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Integrating Interactive Flat Panels in Islamic Religious Education: A Literature Review on Qur'anic Literacy and Character Development

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ABSTRACT

This article examines how Interactive Flat Panels (IFPs) can support Qur'anic literacy and character development in Islamic Religious Education (PAI). Using a narrative literature review with qualitative thematic synthesis, the study draws on 19 substantive publications from 2024–2026 and one methodological reference from 2021. The review organizes the literature around IFP affordances, PAI pedagogy, Qur'anic literacy, and character development. Findings suggest that IFPs can help teachers display verses clearly, annotate tajwid, use validated recitation audio, encourage participation, and guide reflection. These benefits depend on accurate materials, direct recitation practice, teacher modeling, habituation, and appropriate evaluation. The article proposes a five-stage framework: value orientation, text encounter, meaning construction, character reflection, and evaluation with follow-up. Because the framework remains conceptual, classroom testing is still required and no causal effectiveness is claimed.

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Keywords:

interactive flat panels;
literature review;
qur'anic literacy;
character development.

INTRODUCTION

Digital media have become part of students' everyday learning environment, and PAI classrooms increasingly encounter this reality. Teachers may still rely on textbooks, board work, oral explanation, and direct religious guidance, but students are also accustomed to screens, videos, applications, and online searches. The issue, therefore, is not whether technology should replace established PAI practices, but how it can be used without weakening the pedagogical and ethical character of the subject. PAI deals not only with information, but also with faith, adab, Qur'anic recitation, understanding, and the gradual formation of conduct. For that reason, digital tools need to remain subordinate to clear learning purposes and teacher guidance. Their value lies in helping students see, hear, discuss, and practise material more meaningfully, while the teacher continues to safeguard accuracy, interpretation, and the educational relationship that gives religious learning its direction.

Interactive Flat Panels (IFPs) are increasingly used in educational settings because they combine touchscreen display, digital whiteboard functions, audiovisual playback, teaching-material presentation, and opportunities for classroom interaction. Recent studies point to several distinct instructional functions. Smartboard use has been associated with clearer understanding of PAI material (Aini et al., 2024). IFPD has also been used to support more structured presentation in PAI (Ariani & Ahadiyah, 2025). In Qur'anic learning, IFP has been used to support reading and writing activities (Hidayat & Musnandar, 2026), while IFPD has been linked with student motivation and collaboration (Indriansyah, 2025). However, these studies largely examine specific instructional functions or learning outcomes, leaving unclear how IFPs can be pedagogically integrated with the distinctive requirements of Qur'anic literacy and character development. A visually attractive screen does not automatically produce meaningful learning; its educational value depends on how teachers design activities, select valid materials, guide interpretation, and connect digital interaction with direct practice.

These findings point to an important distinction between technological affordance and pedagogical integration. A feature such as touch interaction, multimedia playback, or annotation creates a possibility; it does not determine what

students learn from the activity. In a PAI lesson, the same IFP can be used merely to project slides, or it can support a sequence in which students observe a verse, listen to a recitation, identify a tajwid pattern, explain a basic meaning, and respond to a value-oriented question. The difference lies in the learning design rather than in the device (Ariani & Ahadiyah, 2025). This distinction is especially important because enthusiasm for new classroom technology can easily lead to judgments based on visibility, novelty, or student attention alone. For IFP use to become educationally meaningful in PAI, digital features need to be linked to activities that preserve textual accuracy, active participation, direct practice, and teacher mediation (Hidayat & Musnandar, 2026).

In PAI, these concerns become especially important because Qur'anic material cannot be treated as ordinary digital content. Verses need to be displayed accurately, recitation examples must follow accepted rules, translations require careful use, and classroom activities should preserve adab toward the Qur'an. Research on PAI in the Society 5.0 era likewise stresses that technological change should not displace the value orientation of religious education (Andryadi et al., 2025). The selection of learning models also needs to reflect objectives, content, and student characteristics (Najikh et al., 2024). Digital media may strengthen motivation, yet their educational value still depends on how the teacher organizes learning (Ningsih et al., 2025). The practical implication is clear: technology should help students approach the text, meaning, and values of PAI more carefully, rather than simply making the lesson look modern.

Qur'anic literacy in this article is understood as a staged capacity that includes recognizing letters, reading accurately, applying tajwid, and develop respectful and consistent engagement with Qur'anic texts. It also includes understanding the basic messages of verses, relating them to everyday life, and using them as material for reflection. Adilla et al. (2025) connect Qur'anic literacy in PAI with reading habits and character strengthening; Nurliah (2024) shows that school Qur'anic literacy programs require curriculum planning; and Rowis (2025) identifies continuing challenges in reading ability, interest, and mentoring. Accordingly, Qur'anic literacy is treated here

not merely as fluency but as a combination of recitation, basic comprehension, respectful engagement, and sustained practice.

Seen in this way, Qur'anic literacy contains several connected but distinguishable layers. Visual recognition and accurate recitation provide an entry point; tajwid, repetition, and correction help stabilize reading; basic comprehension allows students to move from sound to meaning; and regular engagement creates conditions for reflection and habituation. IFPs may contribute differently at each layer. Enlarged text and annotation can help students notice letter forms or recitation signs, audio can offer a model for comparison, and guided prompts can support initial meaning-making. None of these functions removes the need for students to read aloud, receive correction, repeat difficult passages, and interact respectfully with Qur'anic texts. This layered understanding also prevents the article from reducing literacy to a technical skill. In PAI, reading competence becomes pedagogically stronger when accuracy, comprehension, adab, and continuity are treated as parts of the same learning process rather than as separate outcomes (Adilla et al., 2025).

Rather than treating "Qur'anic character" as a fixed academic construct, this article uses the concept of character development based on Qur'anic values. The conceptual pathway is understood as Qur'anic values for guiding reflection to be a habituation for character development. In this sense, values such as honesty, discipline, responsibility, respect, care for others, and self-improvement are not assumed to arise from exposure to digital content alone; they require teacher modeling, repeated practice, reflection, and reinforcement. Fahmi et al. (2024) emphasize Qur'an-based character formation in Islamic education, while Ismaraidha et al. (2024) and Putri and Rohman (2024) show the relevance of Qur'anic literacy and religious-character programs to students' attitudes. IFP can support the presentation of examples and reflection prompts, but character development remains dependent on educational relationships, habituation, and the wider school environment.

Previous research is distributed across related but only partially connected areas. Smartboard use has been examined in relation to students' understanding of PAI (Aini et al., 2024; Swari et al., 2026). Interactive smartboards have also been studied in relation to motivation (Ainurrohman DCG et al., 2026). IFP use has been examined for

Qur'anic reading and writing (Hidayat & Musnandar, 2026), while active learning with IFP has been discussed outside the PAI context (Suryandari & Wakidah, 2026). A separate line of research addresses Qur'anic literacy and reading-character strengthening (Adilla et al., 2025). Other studies examine Qur'anic literacy culture and religious-character development in madrasah (Ismaraidha et al., 2024), the relationship between Qur'anic literacy programs and religious character (Putri & Rohman, 2024), and practical challenges in Qur'anic literacy within PAI (Rowis, 2025). What remains limited is a synthesis that connects the affordances of IFP technology with the specific pedagogical sequence required for accurate Qur'anic reading, comprehension, value reflection, and character-oriented practice in PAI. This gap defines the contribution of the present review.

The gap is therefore not simply a shortage of studies on digital media. Rather, it concerns the absence of a sufficiently connected explanation of how the reported affordances of IFPs can be aligned with the specific demands of Qur'anic learning and character-oriented PAI. Existing studies provide useful pieces of the picture: some describe understanding, motivation, participation, reading and writing, or device management, while other studies focus on Qur'anic literacy and religious-character development. What remains less explicit is the pedagogical bridge between these bodies of work. A narrative synthesis is useful for this purpose because it allows findings from different designs and educational contexts to be read comparatively without pretending that they are statistically equivalent. The present review therefore asks a practical conceptual question: under what pedagogical conditions can IFP features support, rather than distract from, the recitation, comprehension, reflection, and habituation expected in PAI? This question also frames the five-stage model developed later in the article.

Against this background, the article aims to synthesize how IFPs can be integrated into PAI in ways that support Qur'anic literacy and character development grounded in Qur'anic values. More specifically, it maps the main themes in the recent literature, interprets both the opportunities and the limits of IFP use, and develops a pedagogical framework that teachers can later test in classroom practice. The contribution is not a new device, application, or claim of measured effectiveness.

Rather, it lies in connecting the affordances of IFPs with four educational dimensions that need to remain visible in Qur'anic learning: accurate reading, basic comprehension, value reflection, and character-oriented practice. The resulting framework is therefore presented as a literature-derived conceptual guide. It offers a structured way to think about integration, while leaving questions of effectiveness, feasibility, and classroom impact to subsequent empirical research.

METHOD

This study employed a narrative literature review with qualitative thematic synthesis. The design was selected because the purpose is not to estimate an intervention effect or to present the study as a PRISMA-based systematic review. Instead, the review brings findings and concepts from different but related bodies of literature into a pedagogical framework. Transparency is addressed through explicit search terms, eligibility criteria, thematic organization, and a clear account of how evidence was interpreted. The reporting principles described by Page et al. (2021) are used only as general guidance for transparent reporting; they are not used to claim that the present review meets the procedures of a systematic review.

The literature was organized into four thematic clusters. The first covers PAI, learning models, and digital-era challenges. It includes discussion of PAI in the Society 5.0 era (Andryadi et al., 2025) and conceptual guidance for selecting PAI learning models (Najikh et al., 2024). The second covers IFP, smartboard, and interactive digital media in educational settings. This cluster includes smartboard use in PAI (Aini et al., 2024), interactive smartboards and motivation (Ainurrohmah DCG et al., 2026), IFPD-supported PAI delivery (Ariani & Ahadiyah, 2025), Qur'anic reading and writing with IFP (Hidayat & Musnandar, 2026), motivation and collaboration (Indriansyah, 2025), interactive IFP use in IPAS (Jumiati et al., 2025), interactive-board use in English learning (Kurniawan & Hakim, 2024), IFP management (Rohmat et al., 2025), and IFP-supported active learning (Suryandari & Wakidah, 2026). The third cluster covers Qur'anic literacy and Qur'anic learning, including reading-character strengthening (Adilla et al., 2025), curriculum development for Qur'anic literacy (Nurliah, 2024), literacy implementation and its challenges (Rowis, 2025), and habituation-based

literacy development (Syahrin & Hasibuan, 2025). The fourth covers character development, religious character (Sholikah et al, 2023; Ma'arif & Muhid, 2025), motivation, and learning outcomes. It draws on literature concerning Qur'an-based character formation (Fahmi et al., 2024), Qur'anic literacy culture and religious character (Ismaraidha et al., 2024), digital media, motivation, and learning outcomes (Ningsih et al., 2025), and evaluation of Qur'anic literacy programs in relation to religious character (Putri & Rohman, 2024). Methodological literature was used separately to guide the review process, with Page et al. (2021) supporting principles of transparent reporting.

The four-cluster organization was used as an analytic device rather than as a claim that the literature falls into perfectly separate categories. Several publications naturally overlap more than one cluster; for example, an IFP study may also address motivation, while a Qur'anic literacy study may discuss character-related outcomes. Each source was therefore placed according to its primary contribution to the review question, while relevant secondary insights were retained during synthesis. This approach helped prevent the review from becoming a sequence of article summaries. Instead, the clusters were used to compare what the technology can do, what PAI pedagogy requires, how Qur'anic literacy is described, and how character development is understood. The methodological reference was kept outside these substantive clusters so that guidance on transparent reporting would not be confused with evidence about learning. This distinction keeps the evidentiary basis of the proposed framework visible and consistent with the conceptual purpose of the review.

The search strategy used combinations of the terms Interactive Flat Panel, Interactive Flat Panel Display, interactive board, PAI digital media, Qur'anic literacy, character development, religious character, PAI learning, and literature review. The original platform-by-platform retrieval log was not preserved, so this narrative review does not assign retrospective database counts that cannot be verified. To improve transparency during revision, a retrospective verification audit was conducted on 24 August 2026. Indonesian records were cross-checked in GARUDA (Garba Rujukan Digital) where indexed, and every retained source was checked against the relevant

journal or publisher landing page together with available DOI or stable-permalink metadata. This audit was designed to verify bibliographic identity and thematic eligibility; it was not presented as a new PRISMA-based systematic search. The auditable corpus consisted of 20 retained references. All 20 were reassessed against the eligibility criteria: 19 were retained as substantive publications for thematic synthesis, while Page et al. (2021) remained separate as methodological guidance. The revision-stage flow can therefore be reported transparently as retained corpus available for audit (n = 20), reassessed records (n = 20), substantive synthesis (n = 19), and methodological reference (n = 1). Because the original pre-drafting identification log is unavailable, no unverified historical identification count is reconstructed.

Eligibility was judged by relevance, publication identity, and contribution to the synthesis. A source was retained when it addressed IFPs, smartboards, interactive digital media, or educational technology; addressed PAI, Qur'anic learning, Qur'anic literacy, religious character, or character development grounded in Islamic or Qur'anic values; and contributed empirical findings or a conceptual argument that could inform the proposed integration framework. Journal articles with clear bibliographic information were prioritized because they provided the most traceable basis for comparison. Popular opinion pieces, short news reports, product promotions, and items without adequate publication information were excluded from the substantive synthesis. These criteria were used to make the narrative review more transparent and focused, not to imitate a formal systematic-review risk-of-bias protocol. The purpose was to build a defensible conceptual synthesis from sources that were identifiable, relevant to the review question, and sufficiently informative for cross-theme interpretation.

The analysis proceeded in four stages. First, each eligible source was read for its main contribution to the review question rather than simply summarized in publication order. Second, the evidence was organized into four substantive themes: IFP and digital-media affordances and constraints; PAI pedagogy and digital learning; Qur'anic literacy; and character development based on Qur'anic values. Third, findings were compared within and across these themes to identify points of convergence, differences in emphasis, limitations, and practical implications. Fourth,

the cross-theme synthesis was translated into a conceptual framework for IFP-supported PAI learning. Throughout this process, the analysis distinguished between statements directly reported in the reviewed studies and interpretations developed by the authors. The five-stage framework is therefore labeled as an author-derived conceptual synthesis rather than as an empirically tested intervention. No effect size was calculated, and the review does not claim causal effectiveness.

During synthesis, attention was given not only to points of convergence but also to differences in context and to the strength of the claims that individual studies could support. Findings from PAI, IPAS, English-language learning, elementary schools, madrasahs, and other settings were not treated as interchangeable evidence of effectiveness. Instead, they were used to identify transferable pedagogical functions or constraints when such transfer was conceptually reasonable. The analysis therefore distinguished three levels of statement: descriptions reported in the reviewed studies, cross-study interpretations made by the authors, and practical propositions developed from those interpretations. This distinction is important because the five-stage framework is not an observed intervention protocol tested across the included studies. It is a synthesis that organizes recurring educational requirements into a usable sequence. By keeping these levels separate, the review aims to remain useful for practice while avoiding claims that exceed the designs and outcomes of the underlying literature.

RESULTS

The evidence synthesis indicates that IFPs function as multifunctional learning media that combine text, sound, visuals, annotation, and interactive tasks. Hidayat and Musnandar (2026) report IFP use in Qur'anic reading and writing activities; Jumiati et al. (2025) describe interactive use in IPAS; Rohmat et al. (2025) emphasize management of IFP use as a condition for learning quality; and Ariani and Ahadiyah (2025) show its use for structured PAI presentation. Taken together, these studies support a cautious conclusion: IFPs can expand the forms of presentation and participation available to teachers, but the reviewed literature does not establish that the device itself produces learning gains independently of pedagogy.

A first cross-study theme concerns attention, motivation, and participation. Ariani and Ahadiyah (2025) show that IFPD can support systematic material delivery in PAI, while Ainurrohmah DCG et al. (2026) associate interactive smartboard use with students' learning motivation. Kurniawan and Hakim (2024) likewise show that interactive boards and digital platforms can encourage participation when students are given tasks, responses, and opportunities to interact with the material. The convergent point is that interactivity is not an inherent outcome of the device; it emerges from the design of student activity and teacher mediation.

Across these studies, attention and participation are better understood as intermediate conditions than as final educational outcomes. A student who looks at the screen, answers a quiz, or touches an interactive object is participating, but the significance of that participation depends on what the activity asks the student to notice, explain, practise, or reconsider. In PAI, surface engagement can coexist with weak comprehension or limited recitation practice. The reviewed evidence therefore encourages a shift from asking whether IFPs make lessons more attractive to asking how interaction is structured. When the screen becomes a shared workspace for explanation, response, annotation, or guided correction, it can support a more active classroom process (Kurniawan & Hakim, 2024). When it functions only as a large display, the potential for participation is narrower. This interpretation connects motivation-related findings with the broader pedagogical argument without treating motivation as proof of improved Qur'anic literacy or character.

A second theme concerns the requirements of Qur'anic literacy. The reviewed literature describes Qur'anic literacy as involving reading ability, tajwid and recitation signs, habituation of tilawah, basic comprehension, and sustained guidance. Adilla et al. (2025) link Qur'anic literacy in PAI with reading habits and character strengthening; Rowis (2025) identifies challenges related to students' reading ability, interest, and mentoring; and Syahrin and Hasibuan (2025) emphasize scheduled habituation and continuous evaluation. This body of literature provides the pedagogical requirements against which the potential contribution of IFPs should be judged.

When these literacy requirements are read alongside the affordances described in IFP studies, several plausible forms of support become visible. Enlarged verse display can make Arabic text easier to inspect collectively; on-screen annotation can help a teacher draw attention to tajwid or key terms; validated murattal audio can provide a model for comparison; and carefully designed prompts can support initial discussion of meaning. These possibilities should nevertheless be read as a conceptual connection across the reviewed literature, not as outcomes that were directly tested in every included study. The practical boundary is important. IFP use should complement rather than replace students' own recitation, teacher correction, repetition, feedback, and respectful engagement with Qur'anic texts. The quality of the digital material also matters, especially where Arabic script, recitation, translation, or religious interpretation is involved. In this review, technological convenience is therefore treated as useful only when it remains accountable to the accuracy and practice requirements of Qur'anic learning.

A third theme concerns character development based on Qur'anic values. Studies on Islamic and religious character education emphasize processes such as teacher modeling, habituation, reinforcement, reflection, and behavioral evaluation. Fahmi et al. (2024) position Islamic education as a space for Qur'an-based character formation; Ismaraidha et al. (2024) relate Qur'anic literacy culture in madrasah to religious-character development; and Putri and Rohman (2024) connect Qur'anic literacy programs with students' religious-character outcomes. These studies do not demonstrate that IFP use by itself forms character; rather, they identify educational processes that any digital integration must support.

The character-related evidence also requires careful interpretation. The reviewed studies point to educational processes such as modeling, habituation, reflection, reinforcement, and evaluation, but these processes operate through sustained relationships and repeated experience. IFPs can make values visible and discussable by presenting verses, cases, images, or prompts, yet the screen cannot perform the moral work of guidance on its own. A student may identify honesty as a value in a digital exercise without consistently practising honesty in school life. The potential contribution of IFPs therefore lies in helping teachers create moments of reflection that

can be followed by concrete expectations, observation, feedback, and habituation (Fahmi et al., 2024). This distinction avoids technological determinism: character development remains situated within teacher example, peer interaction, school routines, and opportunities to practise the values being discussed (Putri & Rohman, 2024).

Drawing on this character-education literature, the authors propose using IFPs as prompts for guided value reflection rather than as instruments that directly produce character. A teacher may display a verse, a short case, or a situation from school life and then ask students to connect the Qur'anic value under discussion with a concrete choice or habit. The important educational work begins after the content appears on the screen: students need opportunities to explain their reasoning, compare responses, consider consequences, and translate the discussion into a simple form of follow-up. This is a pedagogical proposition derived from the synthesis, not a direct empirical finding of the reviewed IFP studies. The proposed mechanism is therefore relational and developmental: Qur'anic values are introduced and interpreted, reflection is guided, practice is repeated through habituation, and character development is supported over time through modeling and feedback. In that sequence, the IFP acts as a trigger for discussion, while teachers and school culture remain the primary mediating influences.

A fourth theme concerns implementation limits and enabling conditions. Rohmat et al. (2025) emphasize the importance of managing IFP use, while Suryandari and Wakidah (2026) show that active learning with IFP still depends on teacher readiness and classroom activity management. The literature therefore supports treating IFP as an instructional resource that requires pedagogical preparation and organizational support. Practical issues such as connectivity, electricity, device maintenance, access to valid materials, and technical support are relevant implementation considerations, although they are not uniformly measured across the included studies.

Implementation conditions also shape whether these pedagogical possibilities can be sustained. Device availability alone does not ensure regular or appropriate use. Teachers need time to prepare reliable materials, confidence in basic IFP functions,

and clear decisions about when a digital activity adds value and when direct oral, written, or face-to-face work is preferable. Schools also need workable arrangements for access, maintenance, connectivity, and technical support (Rohmat et al., 2025). In Qur'anic learning, material validation carries additional importance because inaccuracies in Arabic text, recitation audio, transliteration, or translation can undermine the lesson itself. Readiness should therefore be understood at more than one level: technical readiness of the device, pedagogical readiness of the teacher, and curricular readiness of the material. The benefits described in the literature are most plausibly realized when these forms of readiness are aligned, rather than when IFPs are introduced as stand-alone equipment.

Table 1 summarizes the four substantive literature clusters and shows how each contributes to the review. It should be read as an evidence map rather than as a summary of effect sizes. The map makes visible an important pattern: research on digital media, PAI pedagogy, Qur'anic literacy, and character development often addresses different parts of the same educational problem. Bringing these parts together suggests that IFP integration is most defensible when digital affordances are aligned with recitation, comprehension, value reflection, and habituation. Without that alignment, an IFP may improve the presentation of material or make classroom activity more varied without necessarily advancing the deeper literacy and character-development aims of PAI. The table therefore serves two purposes: it identifies the evidentiary contribution of each cluster and provides the conceptual bridge from the literature review to the five-stage framework that follows.

Table 1. Mapping of literature groups used in the review

Literature group	Focus of discussion	Contribution to the article
IFP and digital learning media	IFP, IFPD, smartboard, interactive platforms, multimedia, device management	Explains the opportunities and limits of IFP as a medium that requires activity design, teacher readiness, and school support

PAI and learning innovation	PAI digital media, digital literacy, contemporary learning, digital adab	Emphasizes that technology in PAI must be guided by value objectives, material accuracy, and the teacher's role
Qur'anic literacy	Qur'anic reading and writing, formal TPQ, digital murattal, tajwid, tilawah habituation	Provides the basis that Qur'anic literacy includes recitation, basic understanding, internalization, and habituation
Character development based on Qur'anic values	Teacher modeling, guided reflection, habituation, attitude evaluation, religious-character development	Provides the basis for linking value reflection and habituation to character-oriented follow-up in IFP-supported learning

Source: Authors' analysis based on the 2021-2026 literature review.

Conceptual proposition derived from the synthesis. After comparing the four substantive clusters, the authors propose five stages of IFP integration in PAI learning. The framework was developed through a logic of alignment rather than by combining statistical outcomes. IFP affordances such as display, audio, annotation, and interaction were considered alongside Qur'anic learning requirements such as accurate reading and basic comprehension, and alongside character-education processes such as guided reflection, habituation, and evaluation. From this comparison, five connected stages were formulated: value orientation, text encounter, meaning construction, character reflection, and evaluation with follow-up. The sequence is intended to help teachers decide not only which digital feature to use, but why it is being used at a particular point in the lesson. In this way, the framework turns a collection of technological possibilities into a pedagogical sequence that remains accountable to PAI learning objectives.

Because the framework is a conceptual synthesis, it should not be read as a rigid or validated instructional model. Teachers can adapt the sequence to school level, student readiness, subject matter, available time, and device access. In elementary settings, the emphasis may remain on modeled recitation, recognition of basic meanings, respectful engagement, and simple habituation. At secondary level, the

same sequence can accommodate closer analysis of meaning, case discussion, source evaluation, and broader social reflection. Some lessons may also require teachers to spend more time at one stage than another. The value of the framework lies in the relationships among the stages, not in mechanically following identical steps in every lesson. It is therefore best understood as a heuristic for planning and later empirical testing. Whether the sequence improves learning, how teachers experience it, and which stages are most difficult to implement are questions for future classroom research rather than conclusions of the present review.

Table 2. IFP integration framework in PAI learning

Stage	IFP activity	Qur'anic literacy	Character-development focus
Value orientation	Display learning objectives and connect the theme with students' experiences	Readiness to read and understand the message of verses	Learning intention and respect
Text encounter	Display verses, audio, tajwid, and keywords	Recitation, tajwid, and initial meaning	Adab toward the Qur'an
Meaning construction	Question and answer, annotation, and group discussion	Relationship among text, meaning, and main message	Honesty, respect for opinions, cooperation
Character reflection	Connect daily cases with verses	Understanding verses as reflection	Honesty, discipline, trustworthiness, courtesy
Evaluation and follow-up	Short quiz, recitation rubric, reflection notes	Progress in recitation and basic understanding	Commitment to simple behavior

Source: Authors' conceptual synthesis based on the reviewed literature on IFP, PAI, Qur'anic literacy, and character development based on Qur'anic values.

DISCUSSION

The principal interpretation of the synthesis is that IFP integration in PAI should be understood as a conditional pedagogical process rather than as a technological intervention with an automatic effect. Earlier studies report different benefits and functions. Smartboards have been associated with improved understanding of PAI material (Aini et al., 2024). IFPD has been used to support structured presentation in PAI (Ariani & Ahadiyah, 2025). IFP has been applied to Qur'anic reading and writing activities (Hidayat & Musnandar, 2026), while IFPD has also been linked with

motivation and collaboration (Indriansyah, 2025). Read together, however, these studies imply that the educational value of IFP depends on task design, teacher guidance, and the fit between technological affordances and learning objectives. This helps explain why a feature-rich device can remain pedagogically superficial when it is used only as a screen.

For Qur'anic literacy, the synthesis contributes a criterion for judging digital integration: IFP use is educationally relevant when it supports direct recitation, tajwid accuracy, basic comprehension, and sustained engagement with Qur'anic texts. This interpretation extends the literacy concerns raised by Adilla et al. (2025), Rowis (2025), and Syahrin and Hasibuan (2025) by relating them to specific IFP affordances such as enlarged display, annotation, and audio. The key point is not that these features improve literacy by themselves, but that they can scaffold practices that remain dependent on students' active recitation, correction, repetition, and feedback.

This interpretation also clarifies why multimodality should be treated as scaffolding rather than substitution. Qur'anic learning involves seeing written forms, hearing recitation, producing sound, receiving correction, and gradually connecting text with meaning. IFPs can bring several of these modes into the same classroom moment, which may help teachers coordinate attention and explanation. Yet some of the most important learning events remain embodied and interpersonal: a student recites, the teacher listens closely, an error is corrected, and the student repeats the passage. Digital audio or annotation can prepare for and support this exchange, but it cannot replace the feedback relationship. The five-stage framework therefore places technology inside a broader learning sequence rather than at the center of it. Its value lies in how IFPs scaffold practices that already matter in Qur'anic pedagogy, including regular reading and sustained guidance (Syahrin & Hasibuan, 2025).

For character development, the synthesis suggests a different mechanism. Digital display is insufficient because character formation is mediated by educational processes rather than by exposure to technology alone. Islamic education has been positioned as a setting for Qur'an-based character formation (Fahmi et al., 2024). Qur'anic literacy culture in madrasah has also been associated with religious-character development (Ismaraidha et al., 2024). Evaluation of Qur'anic literacy

programs likewise indicates their relevance to strengthening students' religious character (Putri & Rohman, 2024). The proposed framework therefore treats IFP as a trigger for value-oriented reflection rather than as the agent of character formation. Conceptually, the pathway is Qur'anic values → guided reflection → habituation → character development. This distinction prevents a causal overclaim and clarifies the continuing role of teachers and school culture.

The main conceptual contribution of this article is the alignment of dimensions that are often discussed separately: technological affordances, accurate Qur'anic reading, comprehension, value reflection, and character-oriented practice. The five-stage framework gives this alignment a pedagogical order by moving from value orientation to text encounter, meaning construction, character reflection, and evaluation with follow-up. Its contribution therefore lies less in identifying new IFP functions than in clarifying how familiar functions can be subordinated to the distinctive purposes of PAI. The same screen, audio, or annotation feature can serve very different educational purposes depending on when and how it is used. By making that sequence explicit, the framework also offers a bridge between digital literacy and religious literacy. Students are not only exposed to digital material; they can be guided to check sources, attend to textual accuracy, interpret content in context, and connect Qur'anic messages with responsible behavior in both classroom and digital environments.

The framework also offers a mechanism for linking learning domains that are often handled separately in classroom planning. Accurate reading is not presented as disconnected from meaning, and meaning is not treated as disconnected from value reflection or follow-up behavior. The sequence moves from orientation to encounter, from encounter to interpretation, and from interpretation to reflection and observable practice. This progression gives the framework explanatory value beyond a list of IFP features. The same technological feature can serve different purposes depending on where it appears in the learning sequence. Annotation, for example, may support tajwid during text encounter, but it may also help identify keywords during meaning construction. A displayed case may have little value during recitation practice but may become useful during character reflection. In this sense, the framework is not a

technology checklist; it is a pedagogical ordering principle that keeps technological affordances connected to PAI objectives.

Compared with previous studies, this article therefore applies broader criteria for judging successful IFP integration in PAI. Aini et al. (2024) show how smartboards can support students' understanding; Ariani and Ahadiyah (2025) show how IFPD can support structured PAI delivery; and Hidayat and Musnandar (2026) demonstrate its use in Qur'anic reading and writing activities. The present synthesis adds that PAI should also ask whether digital use supports more accurate recitation, clearer understanding of basic messages, respectful engagement with Qur'anic texts, and opportunities to connect values with behavior. This is an interpretive contribution derived from the combined literature, not a measured effect produced by this review.

Practical recommendations for teachers follow from the synthesis, but they should not be confused with measured outcomes. A reasonable starting point is to use simple and verifiable digital materials: clear verse displays, validated recitation audio, focused guiding questions, short case prompts, and brief rubrics for recitation, understanding, or reflection. Screen-based activity should then be balanced with direct recitation, dialogue, correction, writing, and face-to-face feedback so that students remain active participants rather than passive viewers. Teachers also need to decide when the IFP genuinely improves access to a text or activity and when conventional interaction is more appropriate. This balance is important because a technologically rich lesson can still be pedagogically weak if students spend most of their time watching. The proposed applications are therefore best treated as starting points for classroom experimentation. Their value, feasibility, and effects on student learning need to be examined empirically in actual PAI settings.

At the school level, the synthesis points to the importance of implementation support. Rohmat et al. (2025) show that management of IFP use affects the quality of its utilization. On that basis, schools may need realistic scheduling, teacher training, shared digital-material libraries, device maintenance, technical support, and collaboration among PAI teachers and other relevant staff. These institutional measures are practical implications of the review rather than outcomes directly measured across all included studies.

From an institutional perspective, implementation should be gradual and evaluative rather than equipment-driven. Schools can begin by identifying a limited set of PAI lessons in which IFP functions clearly support an existing learning need, such as enlarging Arabic text for collective analysis, replaying validated recitation segments, or organizing a short reflective discussion. Teachers can then examine whether the activity improves clarity, participation, or the quality of practice before expanding its use. This approach also creates a more realistic basis for professional development because training can focus on actual teaching sequences rather than on device features in isolation. Collaboration among PAI teachers can further reduce duplication by allowing verified materials, recitation resources, and lesson prompts to be reviewed and reused (Rohmat et al., 2025). These arrangements do not guarantee learning outcomes, but they make the conditions for responsible use more visible and manageable.

At the curriculum level, the framework offers a way to connect understanding, attitudes, and practice within a single learning sequence. Students may be asked not only to identify a meaning or PAI concept, but also to recite, annotate tajwid, discuss the message of a verse, reflect on its value, and formulate a simple follow-up action that can be observed. This structure can help teachers avoid a common separation in which cognitive content is taught first and character formation is left as a general expectation. Instead, reflection and practice are planned as part of the lesson itself. The framework does not imply that every PAI topic requires the same balance of activities, nor that character can be measured through a single task. Its curricular value lies in making the intended relationship among knowledge, practice, and values more explicit while keeping technology subordinate to those objectives. This interpretation remains an author-derived implication that requires testing in different school contexts.

Several limitations define the boundaries of this review. First, it is a narrative literature review rather than a systematic review. The original platform-by-platform identification log was not preserved, so the revision-stage audit reports only the counts that can be verified: retained corpus ($n = 20$), reassessed records ($n = 20$), substantive publications included in the thematic synthesis ($n = 19$), and one

methodological reference. No historical identification count has been reconstructed. Second, the reviewed studies differ in subject area, school level, research design, and outcome, which means their findings cannot be combined into a single estimate of effectiveness. Third, the five-stage framework is a conceptual synthesis and has not been tested directly through classroom observation, interviews, pretest-posttest comparison, or experimental design. These limitations do not remove the value of the synthesis, but they require cautious interpretation. Future studies should examine the framework in schools that use IFPs, document teacher and student experiences, test specific PAI materials, and evaluate both learning processes and outcomes without assuming causal effects in advance.

CONCLUSION

This narrative literature review indicates that IFPs can support PAI when their audiovisual, annotation, and interaction features are deliberately aligned with the requirements of Qur'anic learning. Across the reviewed literature, the most defensible conclusion is conditional rather than causal: digital media can assist presentation, participation, recitation support, and guided reflection, but literacy and character-related outcomes still depend on accurate materials, teacher guidance, direct practice, habituation, and evaluation. The article's conceptual contribution is a five-stage framework—value orientation, text encounter, meaning construction, character reflection, and evaluation with follow-up—that links IFP affordances with accurate reading, comprehension, value reflection, and character-oriented practice. Because the review is narrative, lacks a complete historical database-by-database identification log and formal quality appraisal, and proposes a framework that has not yet been tested in a specific classroom, it should not be interpreted as evidence that IFPs cause improvements in Qur'anic literacy or character development. Its immediate value is as a structured planning guide and a testable model for future qualitative, action-research, or development studies.

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