementation and students' PAI learning achievement. In other words, better implementation of e-learning is associated with better learning achievement.

The t-test shows that the t-count value is 3.395, which is greater than the t-table value of 1.681. The significance value is 0.001, which is lower than 0.05. Therefore, the alternative hypothesis is accepted. This means that e-learning implementation has a positive and statistically significant influence on students' learning achievement in Islamic Religious Education.

**Table 7. Coefficient of Determination (R<sup>2</sup>)**

| R    | R Square | Adjusted R Square | Std. Error of Estimate |
|------|----------|-------------------|------------------------|
| .460 | .211     | .193              | .73197                 |

*Predictor: E-Learning Implementation. Dependent Variable: Learning Achievement. Source: SPSS Processing Results, 2025*

The coefficient of determination (R<sup>2</sup>) is 0.211. This means that e-learning implementation contributes 21.1% to students' learning achievement in Islamic Religious Education. The remaining 78.9% is influenced by other factors not examined in this study, such as students' intrinsic motivation, family support, learning habits, teacher competence, pesantren academic culture, peer environment, and students' prior knowledge.

#### Discussion

The findings indicate that e-learning implementation has a significant influence on students' learning achievement in Islamic Religious Education. The positive average score of the e-learning variable shows that students generally accept and use digital learning media well. Students can access materials, submit assignments, and complete digital quizzes. These activities support learning

continuity and allow students to review materials outside the classroom. This is important in PAI because students need repeated exposure to concepts, values, and practices.

The high achievement score in PAI suggests that e-learning can function as an effective instructional support when it is integrated into a structured learning process. The mean score of 91.80 and the large proportion of students in the Excellent and Good categories indicate that the students were able to achieve strong academic outcomes. E-learning may contribute to this achievement by providing flexible access, improving learning discipline, and supporting independent learning.

The regression result confirms that e-learning implementation has a positive and significant effect on PAI learning achievement. The t-count value of 3.395 and the significance value of 0.001 show that the relationship is statistically meaningful. This indicates that e-learning is not only perceived positively but also contributes to measurable academic outcomes. The regression equation also demonstrates that improvement in e-learning implementation is followed by improvement in learning achievement.

However, the contribution of e-learning implementation is 21.1%, which means that e-learning is an important but not the only factor influencing learning achievement. This finding is reasonable because students' achievement in Islamic Religious Education is shaped by many dimensions. In a pesantren environment, discipline, religious routines, teacher example, peer support, learning motivation, family background, and institutional culture also contribute to students' academic and moral development. Therefore, e-learning should be understood as one component within a broader educational ecosystem.

The results also suggest that successful e-learning in PAI requires teacher competence. Teachers need to design digital learning materials that are not only informative but also meaningful and value-oriented. If e-learning only consists of uploading materials and collecting assignments, its pedagogical effect may be limited. However, when teachers provide clear instructions, digital feedback, reflective questions, and value-based assignments, e-learning can become a medium for deeper learning and Islamic value internalization.

Another important issue is digital infrastructure. Stable internet access, adequate devices, and technical support are necessary to ensure that e-learning can be accessed by all students. Without sufficient infrastructure, e-learning may create inequality between students who have easy access to technology and those who face technical barriers. Therefore, pesantren and schools need to develop a digital learning system that is inclusive, accessible, and aligned with institutional capacity.

In the context of Islamic Religious Education, e-learning should not weaken the spiritual and moral dimensions of learning. Instead, it should be used to strengthen them. Digital media can present Qur'anic verses, hadith explanations, Islamic history, moral case studies, and reflective activities in more engaging forms. Students can be asked to connect digital materials with daily religious practice, social behavior, and personal reflection. In this way, e-learning supports not only cognitive achievement but also affective and spiritual formation.

These findings have practical implications for PAI teachers and Islamic education institutions. Teachers need continuous training in digital pedagogy, learning management systems, online assessment, and interactive media development. Institutions also need to develop policies that support sustainable e-learning implementation, including digital infrastructure, technical assistance, and

monitoring of learning quality. The aim is not to replace face-to-face Islamic education but to enrich it through blended, flexible, and meaningful digital learning.

### **Educational Implications**

First, e-learning implementation should be positioned as a strategic instrument for improving students' learning achievement in Islamic Religious Education. Teachers can use digital platforms to provide enrichment materials, formative quizzes, assignment reminders, and reflective tasks. These activities help students manage learning time and strengthen understanding of PAI materials.

Second, PAI teachers need to integrate Islamic values into digital learning design. E-learning should contain not only cognitive explanations but also moral messages, contextual examples, and reflection questions that encourage students to connect religious knowledge with daily life. This value-based approach is important to maintain the identity of Islamic education in the digital era.

Third, institutions need to improve digital learning infrastructure. E-learning requires stable internet access, devices, learning management systems, and technical support. Infrastructure development should be accompanied by teacher training so that technology is used pedagogically, not merely administratively.

Fourth, the relatively moderate contribution of e-learning to achievement indicates that digital learning should be combined with other educational strategies. Face-to-face guidance, teacher role modeling, pesantren discipline, collaborative learning, and parental support remain important in shaping students' learning achievement and religious character.

### **Limitations and Future Research**

This study has several limitations. First, the research was conducted in one institution, namely Pondok Pesantren IMMIM Putra Makassar, with 45 respondents. Therefore, the findings cannot be generalized to all pesantren or Islamic schools without further study. Second, the independent variable was limited to e-learning implementation, while other important factors such as learning motivation, teacher competence, parental support, and pesantren culture were not examined statistically.

Future research may expand the sample to different Islamic schools and pesantren to obtain broader evidence. Further studies may also use mixed methods to explore students' experiences, teachers' digital strategies, and institutional challenges in more depth. In addition, future research can examine the relationship between e-learning, religious character formation, digital literacy, and students' long-term academic achievement in Islamic Religious Education.

Fifth, parents and pesantren supervisors should be involved in supporting students' digital learning discipline. Since e-learning gives students more flexibility, they also need self-control and time management. Guidance from teachers, parents, and pesantren supervisors can help students use technology responsibly. This support is important to prevent digital distractions and to ensure that technology becomes a tool for learning rather than a source of negligence.

Fourth, digital learning should be evaluated regularly. Teachers and administrators need to review whether the platform is easy to use, whether students are actively participating, whether assignments are meaningful, and whether learning achievement improves. Evaluation may be conducted through student feedback, teacher reflection, achievement data, and observation of learning behavior. This process ensures that e-learning remains relevant to students' needs and institutional goals.

Third, e-learning should be integrated with face-to-face learning through a blended learning model. Islamic Religious Education requires explanation, discussion, modeling, practice, and reflection. Face-to-face learning remains important for teacher example and spiritual atmosphere, while e-learning can support enrichment, repetition, assignment management, and assessment. The combination of both modes can produce a stronger learning experience than relying on one mode alone.

Second, the school or pesantren should strengthen digital infrastructure. Reliable internet access, adequate devices, and technical support are essential for sustainable e-learning. Infrastructure should be provided in a way that minimizes inequality among students. When access is unequal, e-learning may benefit only some learners and create new learning gaps. Therefore, institutional planning should consider accessibility, affordability, and maintenance.

Several recommendations can be formulated from the results. First, PAI teachers should receive continuous training in digital pedagogy. Training should not only teach technical skills but also show how to design meaningful online learning activities, prepare digital assessments, create interactive materials, and provide feedback. Teacher competence is a key factor because technology can only improve learning achievement when it is used with appropriate pedagogical planning.

### **Recommendations for Strengthening E-Learning in PAI**

The fifth component is monitoring and mentoring. Teachers need to monitor students' participation, assignment completion, quiz results, and learning obstacles. Students who show low participation should receive guidance and encouragement. In pesantren education, mentoring is especially important because learning achievement is connected to discipline and character formation. E-learning data can help teachers identify students who need additional academic or motivational support.

The fourth component is value integration. E-learning implementation in PAI must be guided by Islamic educational goals. Materials should be designed to strengthen honesty, discipline, responsibility, respect, and spiritual awareness. For example, online assignments can ask students to reflect on how the studied values are practiced in pesantren life. Students can also be asked to connect digital content with daily worship, social ethics, and personal responsibility. This value integration differentiates Islamic e-learning from purely technical digital instruction.

The third component is formative assessment. Digital quizzes, Google Forms, and online tasks can help teachers identify students' understanding quickly. Immediate or timely feedback is important because students can correct misunderstandings before they become permanent. In Islamic Religious Education, formative assessment may include not only factual questions but also value-based cases, reflective responses, and practical examples of Islamic behavior. This strengthens the connection between knowledge and action.

The second component is instructional interaction. E-learning should not be limited to one-way delivery of documents. Teachers need to create interaction through online discussions, short reflective questions, digital feedback, and guided assignments. Interaction allows students to ask questions, clarify religious concepts, and relate the material to their own experience. In this way, digital learning becomes a space for dialogue and meaning-making rather than a repository of files.

The findings of this study can be translated into a practical framework for implementing e-learning in Islamic Religious Education. The first component is learning access. Students need clear and

consistent access to digital materials, including lesson summaries, teacher explanations, Qur'anic and hadith references, presentation slides, videos, and practice questions. Access should be organized in a learning management system so that students do not experience confusion when searching for materials. In the context of PAI, clear access helps students review concepts such as faith, worship, morality, and Islamic history independently.

### **Practical Framework for E-Learning Implementation in Islamic Religious Education**

At the same time, the finding that e-learning contributes 21.1% to learning achievement reminds educators that technology is not a single solution. Learning achievement in PAI is a result of interaction between digital media, teacher quality, student motivation, family support, pesantren discipline, and learning culture. Therefore, the development of e-learning should be integrated with broader efforts to improve teaching quality and character-based education.

The implementation of e-learning also encourages students to become more independent learners. When students can access materials repeatedly, complete assignments online, and practice through digital quizzes, they gradually develop responsibility for their own learning. This independence is important for pesantren students because religious education requires consistency, discipline, and personal commitment. E-learning can strengthen these habits when it is accompanied by monitoring and reflection.

Digital Islamic pedagogy should be understood as the purposeful use of technology to support learning achievement, moral awareness, and spiritual discipline. In the context of this study, the positive influence of e-learning shows that students benefit when digital tools are connected to clear instructional goals. The teacher's role remains central because students still need direction, explanation, and encouragement to transform digital access into meaningful achievement.

### **Strengthening Learning Achievement through Digital Islamic Pedagogy**

#### **Conclusion**

This study concludes that e-learning implementation has a positive and significant influence on students' learning achievement in Islamic Religious Education at Pondok Pesantren IMMIM Putra Makassar. Students' perception of e-learning-based instructional media is positive, with an average score of 4.28. Students' PAI learning achievement is also high, with a mean score of 91.80, and most students achieved Excellent and Good categories.

The regression analysis shows that e-learning implementation significantly influences learning achievement, with  $t\text{-count} = 3.395$  and  $\text{sig.} = 0.001$ . The coefficient of determination shows that e-learning implementation contributes 21.1% to students' learning achievement, while 78.9% is influenced by other factors. These results demonstrate that e-learning is an important factor in improving students' academic outcomes, but it needs to be supported by teacher competence, student motivation, institutional culture, and adequate infrastructure.

E-learning in Islamic Religious Education should be developed as a value-based digital learning strategy. It should not only facilitate access to materials and assignments but also strengthen reflection, moral awareness, religious attitudes, and the internalization of Islamic values. When implemented thoughtfully, e-learning can enrich Islamic education, improve learning achievement, and prepare students to learn responsibly in the digital era.

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