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MODEL AND INSTRUCTIONAL DESIGN APPROACHES IN DIGITAL ISLAMIC EDUCATION: A SYSTEMATIC LITERATURE REVIEW

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Abstract:

The rapid expansion of digital technologies has reshaped educational practices globally, including within the domain of Islamic education, where instructional models must balance pedagogical effectiveness with religious and ethical values. Despite growing scholarly interest, research on models and instructional design approaches in digital Islamic education remains fragmented, making it difficult to identify dominant trends, gaps, and directions for future development. To address this issue, this study conducts a systematic literature review (SLR) to synthesise and critically analyse existing empirical and conceptual research on instructional design and learning models applied in digital Islamic education contexts. Guided by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, a comprehensive search was carried out using two major academic databases, Scopus and Web of Science, employing advanced search strings based on the keywords *Model*, *Instructional Design*, and *Digital Islamic Education*. The review was limited to peer-reviewed journal articles published between 2024 and 2025 to capture the most recent developments in the field. Following the identification, screening, eligibility, and quality assessment phases, a total of 20 primary studies were included for final synthesis. Thematic analysis of the selected studies resulted in the identification of three overarching themes: (1) *Instructional Design and Learning Models for Digital Pedagogy*, highlighting structured frameworks, engagement strategies, and learner-centred designs; (2) *Digital Technologies and*

Immersive/Innovative Learning Environments, focusing on the use of technologies such as AI-enabled platforms, virtual and augmented reality, simulations, and MOOCs; and (3) Islamic Education Reform, Curriculum Integration, and Teacher/Assessment Capacity, emphasising curriculum alignment, teacher digital competence, assessment practices, and the integration of Islamic values in digitally mediated contexts. Overall, the findings indicate a growing shift towards integrative and value-informed instructional design approaches that leverage digital innovation while preserving the core principles of Islamic education. This review contributes a consolidated evidence base that can inform future research, policy formulation, and the development of sustainable instructional models in digital Islamic education.

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Keyword:

Digital Islamic Education, Instructional Design, Model



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Introduction

Digital Islamic education has seen significant advancements in recent years, driven by the integration of various instructional design models and digital technologies. These innovations aim to enhance the quality of education while preserving core Islamic values. This extended introduction explores the different models and approaches used in digital Islamic education, highlighting their effectiveness and contributions to the field.

One prominent model is the MASLAHAH model, developed to enhance Islamic legal literacy, maşlahah reasoning, and religious moderation through digital technology. This integrative instructional model was designed using a Research and Development (R&D) approach and involved multiple phases, including needs analysis, model development, expert validation, and large-scale implementation. The MASLAHAH model comprises eight structured instructional stages: Mapping Readiness, Access Core Texts, Synthesize Concepts, learn through Cases, Argue with Maqāsid, Humanize with Moderation, Apply in Community Context, and Highlight Reflections & Evaluate. The model significantly improved Islamic legal literacy, maşlahah reasoning, and moderate character among students, demonstrating its effectiveness and feasibility (Hermawan et al., 2025) .

Another innovative approach is the SMART learning model, which addresses epistemological limitations in ushul fiqh instruction. This model integrates digital technology to enhance critical-contextual legal reasoning among prospective Islamic education teachers. The SMART model follows a five-stage instructional syntax: strategic, meaningful, active, reflective, and transformative. The model's effectiveness was confirmed through a mixed-methods approach,

showing significant improvements in learning outcomes. This model aligns classical ushul fiqh with digitally driven pedagogy, offering a critical-contextual framework for Islamic education reform (Sapiudin et al., 2025).

The convergence of the Fourth Industrial Revolution and Society 5.0 has further intensified the need for digital pedagogical innovations in Islamic education. A transformative digital learning model was developed to integrate Artificial Intelligence (AI), gamification, and moderate Islamic religiosity. This model aims to enhance critical literacy and internalized religiosity among students in private Islamic universities. Key features include adaptive AI mechanisms, value-infused gamified learning paths, and thematic integration of Islamic values. The model showed significant improvements in students' critical literacy and religiosity, highlighting the potential of digital technologies to foster both intellectual and spiritual excellence (Widodo, 2025).

Additionally, the blended-learning, flipped-classroom model has been explored to enhance Qur'an memorization. This model combines traditional and digital pedagogies to improve students' motivation, engagement, and memorization effectiveness. The study revealed increased motivation scores and improved memorization rates among students, demonstrating the model's effectiveness in aligning traditional spirituality with technological advancement. Despite challenges such as limited digital literacy and infrastructure, targeted training and institutional support helped mitigate these issues (Muhid & Arifin, 2025).

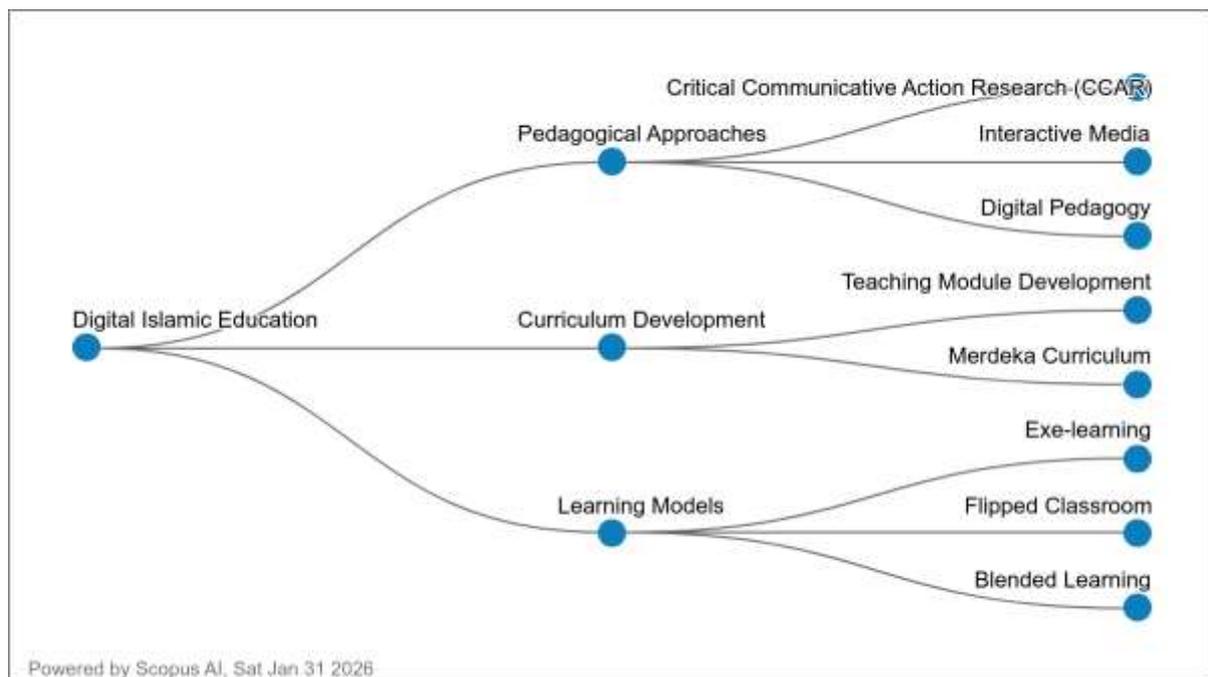


Figure 1: Conceptual Map of Digital Islamic Education and Instructional Design Approaches

Figure 1 illustrates a structured conceptual map positioning Digital Islamic Education as the central domain, from which three interrelated pillars emerge: pedagogical approaches, curriculum development and learning models. The map shows that pedagogical approaches are increasingly shaped by critical and participatory orientations such as Critical Communicative Action Research (CCAR), alongside the use of interactive media and digital pedagogy to

enhance engagement and meaning making. In parallel, curriculum development is framed through the adaptation of teaching module development and alignment with contemporary curricular reforms such as the Merdeka Curriculum, reflecting responsiveness to contextual and policy-driven educational change. Meanwhile, learning models highlight the operationalisation of digital Islamic education through exe-learning, flipped classroom, and blended learning, indicating a shift towards flexible, learner-centred, and technology-mediated environments. Collectively, this concept map underscores that digital Islamic education is not a single technological intervention but an integrated ecosystem where pedagogy, curriculum, and learning models interact dynamically, providing a strong conceptual foundation for examining instructional design approaches through a systematic literature review.

In conclusion, the integration of digital technologies and innovative instructional design models in Islamic education has shown promising results. These models not only enhance cognitive and motivational outcomes but also offer transformative frameworks that align traditional Islamic values with modern educational paradigms. The continued development and implementation of such models are essential for advancing digital Islamic education and ensuring its relevance in the digital age.

Research Question

Research questions play a central role in a systematic literature review (SLR), as they establish the conceptual foundation and methodological direction of the entire review process. Clearly articulated research questions define the scope and analytical focus of the SLR, guiding decisions on study inclusion and exclusion while ensuring alignment with the core topic under investigation. By providing a precise investigative lens, well-formulated research questions support a comprehensive and systematic search strategy that captures all relevant evidence addressing the key dimensions of the topic. This structured approach reduces the likelihood of selection bias and facilitates a balanced and comprehensive representation of existing scholarship. Moreover, research questions offer an analytical framework for organizing and categorizing data extracted from the included studies, enabling coherent synthesis of findings and the generation of substantiated conclusions. They also enhance conceptual clarity, preventing analytical drift and ensuring that the review remains focused on clearly defined issues, thereby increasing the interpretive value and practical relevance of the findings. In addition, explicitly stated research questions contribute to the transparency and replicability of the review process, allowing subsequent researchers to reproduce the methodology or extend the review to adjacent research domains. Collectively, these functions position research questions as the methodological backbone of a rigorous, focused, and evidence-informed SLR.

The formulation of research questions represents the most critical activity during the planning phase of an SLR, as it determines the structure and execution of the entire review methodology (Kitchenham, 2007). Given that the objective of this SLR is to identify and critically analyse the state of the art in the selected research domain, the PICO framework a mnemonic approach proposed for structuring research questions in qualitative and mixed-methods reviews was adopted in this study (Lockwood et al., 2015). PICO comprises three core elements: Population, Interest, and Context, which together enable the systematic delineation of the phenomenon under investigation. Applying the PICO framework facilitates the development of focused and analytically robust research questions by explicitly defining who or what is being studied, the primary phenomenon of interest, and the contextual boundaries within which the phenomenon occurs. This structured formulation enhances search precision, improves the consistency of

study selection, and strengthens the overall coherence of the review. Based on this approach, the present study formulated three research questions, as outlined below.

RQ1: How are instructional design approaches and learning models applied in digital Islamic education, and what learning outcomes and engagement effects are reported for learners and educators?

RQ 2: What digital and immersive technologies are implemented in digital Islamic education, and what benefits, challenges, and effectiveness indicators are reported in their use for teaching and learning?

RQ 3: How do curriculum reform and integration strategies in Islamic education relate to teacher capacity and assessment competence within digitally transforming educational contexts?

Material and Methods

To ensure methodological rigour and transparency in conducting this systematic literature review, the study adopted the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework, a widely recognised international standard for evidence synthesis (Page et al., 2021). Adherence to the PRISMA guidelines enhances the precision, consistency, and credibility of the review process by providing a structured protocol for the systematic identification, screening, and selection of relevant studies. Moreover, the framework underscores the importance of empirically robust research designs, particularly randomised studies, due to their capacity to minimise bias and generate reliable evidence. In line with this, Web of Science and Scopus were selected as the primary databases for this review, given their comprehensive coverage, scholarly credibility, and strong indexing of high-quality peer-reviewed publications.

The PRISMA methodology is operationalised through four sequential phases: identification, screening, eligibility, and data abstraction. During the identification phase, systematic searches were conducted across the selected databases to capture all potentially relevant studies. This was followed by the screening phase, where retrieved records were assessed against predefined inclusion and exclusion criteria to remove duplicates and non-relevant studies. The eligibility phase involved a detailed evaluation of full-text articles to ensure methodological and thematic alignment with the review objectives. Finally, the data abstraction phase focused on the systematic extraction and synthesis of key findings from the included studies. Collectively, this structured and transparent approach strengthens the analytical rigour of the review and ensures that the resulting evidence provides a reliable foundation for informing future research directions and educational practice.

Identification

According to the PRISMA framework, the identification phase represents the foundational stage of the systematic literature review process, as it determines the breadth and inclusiveness of the evidence base to be analysed. In this study, the identification process was conducted through comprehensive and systematic searches of two leading multidisciplinary databases, Scopus and Web of Science (WoS), using carefully selected keywords Model, Instructional Design, and Digital Islamic Education as shown in Table 1. These keywords were strategically chosen to capture the conceptual, pedagogical, and technological dimensions of the review focus. The search resulted in the identification of 103 records from Scopus and 62 records from

Web of Science, yielding a total of 165 publications relevant to the study topic. This volume of retrieved records reflects the growing scholarly attention to digitalisation and instructional design within the field of Islamic education, while also indicating that the literature remains sufficiently bounded to allow for meaningful synthesis.

The decision to utilise both Scopus and Web of Science is methodologically justified due to their complementary strengths in indexing high-impact, peer-reviewed research across education, social sciences, and interdisciplinary studies. Scopus offers extensive coverage and strong representation of applied educational research, which explains the higher number of records retrieved, while Web of Science contributes rigorously curated journals with high citation impact, ensuring the inclusion of theoretically and methodologically robust studies. By integrating results from both databases, this study mitigates the risk of database-specific bias and enhances the comprehensiveness and credibility of the review. Importantly, the identification of 165 records provides a sufficiently broad empirical foundation for subsequent screening and eligibility assessment, allowing for the systematic refinement of evidence in line with predefined inclusion criteria. This rigorous identification process strengthens the validity of the review and ensures that subsequent analyses are grounded in a representative and high-quality body of scholarly work capable of informing future research and instructional design practices in digital Islamic education.

Table 1: The Search String.

Scopus	<p>TITLE-ABS-KEY ((model* OR "instructional design" OR "design model" OR "educational model") AND ("instructional design" OR "curriculum design" OR "course design" OR "learning design") AND ("digital Islamic education" OR "Islamic education" OR "online Islamic education" OR "e-learning Islamic education" OR "digital education")) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (PUBYEAR , 2024) OR LIMIT-TO (PUBYEAR , 2025)) AND (LIMIT-TO (LANGUAGE , "English"))</p> <p>Date of Access: Jan 2026</p>
WoS	<p>(model* OR "instructional design" OR "design model" OR "educational model") AND ("instructional design" OR "curriculum design" OR "course design" OR "learning design") AND ("digital Islamic education" OR "Islamic education" OR "online Islamic education" OR "e-learning Islamic education" OR "digital education") (Topic) and 2025 or 2024 (Publication Years) and Article (Document Types) and English (Languages) and Web of Science Core Collection (Database)</p> <p>Date of Access: Jan 2026</p>

Screening

Following the screening phase outlined in the PRISMA framework, all records identified during the initial search were subjected to a systematic and criteria-driven evaluation to ensure relevance, quality, and methodological consistency. At this stage, titles, abstracts, and

bibliographic details were carefully examined against predefined inclusion and exclusion criteria. As a result of this process, 35 records from Scopus and 24 records from Web of Science were retained, yielding a total of 59 studies that demonstrated clear alignment with the review objectives. This substantial reduction from the initial pool reflects the rigorous filtering applied to isolate studies that explicitly addressed instructional models and design approaches within the context of digital Islamic education. Importantly, the screened corpus represents studies with stronger thematic relevance and clearer empirical grounding, ensuring that only substantively meaningful contributions progressed to the next stage of the review.

A total of 106 records were excluded during the screening phase based on several methodological and scope-related criteria. Specifically, studies published in languages other than English, those released prior to 2024, and non-journal publication types including conference proceedings, books, review articles, and in-press manuscripts were excluded to maintain consistency, recency, and empirical robustness as shown in Table 2. Additionally, 10 duplicate records identified across the two databases were removed to prevent data redundancy and analytical distortion. These exclusion decisions are methodologically justified, as limiting the review to recent, peer-reviewed journal articles in English enhances comparability, transparency, and scholarly rigor while reducing heterogeneity arising from varied publication standards. Moreover, the focus on journal articles ensures that the evidence synthesised has undergone rigorous peer review, thereby strengthening the validity and reliability of the review findings. Collectively, this screening process reinforces the integrity of the systematic review and ensures that subsequent analyses are grounded in a high quality, relevant, and methodologically sound evidence base capable of supporting robust conclusions and informed recommendations for future research and practice.

Table 2: The Selection Criterion Is Searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Time line	2024 – 2025	< 2024
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press
Subject	Social Sciences	Beside Social Siences

Eligibility

In the eligibility phase of the PRISMA-guided systematic review, the remaining records that passed the screening stage were subjected to full-text assessment to determine their substantive relevance and methodological alignment with the objectives of the study. At this stage, 49 articles were retrieved and assessed in full, allowing for a more in-depth evaluation beyond titles and abstracts. This phase is critical, as it enables the verification of conceptual focus, research context, and empirical contribution in relation to instructional models and

instructional design approaches within digital Islamic education. Full-text assessment ensures that inclusion decisions are based on comprehensive understanding of each study, thereby strengthening the internal validity of the review and preventing superficial inclusion of studies that may appear relevant at the abstract level but lack substantive alignment upon closer examination.

During this eligibility assessment, 29 full-text articles were excluded for several well-justified reasons. A proportion of studies were deemed out of scope, as their primary focus fell outside the domain of Islamic education or did not meaningfully engage with instructional models or design frameworks. Other articles were excluded due to non-significant or misleading titles and abstracts that did not correspond with the stated objectives of the study, indicating a misalignment between preliminary descriptions and actual research content. Additionally, several potentially relevant studies could not be included due to restricted access to full texts, which impeded rigorous appraisal and data extraction. Excluding such studies is methodologically necessary to preserve transparency, analytical rigor, and replicability, as incomplete access limits critical evaluation of research quality and findings. Overall, this eligibility process ensures that only conceptually coherent, accessible, and methodologically sound studies are retained, thereby enhancing the robustness of the final evidence base and supporting the credibility of the review's conclusions.

Data Abstraction and Analysis

An integrative analytical approach was employed in this study as a core assessment strategy to systematically examine and synthesise evidence derived from diverse research designs, primarily encompassing qualitative methodologies. The primary objective of this analytical phase was to identify recurring patterns, key themes, and subthemes relevant to the study's focus. Theme development commenced with a rigorous data familiarisation and extraction process, forming the foundation for subsequent analytical stages. As illustrated in Figure 2, the authors conducted a meticulous examination of 20 selected publications, systematically identifying statements, findings, and conceptual elements directly related to models, instructional design approaches, and digital Islamic education.

Subsequently, the included studies were critically analysed with particular attention to their methodological frameworks and reported findings to ensure analytical depth and contextual accuracy. The synthesis process was conducted collaboratively among the authors, enabling the iterative development and refinement of themes grounded in the empirical evidence and theoretical context of the review. Throughout the analysis, a reflective audit trail was maintained to document analytical decisions, interpretive insights, emerging questions, and alternative perspectives, thereby enhancing transparency and trustworthiness. Finally, cross-comparative analyses were undertaken to examine the coherence and consistency of the developed themes across studies. Any conceptual discrepancies or interpretive divergences were resolved through collegial discussion and consensus among the authors, ensuring analytical rigor and reinforcing the credibility of the thematic synthesis.

Quality of Appraisal

Guided by the procedures outlined by Kitchenham and Charters (2007) once the primary studies that is, the original empirical articles and documents retained after the initial selection stage were identified, the next critical step was to conduct a systematic quality appraisal and

enable a structured comparison of the evidence base. These primary studies constitute the core sources of evidence in the review and therefore must be evaluated for methodological robustness and reporting adequacy before they can be synthesised to address the review's research questions. Accordingly, this study adopted the quality assessment scheme proposed by Anas Abouzahra et al. (2020), which operationalises study appraisal through six predefined quality assessment (QA) criteria tailored to systematic evidence evaluation. Each criterion was rated using a three-point scoring scale: "Yes" (Y) = 1 when the criterion was fully satisfied, "Partly" (P) = 0.5 when the criterion was only partially met and exhibited notable gaps, and "No" (N) = 0 when the criterion was not addressed. This scoring structure supports transparent, reproducible judgement and facilitates quantitative comparison across studies, thereby strengthening the rigor and credibility of the review findings.

- QA1. Is the purpose of the study clearly stated?
- QA2. Is the interest and the usefulness of the work clearly presented?
- QA3. Is the study methodology clearly established?
- QA4. Are the concepts of the approach clearly defined?
- QA5. Is the work compared and measured with other similar work?
- QA6. Are the limitations of the work clearly mentioned?

Each study was independently evaluated by the experts against the established quality assessment criteria, ensuring objectivity and minimizing individual bias in the appraisal process. The scores assigned by all three experts were subsequently aggregated to generate an overall quality score for each study. To qualify for inclusion in the subsequent stages of the review, a study was required to achieve a minimum cumulative score exceeding 3.0. This predefined threshold functions as a quality control mechanism, ensuring that only studies demonstrating an acceptable level of methodological soundness and reporting clarity are retained for further analysis, thereby strengthening the reliability and credibility of the systematic review.

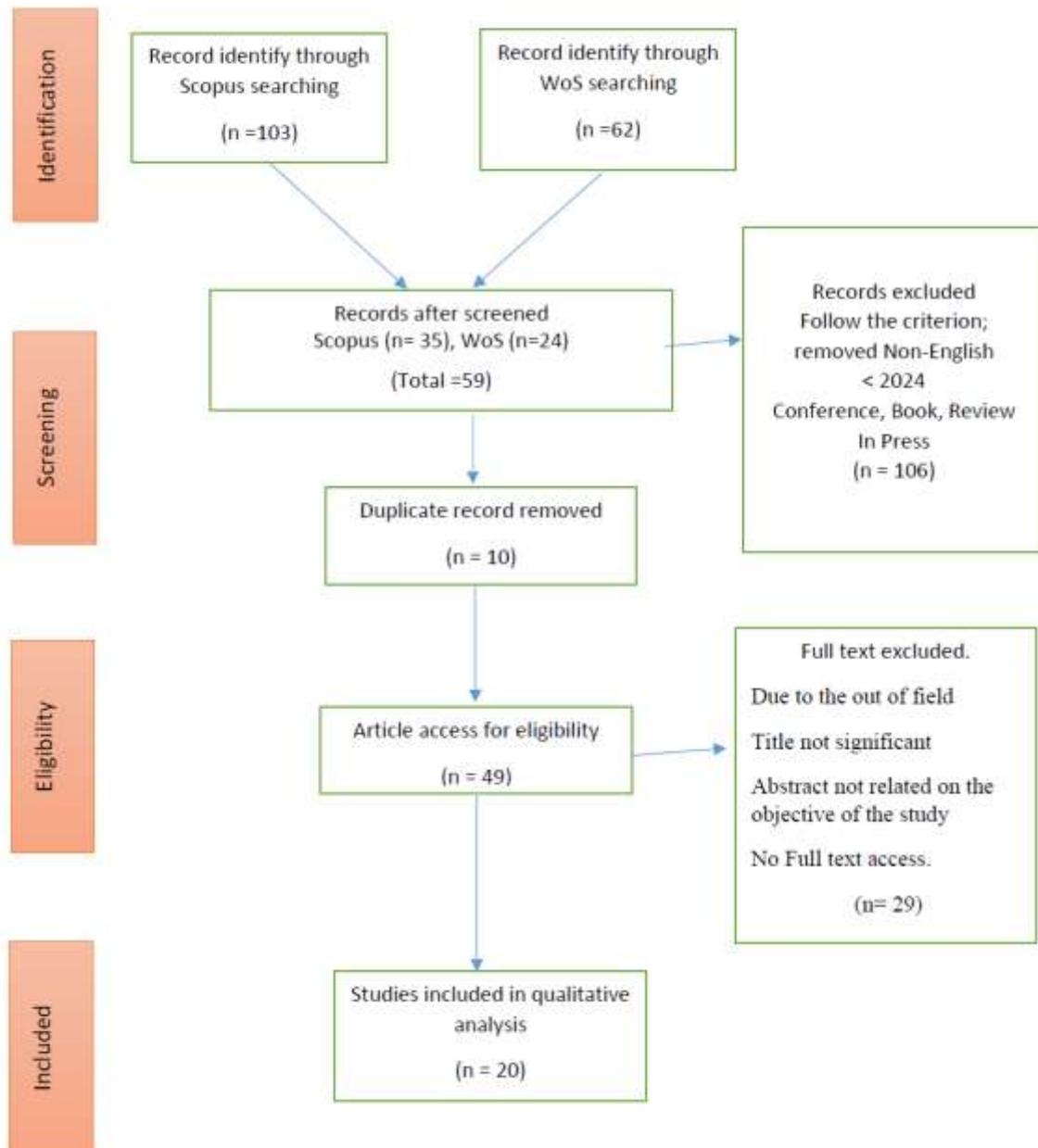


Figure 2. Flow Diagram of The Proposed Searching Study [1]

Result and Finding

Table 3 presents the quality assessment results for the 20 primary studies (PS1–PS20) indicate an overall satisfactory level of methodological and reporting quality across the reviewed literature. The majority of studies achieved moderate to high quality scores, with percentages ranging from 58.3% to 100%, reflecting clear articulation of research objectives, relevance, methodological rigor, and well-defined conceptual frameworks. Notably, PS15 demonstrated the highest quality (100%), followed by several studies scoring above 80%, underscoring strong empirical grounding and comprehensive reporting. A smaller number of studies, such as PS16, recorded scores below 50%, primarily due to limited methodological detail, insufficient conceptual clarity, and the absence of explicit comparison with related work or discussion of

limitations. In accordance with the predefined inclusion criterion, studies scoring below 50% were excluded from further analysis, as they did not meet the minimum quality threshold required to ensure analytical reliability. Overall, the application of a rigorous, criterion-based quality assessment framework effectively filtered the evidence base, ensuring that only methodologically sound and substantively relevant studies were retained for synthesis. This process enhances the robustness, transparency, and credibility of the systematic review findings and provides a reliable foundation for subsequent thematic and comparative analyses.

Table 3: Performance of Quality Assessment

Paper	QA1	QA2	QA3	QA4	QA5	QA6	Total Mark	Percentage (%)
PS1 (Ding et al., 2025)	Y	Y	Y	Y	N	N	4.0	66.7
PS2 (Otaaya et al., 2025)	Y	Y	Y	P	P	N	4.0	66.7
PS3 (Khimataliev et al., 2025)	Y	Y	Y	P	N	N	3.5	58.3
PS4 (Hildebrandt et al., 2025)	Y	Y	Y	Y	P	N	4.5	75.0
PS5 (Zatuchin, 2025)	Y	Y	Y	Y	P	P	5.0	83.3
PS6 (Wedi et al., 2025)	Y	Y	Y	Y	N	N	4.0	66.7
PS7 (Singh et al., 2025)	Y	Y	Y	Y	P	Y	5.5	91.7
PS8 (Habarurema et al., 2025)	Y	Y	Y	Y	P	Y	5.5	91.7
PS9 (Siregar & Rizza, 2025)	Y	Y	Y	Y	P	N	4.5	75.0
PS10 (Momdjian et al., 2025)	Y	Y	Y	Y	Y	N	5.0	83.3
PS11 (Isaac, 2025)	Y	Y	P	Y	N	P	4.0	66.7
PS12 (Miranda et al., 2025)	Y	Y	Y	Y	P	N	4.5	75.0
PS13 (Kamtab & Dangprasert, 2025)	Y	Y	Y	Y	P	N	4.5	75.0
PS14 (Krishnasamy & Bouvry, 2025)	Y	Y	Y	Y	N	N	4.0	66.7
PS15 (Pimdee et al., 2025)	Y	Y	Y	Y	Y	Y	6.0	100.0
PS16 (Gittinger & Mulders, 2024)	Y	Y	P	P	N	N	3.0	50.0
PS17 (Perinpasingam et al., 2024)	Y	Y	Y	Y	P	N	4.5	75.0

PS18 (Kosim et al., 2024)	Y	Y	Y	Y	P	N	4.5	75.0
PS19 (Parhan et al., 2024)	Y	Y	Y	Y	P	N	4.5	75.0
PS20 (Grosseck et al., 2024)	Y	Y	Y	Y	Y	N	5.0	83.3

Instructional Design and Learning Models for Digital Pedagogy

The literature grouped under the theme Instructional Design and Learning Models for Digital Pedagogy reveals a consistent emphasis on structured design frameworks that support engagement, cognition, and meaningful knowledge construction in digitally mediated learning environments. Several studies foreground the role of cognitive and pedagogical structuring in enhancing learner motivation and learning depth. For example, Ding et al., (2025) demonstrate that instructional designs grounded in contextualization, procedural logic, and active construction can scaffold learners' cognitive processes effectively within game-based environments. The findings highlight that well-sequenced instructional logic and meaningful contextual framing contribute to sustained engagement and deeper knowledge construction. Similarly, Hildebrandt et al. (2025) report that the INVITE Learning Design Framework strengthens instructional coherence in blended and virtual settings by integrating motivational theory, active learning principles, and systematic design processes. Their findings show that theory-informed instructional models enhance learner participation and intercultural engagement in non-face-to-face contexts. Complementing these perspectives, Zatushin (2025) illustrates how adapting the SECI knowledge transformation model into a structured course design framework improves the conversion of tacit professional knowledge into explicit academic understanding in digital MBA programmes. Collectively, these studies suggest that digital pedagogy benefits significantly from instructional models that align cognitive scaffolding, learner activity, and structured design processes to support meaningful learning outcomes.

A second strand of findings highlights learner engagement, interaction, and value creation as central outcomes of effective instructional design in digital environments. Singh et al. (2025) provide empirical evidence that instructional designs which promote behavioural and social engagement positively influence learner motivation and value co-creation, while poorly balanced cognitive and emotional demands may reduce motivation. These findings reinforce the importance of carefully calibrated instructional strategies that manage cognitive load while fostering interaction and community building. In the context of Islamic education, Siregar et al. (2025) show that instructional models responsive to diverse learning styles, such as the VARK framework, enhance engagement when curricula are adapted to digital learning contexts. Their findings indicate that rigid instructional materials and limited modality variation can constrain learner participation, whereas flexible and integrated design approaches improve interaction with Islamic educational content. Parallel insights are reported by Pimdee et al. (2025), whose collaborative blended learning management model demonstrates that structured stages combining self-study, collaboration, and reflection significantly improve learners' digital design skills and academic achievement. Across these studies, instructional design emerges as a critical mechanism for balancing engagement, interaction, and skill development, underscoring the need for learner-centred models that integrate collaboration, flexibility, and pedagogical coherence.

Taken together, the reviewed abstracts point to a growing convergence between instructional design theory and digital pedagogical practice, with particular relevance for digitally mediated and faith-informed education contexts. Ding et al. (2025) and Hildebrandt et al. (2025) both emphasise that instructional design frameworks grounded in learning theory enhance the interpretability and transferability of digital learning experiences. Zatushin (2025) further demonstrates that structured design models can bridge professional experience and academic learning, supporting knowledge creation in collaborative digital settings. Meanwhile, Singh et al. (2025) and Siregar et al. (2025) underline that instructional effectiveness depends not only on technological integration but also on responsiveness to learner motivation, interaction patterns, and learning preferences. Pimdee et al. (2025) reinforce this argument by showing that collaborative and blended instructional designs yield measurable improvements in both performance and engagement. Overall, the literature indicates that instructional design and learning models for digital pedagogy are most effective when they integrate cognitive scaffolding, learner engagement strategies, and systematic design principles. These findings collectively support the view that digital Islamic education, and digital pedagogy more broadly, requires carefully designed instructional frameworks that align pedagogical intent, learner needs, and digital affordances to achieve sustainable and meaningful learning outcomes.

Digital Technologies and Immersive/Innovative Learning Environments

Immersive and innovative digital learning environments are increasingly positioned as a response to limitations of conventional online delivery, especially for learning activities that require practice, simulation, or complex interaction. Across the reviewed abstracts, the most visible contribution is the shift from content transmission toward technology-supported experiences that attempt to reproduce authentic tasks and sustained engagement. Digital twin enabled e-learning is described as enabling remote practical and laboratory-like activity, with reported benefits linked to motivation, behavioural engagement, and “hands-on” learning, while also exposing persistent constraints such as cognitive overload, technical instability, limited social connection, and difficulty in measuring learning outcomes (Habarurema et al., 2025). In a related direction, extended reality environments organised as a community of practice are presented as a structured setting for experiential learning and iterative skill development, with high ratings for engagement and content appropriateness and a strong association between active participation and skill growth, indicating that immersive learning gains may depend heavily on community interaction and sustained involvement rather than technology alone (Kamtab & Dangprasert, 2025). Virtual reality role-playing in teacher education also reports positive outcomes at the level of confidence and readiness to handle classroom challenges, suggesting that simulated environments can function as a bridge between theoretical preparation and practice, particularly when the learning sequence follows an explicit instructional design logic and reflective data collection is integrated (Perinpasingam et al., 2024). Taken together, the abstracts converge on a shared message: immersive technologies can support more active learning, but the learning value is closely tied to the quality of design, the management of cognitive demand, and the presence of interaction structures that reduce isolation and support feedback loops.

A second pattern in the abstracts concerns the instructional design decisions required to make immersive technologies usable at scale and acceptable to educators, especially within professional preparation and higher education contexts. Massive Open Online Courses are framed as complementary to conventional instruction rather than replacements, with the highlighted contribution being the explicit detailing of course structure and design strategies

for technically demanding content in a specialised European master's programme, including the need to manage prerequisite knowledge and the complexity of heterogeneous programming models (Krishnasamy & Bouvry, 2025). For future teachers, an augmented reality seminar concept emphasises readiness and attitudes toward AR adoption, drawing attention to acceptance-related considerations and the need for curriculum-integrated, hands-on scenarios that make the technology meaningful and transferable to real teaching settings (Gittinger & Mulders, 2024). In parallel, digital assessment practices in higher education point to uneven competence profiles among teachers, combined with concerns about obstacles, training needs, and the requirement to re-think assessment strategies for digital literacy and adaptive curriculum planning (Grosseck et al., 2024). Virtual reality role-play evidence aligns with these concerns by stressing that the user experience of immersive tools is influenced by structured implementation and evaluation steps, rather than mere exposure to technology (Perinpasingam et al., 2024). When considered together, the abstracts suggest that innovation in immersive learning environments is not only a technical choice but also an instructional governance issue: adoption depends on training design, alignment with curriculum outcomes, and credible assessment approaches that can capture performance beyond self-reported satisfaction.

When synthesised as a theme, the reviewed abstracts collectively imply that immersive and innovative technologies contribute most strongly when three conditions are simultaneously present: (i) a learning design that sequences experience, reflection, and feedback; (ii) a support system that prepares educators for adoption and assessment; and (iii) an engagement structure that reduces social disconnection and prevents excessive cognitive strain. Digital twin enabled e-learning foregrounds both promise and fragility, with benefits for engagement and practice-oriented learning but recurring issues of overload, technical disruption, and weak social links, indicating that immersive realism does not automatically translate into stable learning quality across contexts (Habarurema et al., 2025). XR community-of-practice design provides evidence that collaborative participation can be a key driver of skill development, reinforcing the view that social learning structures are a major factor in realising outcomes from immersive environments (Kamtab & Dangprasert, 2025). VR role-playing in teacher education and AR-based seminar design both point toward acceptance and professional readiness as central outcomes, which places emphasis on how immersive environments are embedded into teacher preparation, including systematic design phases and explicit evaluation practices (Gittinger & Mulders, 2024; Perinpasingam et al., 2024). MOOCs for specialised domains add a scalability perspective by highlighting the need for careful content structuring and prerequisite management when learning demands are high, suggesting that large-scale access requires more explicit instructional architecture rather than simplified delivery (Krishnasamy & Bouvry, 2025). Digital assessment findings further reinforce that innovative environments require new assessment literacy and flexible hybrid approaches that match teacher competence and practical needs (Grosseck et al., 2024). Overall, the abstracts indicate several practical gaps relevant for future work: stronger approaches for measuring performance in immersive settings, design tactics for managing cognitive load, and methods for sustaining social connection in technology-mediated practice.

Islamic Education Reform, Curriculum Integration, and Teacher/Assessment Capacity

Islamic education reform in the selected abstracts is mainly framed as curriculum re-orientation that keeps Islamic values central while responding to contemporary societal and policy expectations. A recurring argument is that curriculum design becomes a strategic instrument to connect moral-spiritual objectives with modern competence demands. In higher education

settings, Khimmataliev et al. (2025) report that combining Islamic pedagogical principles with Sustainable Development Goals supports creativity and professional readiness, where ethical awareness and sustainability thinking are strengthened alongside critical thinking and adaptability. A similar integration logic appears in Isaac (2025), where an integrated curriculum aligns faith-based perspectives with science standards, proposing that religious and scientific reasoning can operate as complementary rather than conflicting domains; the design elements highlighted include project-based learning, Qur'anic integration, and community engagement to support holistic development. At madrasa level, Kosim et al. (2024) show curriculum modularisation using ADDIE to embed religious moderation across intra-class, co-curricular, extracurricular, and school culture activities, and the module is reported as valid in content and presentation with emphasis on practical implementation for student attitudes. Across these studies, curriculum integration is not presented as adding isolated topics; instead, reform is operationalised through systematic design decisions that distribute values across learning activities, assessment signals, and institutional routines, suggesting that Islamic education reform is moving toward multi-layered curriculum architectures rather than single-subject adjustments (Isaac, 2025; Khimmataliev et al., 2025; Kosim et al., 2024).

Teacher and assessment capacity is discussed as a key bottleneck that can limit reform outcomes even when curriculum intentions are strong. Otaya et al. (2025) provide large-scale evidence that many Islamic education teachers show only moderate ability in developing HOTS-based test items, and the main challenge lies in aligning cognitive levels with stimuli and question indicators, implying that assessment quality may not match the intended higher-order learning targets. This problem resonates with broader findings on teacher digital competence development, where Momdjian et al. (2025) indicate that modelling by teacher educators has stronger influence on preservice teachers' digital competence than direct instruction or integrated practice alone, highlighting that competence formation depends on visible practice and mentoring patterns, not only course content. In classroom-level pedagogical reform, Parhan et al. (2024) report that a contextual learning model in Islamic education (focused on prayer) improves theoretical understanding and practical application, with evidence of academic gains and transfer of prayer values into daily life; such findings imply that teacher capacity must cover both instructional enactment and assessment alignment to document meaningful outcomes. Taken together, these studies suggest that reform requires parallel strengthening of (a) item-writing and cognitive alignment skills for teachers, (b) digitally competent teaching practices supported by educator modelling, and (c) pedagogical designs that make Islamic learning applicable in real contexts; without these, curriculum reform may remain declarative rather than observable in learner performance (Momdjian et al., 2025; Otaya et al., 2025; Parhan et al., 2024).

A third cluster links reform with digital transformation and sustainability-oriented infrastructure, showing that institutional strategy and design models increasingly shape Islamic education delivery and quality assurance. Wedi et al. (2025) describe a digital transformation model of Islamic Religious Education in madrasah settings that combines institutional strategy (infrastructure development and stakeholder collaboration) with pedagogical system shifts (LMS integration and flipped classroom), while also emphasising value-preserving controls such as ethical content filtering and Islamic-grounded teacher training. This indicates that digitalisation is treated as governance and culture work in addition to technology adoption, because value-consistency becomes a design constraint across platforms and practices. Sustainability of digital resources is expanded further by Miranda et al. (2025), where the Design for Sustainability of Open Education Resources model organises design principles

across social, economic, environmental, pedagogical, and technological dimensions; the reported findings suggest that AI tools can reduce development time (notably translation and content generation) while inclusive design improves engagement and accessibility, positioning sustainability as a measurable design goal rather than a general aspiration. When these insights are read alongside curriculum integration studies, a coherent argument emerges: Islamic education reform in the digital era increasingly depends on integrated systems curriculum values mapped into learning experiences, teacher capacity to enact and assess higher-order outcomes, and digital ecosystems designed for sustainability, accessibility, and ethical alignment (Khimmatiev et al., 2025; Miranda et al., 2025; Wedi et al., 2025).

Conclusion

This systematic literature review set out to synthesise and critically examine contemporary research on Model and Instructional Design Approaches in Digital Islamic Education, with the aim of clarifying dominant patterns, emerging directions, and existing gaps within the field. Guided by the PRISMA protocol, the review focused on peer-reviewed journal articles published between 2024 and 2025 and indexed in Scopus and Web of Science, resulting in the inclusion of 20 primary studies that met strict eligibility and quality criteria. The review was structured around three research questions formulated using the PICo framework, addressing instructional design and learning models, the role of digital and immersive technologies, and issues of curriculum reform alongside teacher and assessment capacity. Through this systematic and transparent approach, the review responds to the fragmented nature of existing scholarship by consolidating recent evidence and offering an integrated understanding of how digitalisation is reshaping Islamic education while maintaining its epistemological and ethical foundations.

The synthesis of findings reveals several consistent and significant trends across the reviewed literature. First, instructional design and learning models for digital pedagogy increasingly emphasise learner-centred, theory-informed, and structured frameworks that support engagement, cognitive scaffolding, and meaningful knowledge construction. Models grounded in contextualisation, active learning, collaboration, and systematic design processes demonstrate positive effects on motivation, interaction, and learning outcomes. Second, studies focusing on digital technologies and immersive or innovative learning environments highlight the growing use of tools such as virtual reality, augmented reality, digital twins, MOOCs, and AI-supported platforms to address limitations of conventional online learning. These technologies are reported to enhance experiential learning, skill development, and professional readiness, although challenges related to cognitive overload, technical constraints, assessment validity, and social interaction remain prominent. Third, research on Islamic education reform underscores curriculum integration as a strategic response to contemporary demands, particularly through the alignment of Islamic values with global frameworks, sustainability agendas, and contextual learning approaches. Within this theme, teacher competence especially in digital pedagogy, assessment literacy, and higher-order thinking skills emerges as a decisive factor influencing the success of instructional innovation and curriculum reform.

Collectively, the reviewed studies contribute to the field by synthesising previously dispersed knowledge and demonstrating that effective digital Islamic education depends on the coherence between instructional design, technological affordances, curriculum values, and educator capacity. The thematic categorisation developed in this review offers a structured lens for understanding how pedagogical models, immersive technologies, and reform-oriented

curricula interact within digitally mediated Islamic education contexts. From a practical perspective, the findings provide guidance for policymakers, curriculum developers, and educational institutions seeking to design or refine digital Islamic education initiatives. Evidence from the review suggests that sustainable implementation requires investment not only in technology but also in professional development, assessment reform, and value-aligned design principles. At the same time, this review acknowledges several limitations, including reliance on two databases, restriction to English-language publications, and a narrow publication window. Future research would benefit from broader temporal coverage, inclusion of additional databases, and empirical investigations into long-term learning outcomes, assessment models, and learner experiences across diverse Islamic education settings. In closing, this review highlights the importance of systematic evidence synthesis in advancing digital Islamic education, demonstrating that rigorous integration of instructional design theory, technological innovation and Islamic educational values is essential for guiding future empirical research and informed educational practice.

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