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Character Education in Digital-Based Islamic Religious Education: A Systematic Literature Review of Student Learning Outcomes

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Abstract

Character education is an important orientation of Islamic Religious Education (PAI) in higher education, particularly amid the digitalization of learning. However, the affective learning outcomes reported in the literature do not fully demonstrate the connection between understanding values, appreciating values, and translating them into behavior. This study maps the affective learning outcomes of digitally mediated PAI in higher education and examines their alignment with Lickona's character education framework, comprising *moral knowing*, *moral feeling*, and *moral action*. A systematic literature review was conducted following PRISMA, using Google Scholar through Publish or Perish. Of 996 initial records, 86 articles met the inclusion criteria and were analyzed through thematic content analysis based on textual evidence. The findings show that *moral feeling* appeared in 91.9% of articles, *moral knowing* in 89.5%, and *moral action* in 60.5%; 59.3% addressed all three components. Responsibility (55.8%) and cooperation/collaboration (51.2%) were the most frequently reported affective outcomes, whereas religiosity appeared in 34.9% and gratitude in only 4.7% of articles. These findings indicate that affective outcomes are more frequently represented through general character dispositions, while behavioral enactment and specific Islamic values receive less consistent attention. This pattern reflects the distribution and strength of evidence in the reviewed literature, rather than proving that digital learning directly causes character development. The review provides a basis for aligning learning objectives, instructional activities, and assessment in digitally mediated PAI with all three components of character education.

Keywords: Character Education; Affective Outcomes; Islamic Religious Education; Higher Education; SLR

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1. Introduction

Digital transformation has reshaped the delivery of higher education, including Islamic Religious Education (PAI). The use of learning platforms, social media, and digital learning resources has expanded students' access to Islamic knowledge while creating opportunities for more interactive learning strategies. However, the availability of technology does not automatically guarantee improvements in learning quality. UNESCO (2023) emphasizes that the use of educational technology should be informed by pedagogical relevance, learners' needs, and evidence of effectiveness rather than driven solely by technological developments. In the context of PAI, this issue is particularly important because successful learning involves not only the acquisition of religious knowledge but also students' capacity to understand, internalize, and apply Islamic values in everyday life. Therefore, the digitalization of PAI needs to be evaluated in terms of its contribution to religious education and student character development, rather than merely through the adoption of digital media and platforms (Marasabessy, 2025; Nasution, 2025).

This need has become increasingly relevant as digital PAI learning encounters challenges related to digital literacy and the moral development of younger generations. Broad access to religious information requires students to assess source credibility, interpret information within its context, and consider the ethical implications of its use. Marasabessy (2025) highlights the importance of digital literacy and lecturers' roles in guiding the use of social media for Islamic learning. Meanwhile, Aisyah and Fitriatin (2025) address moral and ethical concerns among Indonesian youth. Together, these issues indicate that access to information and the delivery of instructional content are insufficient to ensure character development. In character education, an understanding of values needs to be connected with their internalization and enactment in practice. Accordingly, the central challenge of digital PAI learning is not simply to ensure that students acquire religious knowledge, but also to examine the extent to which reported learning outcomes encompass affective and behavioral dimensions. Without a clear pedagogical orientation, technology integration risks placing greater emphasis on information transfer than on character development (Sagala et al., 2024; Nasution, 2025).

Several studies have examined student character education and the use of technology in PAI learning from different perspectives. Saputra (2024) investigated student character development through PAI in the digital era and highlighted the potential of technology integration to support learning and character development. Rahmah et al. (2025) examined character education through classroom learning, student activities, and academic culture, whereas Mukminin (2025) explored strategies for developing student character through PAI courses at Islamic higher education institutions. Marasabessy (2025) highlighted the role of social media in Islamic learning among university students, while Nasution (2025) discussed strategies for developing character-based PAI learning in the digital era. In the field of literature reviews, Arianty (2026) examined character education in strengthening students' legal literacy and legal culture in the Society 5.0 era. Collectively, these studies provide a basis for understanding the relationship between character education, PAI learning, and digital transformation. However, their varied research foci have not yet provided an integrated account of the distribution of affective outcomes reported in studies of digitally mediated PAI in higher education, particularly in terms of the character-related outcomes identified and their relationship to the components of character education.

This research gap is important because the inclusion of character values in learning objectives or research discussions does not necessarily indicate that students have internalized or

enacted those values. A closer examination is needed to distinguish the types of reported outcomes, their frequency of occurrence, and the strength of the evidence supporting them. This issue can be examined through Lickona's (1993) theory of character education, which comprises three interrelated components: moral knowing, moral feeling, and moral action. Moral knowing concerns understanding what is good; moral feeling encompasses the affective dimension through which individuals value and develop an appreciation for goodness; and moral action refers to the enactment of values through behavior. These components provide an analytical basis for determining whether reported learning outcomes encompass all three dimensions or are concentrated in particular components. Particular attention to moral feeling is warranted because affective internalization is an important aspect of character education. Nevertheless, it must be distinguished from stated learning objectives, students' interest, or their motivation to participate in learning activities. At the same time, the presence of all three components in research reports should be interpreted cautiously, as it does not automatically demonstrate that students' character has been successfully developed.

Against this background, the research gap addressed in this study concerns the need to map affective outcomes reported in the literature on digitally mediated PAI in higher education while examining their coverage within Lickona's framework. This mapping is necessary to identify the character-related outcomes most frequently reported, compare general character dispositions with values more specifically associated with Islamic value internalization, and determine the extent to which reports of value understanding and internalization are accompanied by behavioral outcomes. Thus, the research problem extends beyond identifying which character outcomes appear in the literature; it also concerns how these outcomes are categorized and the extent to which their reporting is supported by research evidence. A systematic literature review can address these issues through a transparent and structured process of evidence identification, screening, and synthesis (Page et al., 2021). This approach also makes it possible to identify limitations in previous reporting practices and establish a basis for subsequent research.

This study aims to map the affective outcomes reported in research on digitally mediated PAI in higher education, identify the most frequently reported character-related subcategories, and examine the coverage of moral knowing, moral feeling, and moral action based on Lickona's theory. The study also distinguishes evidence explicitly reported in research findings from outcomes inferred from research objectives, recommendations, or interpretations presented in article discussions. This distinction is necessary to prevent the frequency with which a component appears in the literature from being interpreted directly as evidence of successful character development among university students. The study contributes a conceptual map of patterns in reported character outcomes and the strength of the supporting evidence. The findings are expected to inform the design of digital PAI learning by drawing attention not only to students' knowledge acquisition and participation but also to the internalization of Islamic values and the assessment of their enactment in practice.

2. Method

2.1 Research Design and Literature Selection

This study employed a systematic literature review (SLR) following the PRISMA guidelines (Page et al., 2021). Literature searches were conducted through Google Scholar using Publish or Perish. The search keywords comprised "pendidikan karakter," "pembelajaran PAI," "digitalisasi pembelajaran," "literasi digital," and "luaran pembelajaran," along with their English equivalents. The review covered publications from 2016 to 2026 and identified 996 records.

Article selection involved title and abstract screening, followed by full-text eligibility assessment. The inclusion and exclusion criteria are presented in Table 1.

Table 1.
Article Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Scientific articles (journal/proceedings) published between 2016-2026	Articles published outside this range
Directly discusses character education and/or learning outcomes in digital-based PAI learning at the higher-education/student level (not Islamic boarding schools or secondary schools)	Research context outside higher education (Islamic boarding schools, primary/secondary schools), or discusses PAI institutionally/managerially without direct linkage to students' learning outcomes
An empirical article, literature review, or conceptual study in an indexed journal/proceedings	A book, book chapter, opinion piece, or popular news article without scientific data support
Available in full text and accessible	Duplicate publication or not fully accessible

Title and abstract screening retained 485 articles. During full-text assessment, 399 articles were excluded for not meeting the established criteria. The remaining 86 articles constituted the final corpus for analysis. Exclusion decisions at the full-text stage were manually verified. The article selection process is presented in Figure 1.

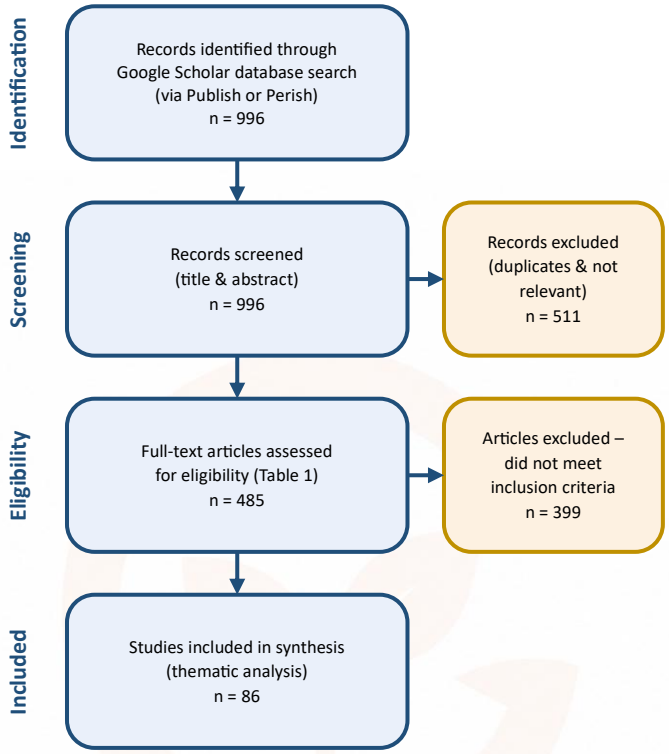


Figure 1. Research Flow Diagram (Systematic Literature Review Following the PRISMA Model)

2.2 Data Analysis

The full texts of the 86 included articles were examined using thematic content analysis. The analytical framework was based on Lickona's (1993) three components of character education: *moral knowing* (understanding values), *moral feeling* (appreciating and

internalizing values), and *moral action* (enacting values through behavior). A component was coded as present when the abstract, results, discussion, or conclusion contained relevant evidence. References to "action" in the context of classroom action research were not coded as *moral action* unless they referred to learners' behavior.

Coding evidence was classified as *Explicit* when it referred directly to reported findings or conclusions about learners, and *Inferred* when it was derived from research objectives, proposals, or syntheses of other studies. Ten affective subcategories were identified from the evidence statements and mapped onto Lickona's components according to how the reported learning outcomes were described. Coding records, textual evidence, and page references were documented in a supplementary file. In addition, VOSviewer was used to visualize the co-occurrence of author keywords, after merging Indonesian and English equivalents, to provide an overview of thematic relationships in the literature (van Eck & Waltman, 2010).

3. Findings / Results

The Google Scholar search yielded 996 records. Following title and abstract screening and full-text eligibility assessment, 86 articles were included in the final corpus, representing 8.6% of all identified records (Figure 1). The included articles were published between 2019 and 2026, with 63 articles (73.3%) published in 2025–2026. This distribution indicates that discussions of character education in digitally mediated Islamic Religious Education (PAI) in higher education are increasingly represented in recent publications.

3.1 Thematic Map of the Literature

Figure 2 presents the thematic structure of the corpus through a co-occurrence network of author keywords generated using VOSviewer. Fifty keywords that appeared in at least two articles were included. The two largest nodes, "Islamic religious education" and "Islamic education," reflect the scope of the corpus. Other prominent nodes include digital era, digital literacy, higher education, Society 5.0, artificial intelligence, curriculum integration, and Islamic higher education.

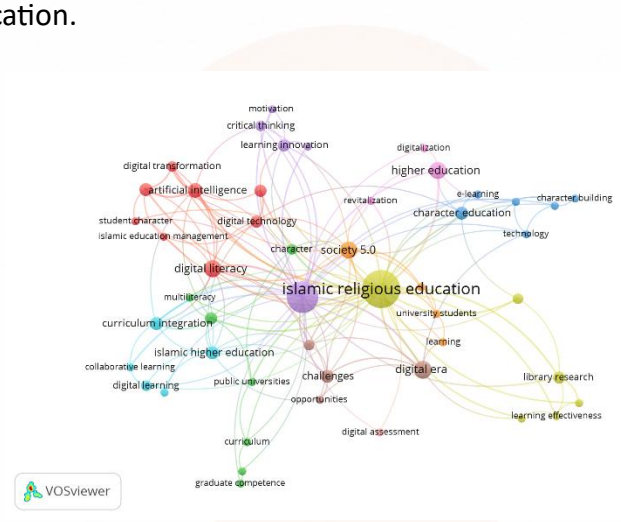


Figure 2. Co-occurrence Network of Author Keywords in the 86 Included Articles

The network shows that digital-related terms, including digital literacy, artificial intelligence, digital technology, and digital transformation, are closely connected, whereas curriculum

integration appears together with Islamic higher education and digital learning. Character education appears as a comparatively small node connected to e-learning, character building, and technology, indicating that character-related keywords are less prominent than PAI and digital competence in the corpus. However, relationships between keywords represent thematic connections within the literature rather than direct evidence of the effectiveness of digital technology in producing

3.2 Occurrence and Completeness of Lickona's Components

The mapping based on Lickona's character education theory shows that *moral feeling* is the most frequently identified component, appearing in 79 articles (91.9%). *Moral knowing* appears in 77 articles (89.5%), while *moral action* is identified in 52 articles (60.5%). This distribution indicates that discussions of value appreciation and moral understanding are more prevalent than discussions of the enactment of values through behavior.

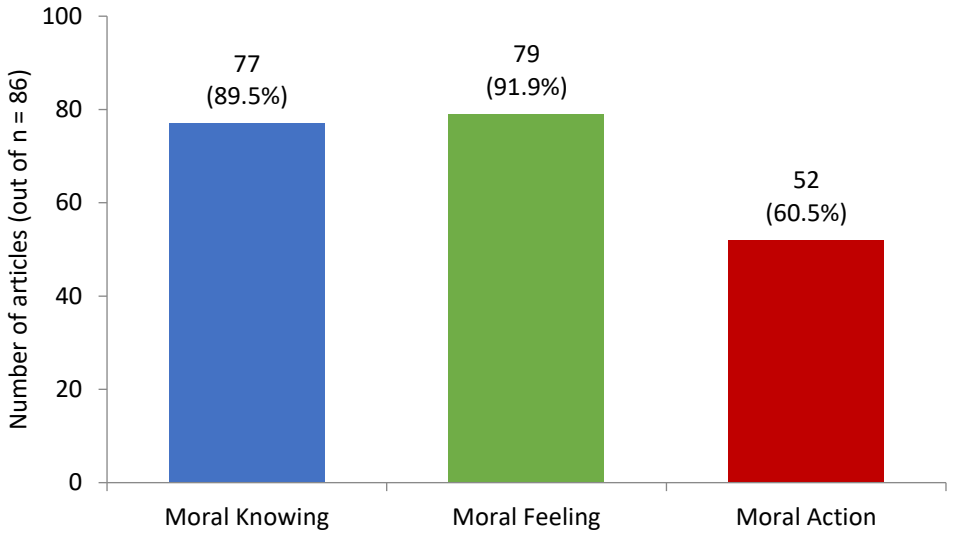


Figure 3. Occurrence of the Three Lickona Components

The frequency of each component does not fully reflect the extent to which character-related outcomes are reported as an integrated set within individual articles. Regarding component completeness, 51 articles (59.3%) included all three Lickona components, 24 articles (27.9%) included two components, 7 articles (8.1%) included only one component, and 4 articles (4.7%) contained no character-related component that met the coding criteria. The distribution is presented in Table 2.

Table 2.
Completeness Status of Lickona's Components in the 86 Included Articles

Completeness Status	N	%
Complete (all three components co-occur)	51	59.3%
Partial (two components occur)	24	27.9%
Minimal (only one component occurs)	7	8.1%
None	4	4.7%

A total of 59.3% of the articles included all three components, whereas the remaining 40.7% included only some components or contained no character-related component that could be

coded. This pattern indicates that the presence of one component was not necessarily accompanied by reporting on the other components. For example, Zahira's (2025) article, "Peran Pendidikan Islam dalam Membentuk Karakter Mahasiswa" (No. 23), explicitly reported all three components. In contrast, Sodikin's (2024) article, "Transformasi Pendidikan Agama Islam melalui Artificial Intelligent (AI): Upaya Meningkatkan Kemampuan Berpikir Kritis Mahasiswa" (No. 38), contained indications of *moral knowing* and *moral feeling* but no identifiable indicator of *moral action*. Rifdillah's (2025) article, "Implementation of Islamic Religious Education in the Industrial Era 4.0: Opportunities, Challenges, and Adaptation Strategies" (No. 8), contained indications of *moral knowing* and *moral action* but did not report measurements of students' spiritual and moral development.

Based on the evidence classification, each article was assigned a single label: *Explicit* if all coded components were supported by explicit evidence from findings or conclusions directly reporting learners' outcomes, and *Inferred* if at least one component relied on inference from research objectives, proposed outcomes, or syntheses of other studies. Accordingly, 6 articles (7.0%) were classified as *Explicit*, including four that addressed all three of Lickona's components. Another 76 articles (88.4%) were classified as *Inferred*: 39 relied entirely on inferred evidence, while 37 combined explicit and inferred evidence. The remaining four articles (4.7%) contained no character-related components that met the coding criteria. Overall, this distribution indicates that the literature on digitally mediated PAI relies predominantly on inferential rather than explicit empirical evidence when reporting character-related outcomes. Consequently, claims concerning character education are not always accompanied by direct evidence demonstrating learners' outcomes in moral knowing, moral feeling, and moral action.

3.3 Distribution of Affective Sub-Categories

The full-text analysis of the 86 articles identified ten affective subcategories representing character-related outcomes in digitally mediated PAI. A single article could contain more than one subcategory; therefore, the percentages are not expected to total 100%. The distribution of these subcategories is presented in Figure 4.

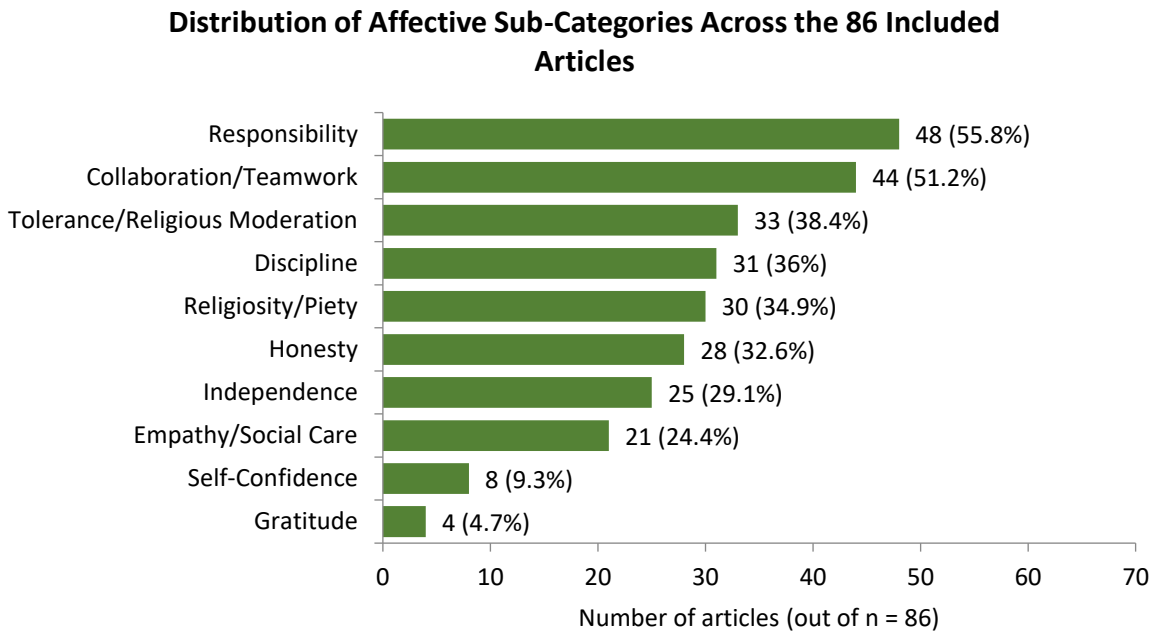


Figure 4. Distribution of Affective Sub-Categories Across the 86 Included Articles

Responsibility (55.8%) and cooperation/collaboration (51.2%) were the two most frequently reported subcategories. Both indicate that the literature places considerable emphasis on dispositions related to personal responsibility and students' social engagement. For example, Qamariyah and Sofa's (2025) article, "Desain Pembelajaran PAI Berbasis Multiliterasi untuk Mahasiswa Pascasarjana" (No. 4), reported responsibility and collaboration as learning outcomes. Meanwhile, subcategories related to religiosity and spirituality did not appear with the same frequency. Religiosity/piety was identified in 30 articles (34.9%), whereas gratitude appeared in only 4 articles (4.7%). Nuruzzahri (2026) article, "Internalisasi Nilai-Nilai Pendidikan Agama Islam untuk Menjaga Moralitas Mahasiswa di Era Digital" (No. 12), discussed religiosity alongside discipline, responsibility, and honesty. Gratitude, the least frequently identified subcategory, was reported, among others, in Mustofa et al.'s (2026) article, "Transformasi Nilai Karakter Mahasiswa Prodi Pendidikan Agama Islam di Era Digital Society 5.0" (No. 34). Overall, the corpus contained 272 affective subcategory assignments. Of these, 191 (70.2%) were classified as *moral feeling*, 42 (15.4%) as *moral action*, and 39 (14.3%) as *moral knowing*. This distribution indicates that the identified subcategories were predominantly associated with value appreciation and affective dispositions. By contrast, subcategories coded as moral action accounted for a smaller proportion. These findings reflect patterns in how character-related outcomes are reported in the literature rather than direct measurements of the extent to which students' character has been formed.

4. Discussion

4.1 Characteristics of the Literature and the Strength of Evidence on Affective Learning Outcomes

The distribution of publications indicates growing scholarly attention to character education in digitally mediated Islamic Religious Education (PAI). Of the 86 articles included in this review, 63 (73.3%) were published in 2025–2026. However, the concentration of publications in

recent years should not automatically be interpreted as evidence of stronger empirical support for affective learning outcomes. The number of publications reflects the development of scholarly interest, whereas the strength of the evidence depends on how learning outcomes are identified, assessed, and reported.

This distinction is important because 76 articles (88.4%) relied on inferential evidence for at least one coded component, whereas only six (7.0%) were supported entirely by explicit evidence. Of these six articles, four (4.7% of the total corpus) addressed all three of Lickona's components: moral knowing, moral feeling, and moral action. Inferential evidence was derived from research objectives, proposed instructional designs, or discussions synthesizing previous studies, whereas explicit evidence consisted of findings or conclusions directly reporting learners' outcomes. Thus, the presence of character-related concepts in an article does not necessarily demonstrate that the corresponding learning outcomes were empirically established.

This pattern suggests that character education in digital PAI has received considerable conceptual and pedagogical attention, but the reporting of affective outcomes remains uneven. Studies may articulate character development as an instructional objective without providing equally clear evidence of how the intended outcomes are manifested in learners' experiences or behavior. Similar concerns about the relationship between educational intentions and the demonstration of learning outcomes can be considered alongside discussions by Saputra (2024), Rahmah et al. (2025), Mukminin (2025), and Arianty (2026). Accordingly, evaluating this body of literature requires attention not only to the character values discussed but also to the type and strength of evidence used to substantiate the reported outcomes.

4.2 The Imbalance among Moral Knowing, Moral Feeling, and Moral Action

The distribution of Lickona's three components reveals an imbalance in how character-related learning outcomes are represented in digital PAI literature. Moral feeling appeared in 79 articles (91.9%), followed by moral knowing in 77 (89.5%) and moral action in 52 (60.5%). Thus, while the cognitive and affective dimensions were widely represented, the behavioral dimension received comparatively less attention. This imbalance is also evident among the 24 articles addressing only two components: 23 discussed moral knowing and moral feeling without including moral action.

This pattern highlights a gap in how the relationship between understanding moral values, appreciating their significance, and translating them into action is represented in the literature. Within Lickona's framework, these components are conceptually interconnected rather than independent indicators of character. Knowledge of moral principles and appreciation of their importance provide essential foundations, but they do not, by themselves, demonstrate that learners act in accordance with those principles. Accordingly, the frequent reporting of moral knowing and moral feeling should not be interpreted as sufficient evidence of character-related behavior.

Evidence was coded at two levels: the individual component and the article as a whole. At the component level, explicit evidence was identified in 30 of the 77 articles addressing moral

knowing (39.0%), 26 of the 79 addressing moral feeling (32.9%), and 7 of the 52 addressing moral action (13.5%). The remaining evidence for each component was inferred from study aims, proposed outcomes, or the interpretation of findings in context. At the article level, an article was classified as *Explicit* only when all coded components were supported by explicit evidence; it was classified as *Inferred* when at least one component relied on inference. On this basis, 6 articles were classified as Explicit, including 4 that addressed all three components; 76 were classified as Inferred, comprising 39 in which all components were inferred and 37 combining explicit and inferred evidence; and 4 addressed none of the components. These figures describe different units of analysis and are therefore not contradictory. Taken together, they show that character-related outcomes are often presented as anticipated developments in learners' appreciation or internalization of values rather than as directly documented manifestations. For example, Sodikin (2024) reports improvements in literacy and critical thinking, associated with moral knowing, and positions PAI as a moral foundation for AI use, associated with moral feeling, without reporting corresponding behavior.

Moral action was not only the least frequently represented component but also the least explicitly documented. Explicit evidence for this component appeared in seven articles. Qamariyah and Sofa (2025), for example, report students' use and verification of scholarly sources; Zahira (2025) reports respondents' internal motivation to apply values; Sumiah Nasution et al. (2025) discuss the application of moral values in student–lecturer communication; Amirudin et al. (2026) report increased ethical dialogue and cooperative behavior; and Ridholloh and Robbani (2026) report students rejecting academic dishonesty. By contrast, the other 45 moral action codes were inferred. One example is Kurniawan et al. (2025), in which the application of values in behavior is described as suboptimal. This distinction matters because references to applying values, developing responsibility, or strengthening collaboration do not necessarily constitute direct evidence that learners demonstrate these behaviors.

Overall, these findings do not establish that digital PAI fails to support character-related learning. Rather, they reveal a gap between the frequent articulation of cognitive and affective outcomes and the less consistent documentation of their behavioral manifestations. The key issue is therefore the completeness and strength of the evidence used to represent character-related outcomes, particularly whether studies document the connection between learners' understanding of values, their appreciation of those values, and their enactment of them in everyday interactions.

4.3 Affective Learning Outcomes between General Dispositions and Islamic Values

The distribution of affective subcategories indicates that the literature most frequently addresses general social and personal dispositions. Responsibility appeared in 48 articles (55.8%), followed by cooperation or collaboration in 44 articles (51.2%), tolerance or religious moderation in 33 articles (38.4%), discipline in 31 articles (36.0%), and religiosity or piety in 30 articles (34.9%). At the lower end of the distribution, self-confidence appeared in eight articles (9.3%), while gratitude appeared in four (4.7%). These frequencies suggest that

responsibility and collaboration occupy prominent positions in the way character-related outcomes are discussed in digital PAI literature.

The prominence of these general dispositions is pedagogically meaningful because responsibility, cooperation, tolerance, and discipline are relevant to students' participation in learning and their interactions with others. However, their frequency also raises a question about how specifically Islamic dimensions of character are articulated in the reported outcomes. Although religiosity or piety appeared in 30 articles, the frequency of a category alone does not establish the depth of its conceptualization or the extent to which it is demonstrated in learners' conduct.

The coding results provide further insight into this distinction. Of the 30 assignments related to religiosity or piety, 25 (83.3%) were coded as moral feeling, reflecting values, character, or spiritual orientations without explicit indicators of behavior or knowledge. Four assignments (13.3%) were coded as moral action, two of which represented expected behaviors, while one (3.3%) was coded as moral knowing. The proportion of behavioral coding for religiosity was lower than that for empathy (28.6%), honesty (21.4%), and responsibility (18.8%), but close to discipline (16.1%) and higher than collaboration (11.4%), tolerance (9.1%), and independence (8.0%). Behavioral indicators constituted a minority across all subcategories. These findings suggest a tendency for religiosity to be discussed primarily as an affective orientation, although the difference is narrow and should be interpreted cautiously given the small number of assignments.

Studies by Nuruzzahri (2026) and Marasabessy (2025) provide relevant contexts for examining the relationship between religious values and students' character-related dispositions. Similarly, Qamariyah and Sofa (2025) highlight responsibility and collaboration, while Mustofa et al. (2026) address gratitude. These examples illustrate the range of affective outcomes discussed in the literature, from general dispositions relevant to social interaction to values more directly associated with religious and moral orientation.

The findings therefore indicate that the reporting of affective outcomes tends to emphasize broadly applicable character dispositions, while the behavioral manifestation of specifically Islamic values is less consistently articulated. For digital PAI, the implication is not to separate general character dispositions from Islamic values, but to clarify how they are related within learning outcomes. Responsibility, honesty, empathy, and cooperation can be examined in relation to the ethical and religious principles that inform them, while the assessment of religiosity should distinguish value appreciation from its manifestation in learners' decisions and interactions.

4.4 Implications for the Design and Evaluation of Digital-Based Islamic Religious Education

Digital PAI learning can be designed to support reflective and socially meaningful experiences flective and socially meaningful experiences. Learning resources and online activities can provide opportunities for students to examine ethical issues, interpret religious values, and consider alternative responses. These processes can be complemented by discussion, collaborative tasks, and situations that allow students to articulate and demonstrate their understanding of values. Such an approach is consistent with the need to connect value

understanding and appreciation with behavioral manifestations, as also reflected in Marasabessy (2025), Sagala et al. (2024), and Nasution (2025).

Overall, the review indicates that the central challenge in digital PAI is not simply the integration of technology into instruction, but the articulation and assessment of affective learning outcomes. The literature demonstrates substantial attention to character-related values, particularly responsibility, cooperation, and value appreciation. Nevertheless, explicit evidence connecting moral understanding and appreciation with behavioral enactment remains comparatively limited. Strengthening the alignment among learning objectives, instructional activities, and assessment indicators would help produce a more comprehensive account of how digital PAI addresses character-related learning outcomes. These implications concern the design and reporting of learning outcomes; they do not, by themselves, establish that particular technologies or instructional approaches cause character development.

5. Conclusion

This systematic literature review analyzed 86 articles selected from 996 records to examine affective learning outcomes in digitally mediated Islamic Religious Education (PAI) in higher education and their alignment with Lickona's character education framework. The findings show that the most frequently reported outcomes are general character dispositions, particularly responsibility (55.8%) and cooperation (51.2%), while religiosity appears in 34.9% of the articles and gratitude in only 4.7%. This distribution indicates that affective outcomes in digital PAI literature are more commonly articulated through general character dispositions than through specific Islamic values and their behavioral manifestations. Regarding the alignment with Lickona's framework, *moral feeling* appears in 91.9% of the articles and *moral knowing* in 89.5%, compared with 60.5% for *moral action*. Although 59.3% of the articles address all three components, the evidence supporting their actual manifestation is uneven. In particular, behavioral outcomes are less frequently reported explicitly than outcomes related to understanding and appreciating values. The findings therefore point to a gap in the reporting of how moral understanding and appreciation are connected to the enactment of values in students' behavior. This pattern concerns the representation and strength of evidence in the reviewed literature and does not establish that digital learning itself produces or causes character development.

These findings highlight the importance of aligning learning objectives, instructional activities, and assessment with all three components of character education. Digital PAI should provide opportunities not only for understanding and reflecting on Islamic values but also for demonstrating them through observable behavior. General dispositions such as responsibility, honesty, empathy, and cooperation also need to be connected more explicitly with the religious and ethical values addressed in PAI. Technology is therefore best positioned as a pedagogical resource that supports value-oriented learning, rather than as an indicator of character development in itself. Future research should strengthen coding validation, expand database coverage, and prioritize empirical studies that examine observable student behavior and the pedagogical processes connecting moral understanding, value appreciation, and behavioral enactment. Such efforts would provide a stronger evidence base for evaluating affective learning outcomes in digitally mediated PAI.

Declaration of AI and AI-assisted Technologies

Claude (Anthropic) was used as an assistive tool for selected tasks, including literature screening, coding, metadata extraction, visualization, and manuscript drafting. The researcher remained actively involved in the research process, including article selection, full-text review, verification, data interpretation, and manuscript revision. The researcher retains full responsibility for the accuracy, originality, and integrity of the manuscript.

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