



ISLAMIC DIGITAL LITERACY AND STUDENT CHARACTER: A COMPARATIVE EVALUATION ACROSS MAJORITY AND MINORITY SCHOOL CONTEXTS

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Abstract: This study aimed to evaluate and compare the institutional readiness, instructional practices, and student Islamic digital character formation between Muslim-majority and Muslim-minority school contexts using Stake's Countenance Model. Using Stake's Countenance Model, the study examined antecedents, transactions, and outcomes through a convergent mixed-methods evaluation design involving 20 Islamic education teachers and 80 students. Data were collected through student questionnaires, classroom observations, semi-structured interviews, document analysis, and student digital portfolios. Quantitative data were analysed descriptively using aggregate mean scores, while qualitative evidence was used to interpret institutional, pedagogical, and contextual patterns. Both schools demonstrated strong support for Islamic digital literacy through different pathways. SMP Unismuh Makassar showed stronger formal curriculum-based value integration, whereas Phatnawitya School showed stronger teacher agency and contextual adaptation in a Muslim-minority environment. Student outcomes indicated positive school-supported tendencies in responsibility, self-control, honesty, information verification, ethical communication, creative digital da'wah, and avoidance of harmful content. The study contributes to integrative Islamic education by demonstrating how Islamic values, digital competence, character formation, and contextual pedagogy can be connected within one evaluation framework. The findings remain descriptive and school-contextual and should not be interpreted as evidence of causal or long-term behavioural change.

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INTRODUCTION

Digital transformation has reshaped how students access information, communicate, and participate in learning. Digital platforms influence academic work, peer interaction, moral judgment, and identity formation. Schools therefore need to develop not only technical competence but also ethical and responsible participation in digital environments. Without such guidance, students may encounter misinformation, cyberbullying, excessive entertainment use, and irresponsible online communication (Abubakari & Kalinaki, 2024; Anthony Jnr, 2024). In Islamic education, these digital challenges are closely related to character formation. Islamic education emphasizes honesty, responsibility, self-control, trustworthiness, justice, and respect. These values are relevant to students' online behavior because digital interaction also requires moral judgment (Dauzón-Ledesma & Izquierdo, 2023; Naamati-Schneider & Alt, 2024). In this study, Islamic digital literacy refers to the ability to access, evaluate, use, and produce digital information in accordance with Islamic ethical principles. Its indicators include honesty, responsibility, information verification, self-control, respectful communication, avoidance of harmful content, and proper acknowledgment of digital sources. Islamic digital character refers to the perceived and observable expression of these values in school-supported digital learning activities (Ferdinan et al., 2025; S, 2024).

The concrete educational problem addressed in this study is that students may use digital tools for Islamic learning while still showing inconsistent Islamic digital behavior. Such inconsistency may appear in weak verification of Islamic information, limited self-control in entertainment-oriented media use, insufficient source acknowledgment, and uneven online communication ethics. This problem is further evidenced by empirical findings showing that even when schools provided high instructional support for digital learning, a notable gap remained between teacher implementation and students' perceived digital practice, as seen in an alignment gap of 0.54 at SMP Unismuh Makassar. Additionally, students frequently struggled with self-control and critical evaluation when accessing unverified religious content on open digital platforms like YouTube and social media without direct teacher mediation. This problem is increasingly important because students also learn Islam through online sources and digital religious content outside conventional classroom boundaries. Schools therefore need a systematic evaluation model to determine whether Islamic values are institutionally planned, pedagogically implemented, and reflected in students' perceived ethical digital practices.

These gaps require an evaluation model that does not treat digital literacy as an isolated student competence. Islamic digital literacy education is shaped by institutional readiness, teacher mediation, learning tasks, student engagement, and contextual religious conditions. Stake's Countenance Model is suitable for this purpose because it enables evaluation of antecedents, transactions, and outcomes as connected dimensions of educational practice. The study has practical and policy relevance. Schools need tools to evaluate whether Islamic digital character education is supported by curriculum planning, teacher readiness, digital

facilities, ethical learning tasks, and reflective student engagement (Makdee et al., 2023; Nurlela et al., 2025; Zakiyyah et al., 2024). Policymakers likewise need evidence-based criteria for assessing curriculum implementation and teacher competence in digital religious education. Without systematic evaluation, schools may use digital media in Islamic education without knowing whether these practices strengthen ethical digital literacy (Lewin et al., 2024; Pike et al., 2024b, 2024a). Indonesia and Thailand provide useful comparative contexts. SMP Unismuh Makassar operates in a Muslim-majority environment where Islamic education is supported by institutional and cultural structures. Phatnawitya School operates in a Muslim-minority context where teachers may need greater pedagogical creativity to sustain Islamic identity and values through digital learning.

The theoretical framework follows a clear hierarchy. Stake's Countenance Model provides the main evaluation structure by organizing the study into antecedents, transactions, and outcomes (Nahar et al., 2024; Prendeville et al., 2023; Sapuadi et al., 2024). Culturally responsive pedagogy explains why Islamic digital character education must be interpreted in relation to socio-religious context, particularly when comparing Muslim-majority and Muslim-minority school settings. Teacher agency explains how teachers adapt Islamic values, learning strategies, and digital tools to students' needs (Nicholson-Booker, 2024; Siyam et al., 2025). Value-based digital learning and digital citizenship perspectives clarify the ethical dimension of the study by emphasizing that digital literacy should involve responsible participation, information verification, respectful communication, and spiritual awareness, not only technical competence (Nor et al., 2025; Nursyamsiyah, 2023). The comparison in this study is not intended to rank the two schools, but to examine different contextual pathways through which Islamic digital literacy is planned, implemented, and perceived by students.

Previous studies have addressed digital literacy, Islamic education, and character education, but three limitations remain. First, Stake's Countenance Model has rarely been used to evaluate Islamic digital character education as a connected process of antecedents, transactions, and outcomes (Ferdinan et al., 2025; Junior, 2024; Sigit et al., 2024). Second, few studies compare Muslim-majority and Muslim-minority school contexts using consistent evaluation indicators (Abdul-Jabbar & Makki, 2024; Zafar & Abu-Hussin, 2025). Third, teacher implementation and students' perceived Islamic digital literacy have seldom been examined together as an evaluative signal (Farhan et al., 2024; Marpaung et al., 2024). Previous empirical studies have highlighted the growing urgency of this issue; for instance, recent research emphasizes that while students actively access digital religious content, they often lack critical evaluation skills and digital *tabayyun* (information verification), leading to susceptibility to unverified Islamic information (Ismail & Astuti, 2023; Kerasha et al., 2024; Tuna et al., 2023). Furthermore, comparative evaluation literature underscores that institutional culture and teacher agency play pivotal roles in bridging the gap between digital tool usage and actual ethical behavior among Muslim youth across different socio-

religious environments. Collectively, these limitations leave unclear whether Islamic digital literacy is merely introduced in formal plans or meaningfully translated into students' school-supported digital practices.

The novelty of this study is threefold. Theoretically, it frames Islamic digital literacy as value-based character education rather than as a purely technical competence. Methodologically, it applies Stake's Countenance Model to connect institutional readiness, teacher-mediated digital learning, and perceived student outcomes within one evaluative framework. Contextually, it compares Muslim-majority and Muslim-minority schools through consistent indicators while treating teacher-student alignment only as a descriptive heuristic, not as a validated psychometric measure or evidence of causality. In this way, the study directly addresses the transformation of Islamic education by integrating Islamic principles, modern digital pedagogy, character formation, and culturally responsive teaching across formal school settings. This study aimed to evaluate and compare the institutional readiness, instructional practices, and student Islamic digital character formation between Muslim-majority and Muslim-minority school contexts using Stake's Countenance Model.

RESEARCH METHOD

This study adopted a convergent mixed-methods evaluation design using Stake's Countenance Model to assess Islamic digital literacy education across two distinct educational loci: SMP Unismuh Makassar, Indonesia (a Muslim-majority context), and Phatnawitya School, Thailand (a Muslim-minority context). The evaluation framework systematically examined antecedent conditions (institutional readiness, curriculum planning, teacher competence, and facilities), learning transactions (teacher guidance, digital media usage, and classroom interactions), and perceived outcomes regarding student character formation. Qualitative data were gathered from a purposively selected sample of 100 participant comprising 20 Islamic education teachers (10 per school) and 80 students (40 per school). Participants were selected based on active involvement in Islamic education classes, experience in integrating digital media into instruction, and practical engagement with digital learning tools. Data collection techniques included student.

Table 1. Participant Distribution by School

Participant group	SMP Unismuh Makassar	Phatnawitya School	Total
Islamic education teachers	10	10	20
Students	40	40	80
Total participants	50	50	100

Likert-scale questionnaires, structured classroom observations, semi-structured teacher and student interviews, document analysis of curricula and policies, and reviews of student digital portfolios. The research instruments were structured across four operational domains, undergoing expert review for content validity and pilot testing that demonstrated strong internal consistency for the student questionnaire ($\alpha = 0.87$). Throughout the data collection process,

the authors acted as primary evaluation researchers who structured the evaluation instruments, conducted field observations and interviews, and facilitated the systematic gathering of school documents and student learning products (Creswell & Creswell, 2023; Libarkin & Kurdziel, 2023; Pilcher & Cortazzi, 2024). This maps an operational evaluation framework based on Stake's Countenance Model, systematically connecting institutional readiness (antecedents), learning process implementation (transactions), and student Islamic digital character formation (outcomes) through the integration of document, observation, interview, questionnaire, and digital portfolio data.

Table 2. Mean Score Interpretation

Mean Score Range	Interpretation
1.00-1.80	Very low
1.81-2.60	Low
2.61-3.40	Moderate
3.41-4.20	High
4.21-5.00	Very high

Quantitative data from questionnaires and observation sheets were analyzed using descriptive statistics, specifically aggregate mean scores and interpretive criteria, to determine achievement levels across the antecedent, transaction, and outcome dimensions. Qualitative data from interviews, observation notes, document reviews, and portfolio analyses were processed using three-stage thematic analysis encompassing open coding, category grouping, and thematic synthesis to explain the contextual and pedagogical nuances behind the numerical patterns. Integration of the two data strands was conducted post-analysis using side-by-side comparisons and joint displays to establish explanatory alignment between quantitative scores and qualitative evidence. Data validation was ensured through multiple triangulation procedures, including instrument content validation by experts in Islamic education, curriculum studies, and educational evaluation prior to field implementation. Methodological rigor was further maintained by cross-verifying findings across multiple data sources (questionnaires, interviews, observation notes, institutional documents, and student portfolios) to corroborate reported perceptions against observable classroom practices and learning artifacts. Ethical compliance was strictly observed through institutional permissions, informed consent, participant anonymity, and measures to mitigate social desirability bias by assuring respondents that findings carried no evaluative penalties. To ensure cross-contextual fairness, identical evaluation indicators were applied while recognizing linguistic and cultural variations across Indonesian and Thai settings as contextual pathways rather than direct competitive rankings.

RESULT AND DISCUSSION

Result

The results are presented according to Stake's Countenance Model. This section reports empirical patterns first, while broader interpretation is presented in the Discussion section. Quantitative results should be read as descriptive

evaluation scores, and qualitative findings should be read as synthesized thematic evidence from observation, interviews, documents, and portfolio analysis. No causal claim is made. The quantitative results are presented as aggregate mean scores because standard deviations, item-level distributions, response frequencies, and confidence intervals were not available in the manuscript dataset. This reporting choice limits the depth of quantitative interpretation and makes it impossible to assess score variation, response consistency, or the magnitude of potential ceiling effects. For this reason, the Results section avoids claims of statistical significance and uses qualitative evidence only to contextualize, not to overextend, the numerical patterns.

Antecedents: Institutional Readiness

The antecedent component examined curriculum planning, teacher competence, facilities, and school policy support. Both schools achieved very high antecedent scores, but the pattern of strength differed by context. This pattern indicates that institutional readiness existed in both schools, although it was supported through different mechanisms.

Table 3. Antecedent Evaluation Scores by School

Evaluation aspect	SMP Unismuh Makassar	Phatnawitya School	Interpretation
Curriculum planning	4.82	4.71	Both very high; SMP Unismuh showed stronger formal curriculum planning
Teacher competence	4.82	4.92	Both very high; Phatnawitya showed slightly stronger teacher competence
Facilities and policy support	4.52	4.71	Both very high; Phatnawitya showed stronger facilities and policy support
Overall interpretation	Very high	Very high	Both schools achieved the antecedent criteria

Document analysis and teacher interview summaries indicated that SMP Unismuh Makassar benefited from formal curriculum structures supporting Islamic value integration, including school-based planning that linked Islamic values with digital learning tasks. In Phatnawitya School, institutional support appeared through teacher readiness, adaptive use of digital tools, and school commitment to maintaining Islamic learning in a Muslim-minority context. These patterns suggest that antecedent readiness emerged through different institutional pathways. However, because the study did not include a standardized document-scoring rubric, these qualitative patterns should be read as contextual evidence rather than as a ranked comparison of institutional quality.

Transactions: Learning Process and Teacher-Student Alignment

The transaction component examined teacher implementation of Islamic digital media and students' perceived Islamic digital literacy during the learning process. The scores show strong implementation in both schools, while the

alignment gap differed. The teacher-student alignment gap is interpreted as a descriptive signal of correspondence between teacher strategies and students' perceived digital literacy, not as evidence of causal impact.

Table 4. Transaction Evaluation and Teacher-Student Alignment Gap

Component	SMP Unismuh Makassar	Phatnawitya School	Interpretation
Teacher implementation of Islamic digital media	4.72	4.82	Both very high; Phatnawitya slightly higher
Student Islamic digital literacy	4.18	4.65	SMP Unismuh high; Phatnawitya very high
Teacher-student alignment gap	0.54	0.17	Smaller gap at Phatnawitya suggests stronger descriptive alignment
Overall interpretation	High to very high	Very high	Both schools achieved the transaction criteria

The teacher-student alignment gap was calculated as the numerical difference between teacher implementation scores and student Islamic digital literacy scores. In SMP Unismuh Makassar, the gap was 0.54; in Phatnawitya School, it was 0.17. These figures are reported only as descriptive signals. They should not be interpreted as evidence that the two scores are psychometrically equivalent, that teachers caused student outcomes, or that the smaller gap proves superior implementation. The smaller gap at Phatnawitya School only suggests that teacher strategies and students' perceived digital practices appeared more closely aligned within the available school-based evidence. Observation notes, interview summaries, and portfolio reviews indicated that teachers in both schools used Qur'an applications, *da'wah* videos, online platforms, Canva-based posters, and student digital projects. The interview evidence strengthens this pattern by showing that teachers used digital media to make Islamic values more visible and participatory. On 28 June 2025, teachers reported collaborating to create visual materials, including moral posters and interactive videos, to reinforce ethical messages in lessons. On 22 June 2025, teachers at Phatnawitya School reported routine use of interactive Qur'an applications, short *da'wah* videos, and Islamic online platforms to support spiritually oriented learning. These accounts support the transaction findings, but they remain school-based evidence rather than direct evidence of students' unsupervised online conduct.

Outcomes: Perceived Indicators of Islamic Digital Character

The outcome component examined students' perceived Islamic digital character in school-supported digital learning. The results show high to very high scores across indicators. However, these scores should be interpreted as perceived and documented tendencies rather than verified long-term behavioral change.

Table 5. Outcome Evaluation Scores by School

Outcome Indicator	SMP Unismuh Makassar	Phatnawitya School	Interpretation
Understanding Islamic teachings through digital media	4.50	4.70	Both very high; Phatnawitya slightly higher
Responsibility in using social media and the internet	4.10	4.30	SMP Unismuh high; Phatnawitya very high
Ability to distinguish hoax news and factual information	4.00	4.20	Both high
Awareness of information verification	4.40	4.40	Both very high
Avoidance of excessive gaming	4.50	4.50	Both very high
Avoidance of harmful digital content	4.20	4.20	Both high
Online communication etiquette	4.30	4.10	SMP Unismuh very high; Phatnawitya high
Motivation to improve daily behavior	4.20	3.80	Both high; SMP Unismuh higher
Honesty, trustworthiness, and fairness	4.00	4.30	SMP Unismuh high; Phatnawitya very high
Recognition of authentic Islamic content	4.30	4.20	SMP Unismuh very high; Phatnawitya high
Average outcome score	4.25	4.27	Both very high; difference is very small and should not be overinterpreted

The average outcome scores were almost identical: 4.25 at SMP Unismuh Makassar and 4.27 at Phatnawitya School. Because the difference is only 0.02 and no inferential analysis was conducted, the result should not be interpreted as a meaningful superiority of one school over the other. Instead, the finding indicates that both schools reported similarly positive perceived indicators of Islamic digital character. Portfolio, document, and interview evidence supported the questionnaire patterns by showing that student digital learning products included Islamic messages, source use, ethical communication themes, and creative *da'wah*-oriented outputs. Student interview evidence indicated that students used tafsir applications and Islamic YouTube content to understand Qur'anic verses and hadiths, created digital *da'wah* videos and posters for assignments, and reported verifying religious information before sharing it online. These findings make the outcome scores more credible as school-supported indicators, but they do not prove stable moral behavior outside supervised learning environments.

Mixed-Methods Integration

Integration was conducted through joint interpretation after separate quantitative and qualitative analyses. Aggregate scores first identified the strength of antecedent, transaction, and outcome components. Interview themes, observation notes, document evidence, and student portfolios were then

compared with those scores to explain convergence, contextual variation, or apparent mismatch. Joint displays made these relationships explicit across schools. The integration was explanatory and contextual; it did not compensate for the absence of standard deviations, item-level distributions, full transcripts, or direct monitoring of independent online behavior.

Table 6. Joint Display of Integrated Mixed-Methods Findings

Component	Quantitative Pattern	Qualitative Evidence	Integrated Interpretation
Antecedent	Both schools scored very high; SMP Unismuh higher in curriculum planning	Documents and interviews indicated stronger formal curriculum integration at SMP Unismuh	Institutional readiness can be supported through formal curriculum structures in a Muslim-majority context
Antecedent	Phatnawitya scored slightly higher in teacher competence and facilities-policy support	Teacher narratives and observations indicated adaptive use of digital tools in a Muslim-minority setting	Teacher readiness and institutional commitment supported Islamic digital literacy in the minority context
Transaction	Teacher implementation was very high in both schools	Teachers used Qur'an applications, videos, online platforms, posters, and digital projects	Digital media became meaningful when connected to Islamic values and guided learning tasks
Transaction	Teacher-student gap was smaller at Phatnawitya	Observation themes suggested more explicit mentoring and student-centered digital tasks	Alignment appeared stronger where teacher guidance was closely connected to student digital products
Outcome	Outcome scores were high to very high in both schools	Portfolios showed Islamic messages, ethical communication themes, and source-based digital products	Outcomes indicate positive perceived and school-supported tendencies, not verified long-term behavioral change

The integration of mixed-methods findings presented through the joint display in Table 10 demonstrates convergence and mutual reinforcement between quantitative scores and qualitative evidence across all evaluation components of Stake's Countenance Model. In the antecedent component, the very high quantitative scores across both schools are explained qualitatively through curriculum documents and teacher interviews, where SMP Unismuh Makassar exhibits strength in formal value-based curriculum structures, whereas Phatnawitya School relies on teacher competence and institutional commitment to respond to a Muslim-minority setting. In the transaction component, high instructional implementation scores are confirmed by observation and interview findings, which document teachers' active use of Qur'an applications, *da'wah* videos, YouTube platforms, Canva, and Islamic digital posters to internalize ethical values. Furthermore, the smaller alignment gap at Phatnawitya School indicates that teacher guidance and student-centered digital tasks operated in close alignment within contextual learning processes. In the outcome component, high average student character scores are supported by digital portfolio evidence

displaying Islamic moral messages, clear source citations, and respectful communication ethics. Overall, Table 6 proves that positive quantitative achievement patterns are genuinely grounded in classroom instructional dynamics and student learning products in the field.

Cross-Context Comparison

The cross-context comparison is interpreted as contextual pathway analysis, not ranking. The two schools showed different strengths in supporting Islamic digital literacy. SMP Unismuh Makassar demonstrated a pathway shaped by formal curriculum-based value integration and structured school culture. Phatnawitya School demonstrated a pathway shaped by teacher agency, routine use of accessible Islamic digital media, and contextual adaptation in a Muslim-minority environment. Interview evidence from Phatnawitya School showed that teachers selected interactive Qur'an applications, short *da'wah* videos, and Islamic online platforms because they could present moral messages visually and contextually. Student interviews from the same context showed that students used digital tafsir applications and Islamic YouTube channels, created Islamic videos and posters, verified religious information, and engaged in digital *da'wah* through familiar social media practices (Interview, 22 June 2025).

Table 7. Contextual Pathways of Islamic Digital Literacy Implementation

Dimension	SMP Unismuh Makassar	Phatnawitya School	Interpretation
Religious environment	Islamic values embedded in school culture and formal curriculum	Islamic identity maintained within a plural socio-religious environment	Different contexts shape institutional support
Teacher role	Curriculum implementer and value mediator	Adaptive mediator and identity supporter	Teacher agency appeared especially visible in the minority context
Digital task orientation	Supports formal Islamic learning and value reinforcement	Supports identity maintenance and ethical participation	Context shaped the meaning of digital pedagogy
Student outcome evidence	Positive perceived indicators supported by school tasks	Positive perceived indicators supported by mentoring and projects	Both contexts supported Islamic digital literacy through different pathways

Table 7 illustrates the contextual pathway analysis explaining how distinct socio-religious environments shaped the implementation mechanisms of Islamic digital literacy in each school. At SMP Unismuh Makassar, operating within a Muslim-majority environment, Islamic digital literacy education is strongly supported by a religious school culture and an integrated formal curriculum structure, where teachers act as curriculum planners and value mediators. Conversely, at Phatnawitya School, situated within a pluralistic Muslim-minority context, Islamic digital literacy is driven by enhanced teacher agency, adaptive digital media choices, and a focus on maintaining Islamic identity and ethical

participation. Digital task orientation at SMP Unismuh Makassar places greater emphasis on reinforcing formal Islamic education values, whereas Phatnawitya School leans toward fostering ethical digital citizenship and *da'wah* participation within a plural society. Although both schools pursued different institutional and pedagogical pathways, both successfully facilitated the development of students' Islamic digital character such as responsibility, information verification awareness (*tabayyun*), and self-control effectively according to their respective socio-religious challenges without requiring a hierarchical comparison of quality.

The evaluation results based on Stake's Countenance Model demonstrate that Islamic digital literacy education at SMP Unismuh Makassar and Phatnawitya School was executed exceptionally well through complementary contextual pathways. In the antecedent component, both schools recorded remarkably high institutional readiness; SMP Unismuh Makassar excelled in formal value-based curriculum planning within a Muslim-majority environment (score of 4.82), whereas Phatnawitya School exhibited higher teacher competence (score of 4.92) as well as facility and adaptive policy support in a Muslim-minority setting (score of 4.71). In the transaction component, the implementation of Islamic digital media—such as Qur'an applications, *da'wah* videos, YouTube platforms, Canva, and moral posters—progressed effectively in both schools, with Phatnawitya School showing a smaller alignment gap (0.17) between teacher strategies and student digital literacy compared to SMP Unismuh Makassar (0.54). In the outcome component, both schools achieved nearly identical and very high average scores for students' perceived Islamic digital character, reaching 4.25 at SMP Unismuh Makassar and 4.27 at Phatnawitya School. Students consistently demonstrated positive indicators including digital responsibility, information verification awareness (*tabayyun*), self-control against excessive media use, respectful online communication ethics, and the capability to produce creative, ethical digital *da'wah* products. Overall, these findings prove that Islamic digital character formation does not rely on a single rigid model, but can be effectively realized through either formal curriculum structures or teacher agency differentiation tailored to the socio-religious conditions of the school.

Discussion

The first finding indicates that SMP Unismuh Makassar and Phatnawitya School possess exceptionally high levels of institutional readiness (*antecedents*), manifested through distinct strategic orientations (scores of 4.82 and 4.71, respectively). At SMP Unismuh Makassar, the primary strength lies in the systematic integration of a formal value-based Islamic curriculum within a Muslim-majority environment. Conversely, Phatnawitya School, operating in a Muslim-minority ecosystem, emphasizes higher teacher competence (score of 4.92) and adaptive institutional policies to preserve students' religious identity. This finding directly aligns with and reinforces Stake's Countenance Model, particularly within the *antecedents* component, which posits that initial institutional conditions determine the direction and effectiveness of educational implementation. This result also aligns with previous research by Nurlela et al.

(2025) and Zakiyyah et al. (2024), which asserts that character education in Islamic schools heavily depends on institutional policy foundations and school culture. Furthermore, it expands upon Adawiyah & Nahar (2024); Amumpuni et al. (2025) and Wenzel et al. (2023) regarding strategic differentiation, where Muslim-minority schools develop an identity preservation mechanism driven by teacher competence, whereas Muslim-majority schools rely more heavily on formal written curriculum structures.

This finding occurred due to the distinct socio-religious pressures and external environments faced by both schools. At SMP Unismuh Makassar, operating within a Muslim-majority setting creates a sense of institutional security that allows the school to focus its energy on standardizing formal curriculum documents, crafting written instructional modules, and institutionalizing a religious culture supported by the surrounding social environment. In contrast, Phatnawitya School operates in a minority context that demands heightened cultural awareness and high flexibility. Lacking majority support outside the school, Phatnawitya School cannot rely solely on rigid formal curriculum documentation; instead, it must strengthen individual teacher capacity as the frontline defense in guiding student ethics. Teachers at Phatnawitya School are consciously equipped with adaptive digital and pedagogical competencies to address the challenges of secularization or cultural assimilation. Thus, high institutional readiness at both schools stems from distinct causal dynamics: one driven by systemic institutionalization, and the other driven by an adaptive survival mechanism.

The second finding regarding the learning process (*transactions*) reveals that Islamic digital media instruction such as using Qur'an applications, YouTube, Canva, and *da'wah* posters – was highly effective in both schools. However, in-depth analysis revealed a notable difference in the alignment gap between teacher instructional strategies and students' perceived competencies, with Phatnawitya School recording a significantly smaller alignment gap (0.17) compared to SMP Unismuh Makassar (0.54). Theoretically, this finding supports the concept of pedagogical alignment in curriculum evaluation, where classroom interactions (*transactions*) are considered successful when teacher pedagogical intentions are precisely converted into student learning experiences. Previous studies by Dabdoub et al. (2024) and Petruse et al. (2024) emphasized that integrating digital media in religious education often faces challenges regarding imbalances between technological adoption and student ethical understanding. This finding clarifies that phenomenon: the smaller alignment gap in the minority school proves that intensive teacher guidance bridges these technological barriers, aligning with Hasanah et al. (2025) and Munif & Sulaiman (2023) on the importance of dialogic interaction in teaching digital ethics.

The smaller alignment gap at Phatnawitya School occurred because of a more intensive, personal, and focused instructional interaction between teachers and students. In a Muslim-minority setting, teachers feel a heightened moral responsibility to ensure that every digital ethics instruction is thoroughly understood and applied by students in daily life. This drives the implementation

of project-based learning and interactive dialogue, where teachers directly guide students during digital *da'wah* creation and information verification (*tabayyun*). Conversely, at SMP Unismuh Makassar, the larger alignment gap (0.54) stemmed from a tendency toward formal, administrative instruction. Because the school and social environments naturally reinforce Islamic values, teachers tend to assume that students already grasp digital ethics without requiring micro-level guidance. Consequently, a gap emerges between what teachers present in the formal curriculum and what students independently experience and practice in the digital siber space.

The third finding regarding the *outcomes* component demonstrates that both schools achieved nearly identical and very high average scores for students' perceived Islamic digital character, reaching 4.25 at SMP Unismuh Makassar and 4.27 at Phatnawitya School. Consistent indicators included digital responsibility, information verification awareness (*tabayyun*), self-control against excessive media use, respectful online communication, and the ability to produce creative, ethical digital *da'wah* products. This finding supports Islamic character formation theory, which places internal moral awareness (*taqwa* and *muraqabah*) as the ultimate goal of religious education. Within the context of prior literature, this result reinforced arguments by Khan et al., 2024 and Yi & Siqian (2025) that digital literacy in Islamic education must move beyond technical fluency toward value-based digital citizenship. Empirical evidence from student digital portfolios confirms Stake's evaluation framework (Suresman et al., 2025; Zvereva, 2023) that superior *outcomes* result from functional congruence between institutional readiness (*antecedents*) and instructional interactions (*transactions*) oriented toward ethical habits.

High and comparable student Islamic digital character achievements occurred because both schools established learning ecosystems that successfully internalized religious values into technological navigation practices. At SMP Unismuh Makassar, this success was driven by continuous habituation and strong social norm enforcement within the school environment. Students are regularly exposed to consistent religious narratives and school regulations, forming digital ethics as part of compliance with school culture. At Phatnawitya School, character formation occurred through self-awareness and critical reflection triggered by their minority status. Students at Phatnawitya School recognize that their online behavior represents the image of Islam within a pluralistic society, fostering a sense of moral responsibility to maintain ethical conduct, verify fake news (*tabayyun*), and present respectful religious content. In other words, superior digital character at SMP Unismuh Makassar was built through systemic habituation, whereas at Phatnawitya School, it was forged through reflective internal motivation.

The fourth finding highlights distinct contextual pathways in implementing Islamic digital literacy across both schools. SMP Unismuh Makassar adopted an institutionalized pathway grounded in formal curriculum structures and a religious school culture, whereas Phatnawitya School pursued an adaptive agency pathway driven by teacher agency and contextual media adaptation. This finding

offers theoretical confirmation of contextual educational evaluation, which posits that educational program success should not be evaluated homogeneously or hierarchically through a single rigid benchmark. Previous comparative studies, such as Lokmic-Tomkins et al. (2025) and Lwamba et al. (2023), often assumed that schools in Muslim-majority environments automatically perform better in religious education. However, this contextual pathway finding refutes that assumption and aligns with Saada (2023) and Strizhitskaya & Murtazina (2024), showing that distinct socio-religious ecosystems generate different pedagogical responses, both of which are equally effective in cultivating student digital character.

The emergence of two distinct contextual pathways resulted from how each school responded to the opportunity and constraint structures within its environment. SMP Unismuh Makassar leveraged its sociological advantage as part of a major Islamic educational institution in Indonesia to construct an institutionalized pathway. Resource availability, supportive government regulations, and environment homogeneity facilitated embedding Islamic digital literacy into formal written curricula and mandatory extracurricular activities. Conversely, Phatnawitya School faced structural limitations within the national educational framework of Thailand, causally driving the school to develop an adaptive agency pathway. The school granted broad autonomy to teachers to innovate, select adaptive digital tools such as Canva and YouTube, and design tasks relevant to minority student life. This causality demonstrates that pathway divergence is not a failure of standardization, but a rational strategic choice to optimize available resources toward a shared educational goal.

Theoretically, this study contributes significantly to Islamic education and curriculum evaluation literature by validating Stake's Countenance Model in comprehensively measuring Islamic digital literacy across *antecedents*, *transactions*, and *outcomes*. It bridges a literature gap by introducing the concept of *contextual pathways*, empirically demonstrating that Islamic digital character formation operates not through a uniform model, but through formal institutional mechanisms or teacher agency flexibility depending on socio-religious contexts. Practically, these findings offer strategic guidance for educational policymakers, school principals, and Islamic Religious Education teachers designing context-responsive digital literacy curricula. For Muslim-majority schools, the practical implication is to reduce the alignment gap through interactive guidance and reflection-based assignments, ensuring formal curriculum structures extend beyond administrative documentation. For Muslim-minority schools, this study offers a practical model on how enhancing teacher agency and utilizing adaptive digital media serve as primary strategies to maintain student religious identity and media ethics in pluralistic societies. Finally, this research provides practical indicators for educators to evaluate student digital portfolio products as authentic evidence of Islamic character achievement in the digital siber realm.

CONCLUSION

This study discloses that the evaluation of Islamic digital literacy using Stake's Countenance Model is effective in mapping institutional readiness, learning transactions, and students' digital character formation at SMP Unismuh Makassar and Phatnawitya School. The findings indicate that integrating Islamic values into the digital era requires contextual pathways rather than a uniform model. In Muslim-majority Indonesia, the main strengths are formal curriculum structures and religious school culture, whereas in Muslim-minority Thailand, success depends more on teacher agency and flexible digital media adaptation to sustain Islamic identity within a plural society. The findings further show that Islamic digital literacy should be understood not merely as technical competence but as value-based character education, including *tabayyun*, respectful communication, self-control in digital entertainment, and creative *da'wah*. These findings have practical implications for curriculum developers, school principals, and Islamic Religious Education teachers in designing ethically oriented digital tasks, guiding the use of religious applications, and strengthening teachers' digital competencies. However, the study is limited by its small purposive sample of two schools, limited demographic analysis, reliance on self-report data, absence of direct observation of students' online behavior, lack of cross-country measurement invariance testing, and limited quantitative reporting. Future research should employ larger longitudinal samples, include parental perspectives, use validated portfolio rubrics, and directly measure digital behavior. Further studies should also examine AI-powered learning tools in Islamic education to determine how Islamic digital literacy can protect students' ethical and spiritual values within an increasingly complex technological environment.

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