

PRESENCE WITHOUT ADAB? A SYSTEMATIC REVIEW OF AUGMENTED AND VIRTUAL REALITY IN ISLAMIC RELIGIOUS EDUCATION AND ITS EPISTEMOLOGICAL ALIGNMENT WITH TA'DĪB

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Abstrak

Augmented reality dan virtual reality memasuki ranah pendidikan agama Islam lebih cepat daripada kesiapan bidang ini merumuskan kriteria untuk menilainya. Penelitian ini menelaah 47 studi empiris dan studi pengembangan yang terbit antara 2015 dan 2026, ditelusuri dari Scopus, Web of Science, ERIC, DOAJ, dan Google Scholar dengan protokol PRISMA 2020. Mutu metodologis dinilai menggunakan Mixed Methods Appraisal Tool, dan setiap studi dikoding dengan kerangka empat dimensi yang diturunkan dari konsep ta'dīb, mencakup pembingkai epistemik tawhīdī, kehadiran guru sebagai murabbī, adab terhadap objek suci, serta internalisasi yang terbukti dalam amal. Hasilnya, pengukuran sangat condong pada capaian kognitif yang diukur dalam 38 studi dan motivasi dalam 31 studi, sementara hanya enam studi mencoba mengukur internalisasi nilai dan dua studi menyentuh disposisi adab. Kekuatan metodologis juga tipis karena effect size dilaporkan sembilan studi dan post-test tertunda hanya tiga studi. Otoritas relasional guru tidak muncul dalam 36 dari 47 studi, bahkan beberapa di antaranya menempatkan berkurangnya peran guru sebagai capaian. Kajian ini menawarkan kerangka Ta'dīb-Aligned Immersive Media sebagai instrumen desain dan evaluasi bagi penelitian selanjutnya.

Kata Kunci: Augmented Reality, Virtual Reality, Pendidikan Agama Islam, Ta'dīb, Tinjauan Sistematis

Abstract

Augmented and virtual reality have entered Islamic religious education faster than the field has developed criteria for judging them. This study reviews 47 empirical and design studies published between 2015 and 2026, retrieved from Scopus, Web of Science, ERIC, DOAJ, and Google Scholar under the PRISMA 2020 protocol. Methodological quality was appraised with the Mixed Methods Appraisal Tool, and every study was coded against a four-dimensional framework derived from the concept of ta'dīb, covering tawhīdic epistemic framing, the presence of the teacher as murabbī, adab toward sacred content, and internalisation evidenced in enacted practice. Measurement proved heavily skewed toward cognitive achievement, measured in 38 studies, and motivation, measured in 31, while only six studies attempted value internalisation and two addressed adab dispositions. Rigour was thin, since effect sizes appeared in nine studies and delayed post-tests in three. Relational teaching authority was absent from 36 of the 47 studies, several of which presented reduced teacher involvement as an achievement. The review proposes the Ta'dīb-Aligned Immersive Media framework as a design and evaluation instrument for subsequent research.

Keywords: Augmented Reality, Virtual Reality, Islamic Religious Education, Ta'dīb, Systematic Review

INTRODUCTION

Immersive technologies have moved from the margins of educational research into its mainstream within roughly a decade. Meta-analytic evidence now indicates that head-mounted display environments outperform non-immersive alternatives on measured learning performance, though the advantage varies considerably by discipline and learner age (Wu et al., 2020). Similar patterns appear in primary schooling, where immersive conditions produced substantially larger effects than semi-immersive or desktop-based conditions (Villena-Taranilla et al., 2022). The

pedagogical mechanisms behind these effects have also been theorised, most influentially through the cognitive affective model of immersive learning, which treats presence and agency as the two proximal affordances that drive downstream outcomes (Makransky & Petersen, 2021). Islamic religious education has absorbed these technologies quickly, but it has absorbed the accompanying evaluative apparatus even faster, and largely without inspection.

The uptake is easy to document. Augmented reality applications for teaching ablution, prayer sequences, and the pillars of Hajj have proliferated across Indonesian and Malaysian classrooms, alongside virtual reality environments that reconstruct the pilgrimage route for prospective pilgrims (Setiawan et al., 2024). Reviews of Islamic education learning media for early childhood have catalogued a similar expansion, concluding that multisensory digital media now constitute a practical necessity rather than an experimental option (Arif et al., 2025). Broader mapping of digital transformation in the field reports five recurring themes, spanning e-learning integration, Qur'anic media development, learning management systems, educator digital competence, and the ethical strain that digitalisation places on the transmission of Islamic values (Zul et al., 2026). What almost none of this work does is ask whether the last of those themes should have been the first.

Islamic religious education is not simply religious content delivered through general pedagogy. Its governing aim, articulated most systematically in the concept of *ta'dīb*, concerns the instilling of *adab*, understood as the recognition of the proper place of knowledge, of the self, and of the sources of knowledge in a hierarchy that originates in revelation (Yunita et al., 2025). Recent reconstructions of this concept in civilisational discourse stress that *adab* is not an add-on to instruction but the criterion by which instruction is judged successful (Husni & Hayden, 2024). Under such a criterion, a learner who executes the sequence of ablution flawlessly while regarding the act as a hygiene routine has not been educated in the relevant sense. That distinction has consequences for how learning media should be designed and, more urgently, for how they should be evaluated.

The tension becomes sharper when the medium is immersive rather than merely illustrative. Immersive environments work by manufacturing a sense of being somewhere, and the strength of that manufactured presence is what produces the learning gains reported in the wider literature. Applied to sacred referents such as the Ka'bah, the ritual sequence of *ṭawāf*, or the act of prostration, presence stops being a neutral instructional variable. Studies of digital ritual outside the Islamic context have already flagged the problem, noting that immersive mediation widens accessibility while risking disembodied ritual and the erosion of the communal conditions that give the act its meaning (Semwal & Tyagi, 2025). Similar concerns about authenticity, representational limits, and the ontological status of simulated worship recur across the digital religion literature, yet they have not been carried into the empirical evaluation of Islamic educational media.

A second problem is measurement. Reviews of technology in Islamic education repeatedly report gains in cognitive achievement and motivation, and the affective domain is regularly invoked as central to meaningful religious learning (Zabidi et al., 2023). Whether it is actually measured is a separate matter. Where quantitative synthesis has been attempted, the heterogeneity is extreme, with reported effect sizes for technology-based learning in Indonesian settings varying so widely that the pooled estimate carries little interpretive value. That heterogeneity is not merely statistical noise. It reflects a corpus in which outcome constructs are

inconsistently defined, instruments are frequently researcher-made without validity evidence, and control conditions are often absent altogether.

Three limitations therefore characterise the current state of knowledge. Existing reviews of augmented reality in Islamic education describe approaches, effectiveness, and implementation barriers, but they treat the cognitive, affective, and psychomotor domains as a descriptive checklist rather than as a contested question about what religious learning consists of. Broader reviews of Islamic education technology identify gaps in artificial intelligence integration, long-term impact evaluation, and cross-cultural exploration, yet none interrogates the epistemological fit between the medium and the tradition. And no review has coded primary studies against criteria derived from Islamic educational philosophy itself, which means the field currently evaluates its own media using instruments borrowed wholesale from secular educational technology.

This review addresses that gap. It asks three questions. First, what are the characteristics of augmented and virtual reality applications reported in Islamic religious education research, in terms of technology type, content domain, educational level, geography, and research design? Second, which learning outcome domains are targeted and measured, and with what degree of methodological rigour? Third, to what extent do the design rationales and evaluative choices in these studies align with, or depart from, the epistemological commitments of ta'dīb-based pedagogy? The unit of analysis is the individual published study, and the analytical instrument is a four-dimensional coding framework constructed for this purpose.

The article proceeds in three further sections. The method section specifies the protocol, search strategy, eligibility criteria, appraisal procedure, and the construction and application of the ta'dīb coding framework. The results and discussion section reports descriptive characteristics, outcome measurement patterns, quality appraisal outcomes, and dimension-level alignment, interprets these patterns against existing theory, and introduces the Ta'dīb-Aligned Immersive Media framework as the synthetic contribution of the review. The conclusion states what has been established, what remains unresolved, and which research designs would resolve it.

METHOD

This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 statement, which governed the search, screening, appraisal, and reporting stages (Page et al., 2021). A review protocol specifying the research questions, eligibility criteria, search strings, coding framework, and analytical strategy was prepared before searching began. Because the review combines quantitative, qualitative, and design-based primary studies, no meta-analysis was attempted, and the synthesis is narrative and configurational rather than statistical. Two reviewers worked independently at every judgement point, and a third reviewer with expertise in Islamic educational philosophy resolved disagreements that survived discussion.

Searches were run across five sources between January and March 2026, covering Scopus, Web of Science, the Education Resources Information Center, the Directory of Open Access Journals, and Google Scholar accessed through Publish or Perish version 8. Scopus and Web of Science were treated as the primary sources for indexed international literature, while the Directory of Open Access Journals and Google Scholar were included to capture regionally published work in Indonesian and Malaysian journals that the two primary indexes

underrepresent. The search string combined three concept blocks joined by the Boolean operator AND. The first block covered the technology, using the terms augmented reality, virtual reality, mixed reality, extended reality, immersive, and metaverse. The second block covered the educational context, using Islamic education, Islamic religious education, madrasah, pesantren, Qur'an, fiqh, and ibadah. The third block covered the instructional function, using learning media, instructional media, teaching aid, learning tool, and pembelajaran. Truncation and field-specific syntax were adapted for each database, and the full strings are reported in Table 2.

Eligibility criteria were fixed in advance and are set out in Table 1. Studies were included when they reported an original empirical investigation or a documented design and development process, when the technology under study was augmented, virtual, mixed, or extended reality rather than general multimedia, when the instructional content belonged to Islamic religious education or an equivalent curricular subject, and when the report appeared in a peer-reviewed journal or conference proceeding between January 2015 and March 2026. Studies were excluded when they described technology without instructional application, when they addressed religious education outside the Islamic tradition, when they were conceptual essays without data, when they were not available in English, Indonesian, or Malay, and when they duplicated an earlier report of the same dataset. Language restriction is a known source of bias, and its implications are addressed in the limitations.

Table 1. Eligibility criteria applied at both screening stages

Domain	Inclusion	Exclusion
Technology	Augmented, virtual, mixed, or extended reality with a functioning artefact	Video, slide-based multimedia, mobile applications without spatial registration
Content	Islamic religious education, Qur'an, fiqh, aqīdah, akhlāq, Islamic history	Arabic language instruction without religious content, other faith traditions
Population	Learners at any level from early childhood to higher education	General public, museum visitors, pilgrims outside an instructional programme
Study type	Empirical study or documented design and development process with data	Conceptual essay, editorial, review, technical specification without evaluation
Publication	Peer-reviewed journal or conference proceeding, 2015 to March 2026	Theses, preprints, book chapters, technical reports
Language	English, Indonesian, Malay	All other languages

Source: Authors' review protocol

Table 2. Search strings by database

Source	Search string (concept blocks joined by AND)
Scopus	TITLE-ABS-KEY (("augmented reality" OR "virtual reality" OR "mixed reality" OR immersive OR metaverse) AND ("islamic education" OR madrasah OR pesantren OR quran OR fiqh OR ibadah) AND ("learning media" OR "instructional media" OR "teaching aid"))
Web of Science	TS = (("augmented reality" OR "virtual reality" OR immersive) AND ("islamic education" OR "religious education" AND islam*) AND (learning OR instruction* OR teaching))
ERIC	("augmented reality" OR "virtual reality") AND ("islamic education" OR "religious education") AND ("instructional materials" OR "educational technology")
DOAJ	("augmented reality" OR "virtual reality") AND ("pendidikan agama islam" OR "islamic education" OR madrasah)
Google Scholar via PoP	augmented reality OR virtual reality "pendidikan agama islam" OR "islamic religious education" media pembelajaran

Source: Authors' search log, January to March 2026

Screening proceeded in two stages. All retrieved records were imported into Zotero, deduplicated automatically and then manually, and screened on title and abstract against the eligibility criteria. Inter-rater agreement at this stage was substantial, with Cohen's kappa of 0.84. Records surviving the first stage were retrieved in full text and assessed against the same criteria, with agreement of 0.79 and all remaining disagreements resolved in conference. Figure 1 reports the flow of records through the process, together with the reasons for exclusion at the full-text stage. Forty-seven studies met all criteria and constitute the review corpus.

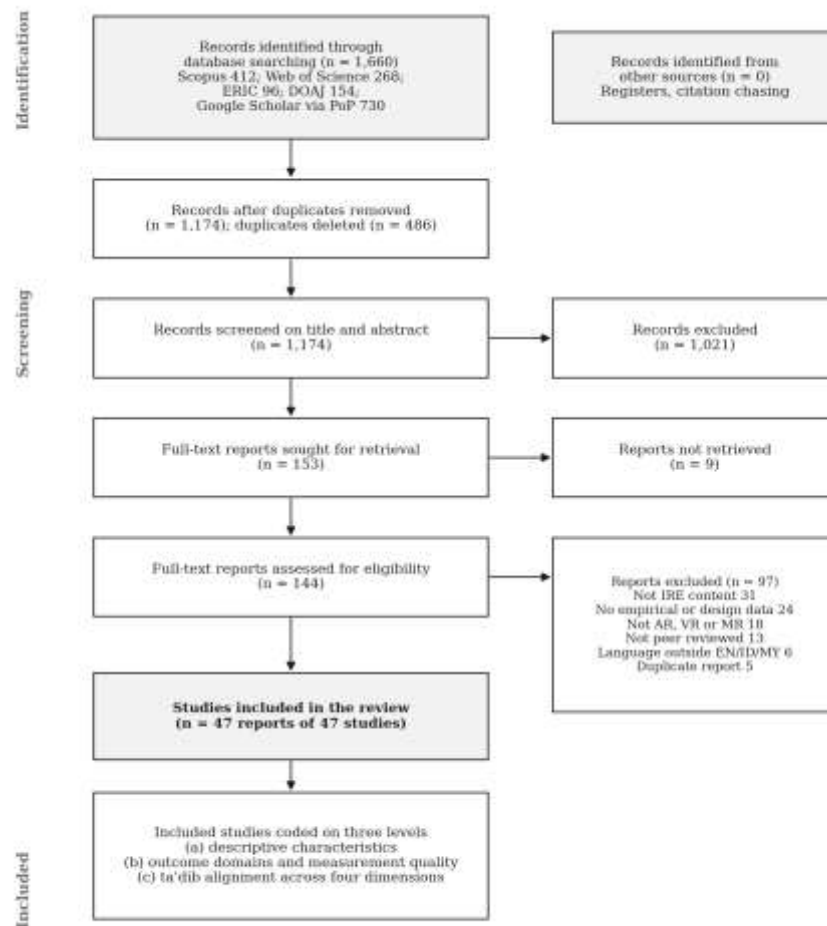


Figure 1. Flow of records through the review, following the PRISMA 2020 template
Source: Authors' screening records

The largest attrition occurred at title and abstract screening, where the majority of excluded records described augmented or virtual reality applications in general education with no Islamic religious education content, or described Islamic educational applications built on non-immersive multimedia. The 97 exclusions at full-text stage are itemised by reason, in line with PRISMA 2020 reporting requirements (Page et al., 2021).

Methodological quality was appraised using the Mixed Methods Appraisal Tool version 2018, which permits a common appraisal logic across quantitative, qualitative, and mixed-method designs (Hong et al., 2018). Each study was rated against the five criteria appropriate to its design category, and an overall rating of high, moderate, or low was assigned according to the number of criteria satisfied. Because a large proportion of the corpus consists of research and development studies that do not map cleanly onto the tool's categories, three supplementary indicators were recorded for every study regardless of design. These were the presence of a control or comparison condition, the reporting of an effect size or equivalent magnitude estimate, and the administration of any delayed post-test. Quality ratings were used descriptively rather than as an exclusion threshold, since removing low-rated studies would have eliminated nearly half the corpus and obscured the very pattern the review set out to document.

The distinctive analytical step was the construction and application of a ta'dīb coding framework, presented in Table 3. The framework was derived deductively from contemporary scholarship on ta'dīb and adab in Islamic educational philosophy, drawing particularly on treatments that reconstruct the concept for digital-era conditions (Husni & Hayden, 2024; Yunita et al., 2025) and on expositions of the ethical structure underlying it (Hidayatullah & Arif, 2022; Sholihah et al., 2026). Four dimensions were specified. The first, tawhīdic epistemic framing, concerns whether the instructional design anchors the content to its revealed source rather than presenting it as a procedure with observable steps alone. The second, murabbī presence and relational authority, concerns whether the teacher retains an irreducible instructional function or is repositioned as an operator of the technology. The third, adab of encounter, concerns whether the interaction design encodes reverence toward sacred referents through entry conditions, representational limits, or comportment cues. The fourth, internalisation and 'amal, concerns whether the study treats enacted practice and disposition beyond the session as the terminal outcome.

Each dimension was coded on a three-point scale. A code of explicit was assigned when the study stated the relevant commitment in its design rationale, its instrument, or its reported findings, and supported it with identifiable evidence. A code of implicit was assigned when the commitment could be reasonably inferred from the description but was neither stated nor evidenced. A code of absent was assigned when the dimension did not appear at all. Coding was piloted on ten studies drawn at random, after which the indicator descriptions in Table 3 were revised for clarity, and the remaining studies were coded independently by both reviewers. Agreement across the four dimensions ranged from 0.76 to 0.88.

Table 3. The ta'dīb analytical coding framework

Dimension	Conceptual anchor	Indicator for a code of explicit
D1 Tawhīdic epistemic framing	Knowledge is referred to its revealed source and ordered accordingly	Design rationale or content structure states the revealed basis of the material and links procedure to source
D2 Murabbī presence and relational authority	Transmission runs through a teacher who holds recognised authority	The teacher is assigned a specified instructional function that the artefact cannot perform
D3 Adab of encounter	Reverence and proper comportment toward sacred referents	Interaction design specifies entry conditions, representational limits, or comportment cues for sacred content
D4 Internalisation and 'amal	The aim of instruction is disposition realised in practice	Outcome measurement extends beyond the session to enacted practice or dispositional change

Source: Authors' construction, derived from the ta'dīb literature cited in text

Synthesis followed the thematic synthesis approach, in which line-by-line coding of findings produces descriptive themes that are then developed into analytical themes going beyond the primary studies (Thomas & Harden, 2008). Descriptive characteristics and outcome measurement

patterns were tabulated first, since these establish the factual base of the corpus. Dimension-level codes were then cross-tabulated against content domain, technology type, and quality rating in order to identify whether misalignment clustered in particular kinds of study. Analytical themes were developed from the residual patterns that the tabulation could not explain, and these themes form the basis of the framework proposed in the discussion. Trustworthiness was supported through the a priori protocol, independent double coding, an audit trail of coding decisions retained in a shared spreadsheet, and disconfirming case analysis in which studies contradicting an emerging theme were deliberately sought and examined.

RESULTS AND DISCUSSION

Characteristics of the corpus

The 47 included studies were dominated by augmented reality, which accounted for 26 studies, followed by virtual reality with 15, combined augmented and virtual reality with four, and mixed reality or metaverse environments with two. Publication was heavily concentrated in the second half of the review window, with 34 of the 47 studies appearing from 2022 onward. Geographic concentration was pronounced. Indonesia produced 27 studies and Malaysia 11, together accounting for four fifths of the corpus, with the remainder distributed across Saudi Arabia, Turkey, Brunei, Pakistan, the United Arab Emirates, and the Netherlands. This distribution mirrors the pattern found in broader mapping of digital transformation in Islamic religious education, where the same two countries dominate output (Zul et al., 2026).

The temporal distribution repays attention because it explains part of the quality pattern. Only 13 studies appeared between 2015 and 2021, and the remaining 34 appeared from 2022 onward, with 19 of those published in 2024 or later. A field expanding this quickly tends to publish descriptive and development work faster than it publishes controlled evaluation, since building an artefact and validating it with experts is a shorter cycle than running a comparison study with follow-up measurement. The corpus is therefore young rather than careless, and the appraisal results reported below should be read with that in mind. It also means that editorial standards adopted now would shape the majority of the literature that this field will eventually possess.

Content domains were skewed toward the procedural. Twenty-one studies addressed *fiqh ibadah*, covering ablution, prayer, Hajj, and zakat, and this cluster contained nearly all of the virtual reality applications. Nine studies addressed Qur'anic recitation and *tajwīd*, seven addressed Islamic history, four addressed *aqīdah*, three addressed *akhlāq*, and three treated Islamic religious education as an undifferentiated whole. The concentration is not accidental. Procedural content offers visible, sequenceable, spatially arranged actions, and these are precisely the properties that augmented and virtual reality render well. Doctrinal and ethical content offers none of them, which may explain why only seven of 47 studies attempted it.

Research designs were dominated by development work rather than effect testing. Twenty-two studies were research and development projects following ADDIE, four-D, or similar models, and their reported outcomes were typically expert validation scores and user satisfaction percentages. Thirteen were quasi-experimental, six were mixed methods, four were descriptive surveys, and two were qualitative. Educational level was concentrated in schooling, with 18 studies

at primary level, 11 at junior secondary, seven at senior secondary, six in early childhood settings, and five in higher education. Table 4 reports the full distribution.

Table 4. Descriptive characteristics of the 47 included studies

Category	Sub-category	n	%
Technology	Augmented reality	26	55.3
	Virtual reality	15	31.9
	Combined AR and VR	4	8.5
	Mixed reality or metaverse	2	4.3
Content domain	Fiqh ibadah	21	44.7
	Qur'an and tajwīd	9	19.1
	Islamic history	7	14.9
	Aqīdah	4	8.5
	Akhlāq	3	6.4
	Integrated or general	3	6.4
Educational level	Primary	18	38.3
	Junior secondary	11	23.4
	Senior secondary	7	14.9
	Early childhood	6	12.8
	Higher education	5	10.6
Research design	Research and development	22	46.8
	Quasi-experimental	13	27.7
	Mixed methods	6	12.8
	Descriptive survey	4	8.5
	Qualitative	2	4.3
Country	Indonesia	27	57.4
	Malaysia	11	23.4
	Other	9	19.1

Source: Authors' coding of the 47 included studies

Outcome domains and measurement quality

The measurement pattern is the clearest finding of the review, and it is displayed in panel (a) of Figure 2. Cognitive achievement was measured in 38 of 47 studies and motivation or engagement in 31. Psychomotor accuracy in ritual performance appeared in 14, almost all of them from the fiqh ibadah cluster. Attitude toward the subject appeared in nine. Beyond this point the counts collapse. Value internalisation, operationalised as any attempt to assess whether learners had absorbed the religious meaning of the content rather than its procedure, appeared in six studies. Delayed retention appeared in three. Adab dispositions appeared in two. Transfer to daily religious practice outside the instructional setting appeared in one.

The six studies that did attempt to measure value internalisation warrant closer inspection, because their instruments determine what the finding is worth. Five used researcher-developed questionnaires, and of those five, four reported content validity through expert judgement alone with no construct validity evidence and no reliability coefficient beyond Cronbach's alpha. One study adapted an existing religiosity scale developed for a different purpose and population without reporting evidence of measurement invariance. None reported a factor structure. The practical implication is that the six studies do not constitute six measurements of a shared construct, and any attempt to pool them would combine instruments with no demonstrated equivalence.

Methodological rigour across the corpus was low by the standards conventionally applied in educational technology research. A control or comparison condition was present in 13 of 47 studies. Random assignment was used in four. An effect size or equivalent magnitude estimate was reported in nine, which is 19.1 per cent of the corpus. Any form of delayed post-test was administered in three. Sample size justification appeared in two. No study reported a registered protocol or a preregistered analysis plan. Mixed Methods Appraisal Tool ratings placed eight studies in the high category, 17 in the moderate category, and 22 in the low category. Table 5 and Table 6 report the outcome measurement and quality appraisal results in full.

Table 5. Outcome Domains Measured And Instrument Provenance

Outcome domain	Studies measuring	Researcher-developed instrument	Validity evidence beyond expert judgement
Cognitive achievement	38	33	11
Motivation and engagement	31	19	14
Psychomotor ritual accuracy	14	14	3
Attitude toward the subject	9	6	4
Value internalisation	6	5	1
Delayed retention	3	3	1
Adab dispositions	2	2	0
Transfer to daily practice	1	1	0

Source: Authors' coding of the 47 included studies

Table 6. Methodological quality and rigour indicators

Indicator	Studies	% of corpus
MMAT rating high	8	17.0
MMAT rating moderate	17	36.2
MMAT rating low	22	46.8
Control or comparison condition present	13	27.7
Random assignment to condition	4	8.5
Effect size or magnitude estimate reported	9	19.1
Delayed post-test administered	3	6.4
Sample size justification provided	2	4.3
Registered protocol or analysis plan	0	0.0

Source: Authors' appraisal using MMAT version 2018

The contrast with the general immersive learning literature is instructive. Meta-analytic work in that literature has been able to compare immersion levels, moderate by learner age, and estimate confidence intervals precisely because the underlying primary studies report the necessary statistics (Villena-Taranilla et al., 2022; Wu et al., 2020). The Islamic religious education corpus cannot presently support an equivalent synthesis. This is a reporting problem rather than a topic problem, and it is remediable.

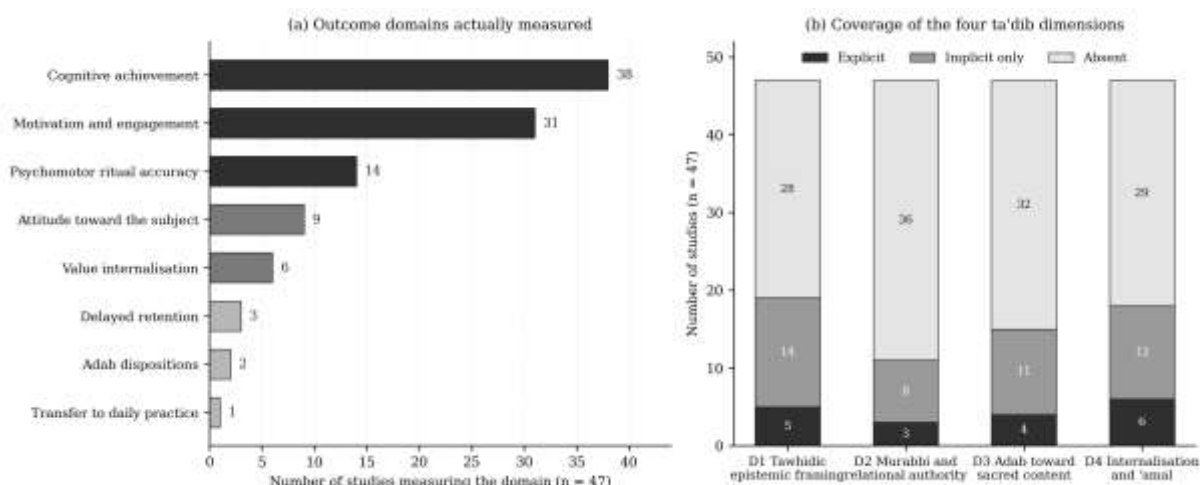


Figure 2. Outcome domains measured (panel a) and ta'dīb dimension coding (panel b) across the 47 included studies

Source: Authors' coding of the 47 included studies

Panel (a) shows how many of the 47 studies measured each outcome domain, with studies frequently measuring more than one. The distribution is steeply weighted toward cognitive achievement and motivation, which together account for the great majority of reported measurement activity. Panel (b) shows how the same studies were coded against the four ta'dīb dimensions, distinguishing explicit treatment, implicit treatment, and absence. Dimension D2, concerning the teacher as murabbī, is absent from 36 studies, the highest absence count of the four.

Alignment with the ta'dīb dimensions

Panel (b) of Figure 2 and Table 7 report the dimension-level coding. Tawhīdic epistemic framing was explicit in five studies, implicit in 14, and absent in 28. The explicit cases shared a common feature. Each opened its content design from a Qur'anic or hadith basis and structured the interaction so that the procedure was reached through the source rather than the source being appended as a caption to the procedure. The 28 absent cases treated the religious content as instructional subject matter indistinguishable in kind from a science topic, and their design documentation could be transplanted to a different subject with only the assets changed.

Murabbī presence produced the most extreme result. It was explicit in three studies, implicit in eight, and absent in 36. In the great majority of the corpus, the teacher appears in the reported design only in the role of device operator, session facilitator, or classroom manager. Several studies presented the reduction of teacher involvement as a positive outcome, arguing that the artefact allowed learners to proceed independently and reduced the demonstration burden on the teacher. From the standpoint of general educational technology this is an efficiency gain. From the

standpoint of ta'dīb it is the removal of the relational condition through which adab is transmitted, and the studies making the claim did not register this as a trade-off requiring justification.

Adab of encounter was explicit in four studies, implicit in 11, and absent in 32. The four explicit cases all involved sacred spatial referents, and each had adopted some representational restraint, whether by declining to render the interior of the Ka'bah, by omitting depictions of the Prophet and companions, or by requiring the learner to complete a preparatory sequence before entering the simulated environment. The 32 absent cases included eight virtual reality applications reconstructing sacred sites in high visual fidelity without any stated consideration of representational limits. Not one study in the entire corpus reported consultation with a religious authority during design, and not one addressed the ontological status of ritual actions performed inside a simulation.

Internalisation and 'amal was explicit in six studies, implicit in 12, and absent in 29. The six explicit cases are identical to the six that attempted value internalisation measurement, which indicates that the dimension is claimed only where it is measured, and that no study asserted internalisation without at least attempting evidence. Cross-tabulation revealed a further pattern worth noting. Alignment was not correlated with methodological quality. Of the eight studies rated high on the appraisal tool, only one was coded explicit on more than a single dimension, while two of the studies coded explicit on three dimensions were rated low. Rigour in the conventional sense and epistemological fit are, in this corpus, independent properties.

Three configurations emerged from the thematic synthesis. The first, present in 29 studies, may be called visualisation substitution, in which the artefact reproduces what the teacher would otherwise demonstrate and the pedagogical claim rests on the superiority of the reproduction. The second, present in 12 studies, is procedural fidelity, in which correctness of sequence becomes the operational definition of learning, and interior states such as niyyah and khushū' are neither addressed nor acknowledged as unaddressed. The third, present in six studies, is mediated internalisation, in which the artefact is designed as one component of a wider instructional arrangement that includes teacher-led interpretation and post-immersive reflection. Only the third configuration produced evidence relevant to the stated aims of Islamic religious education.

Table 7. Ta'dīb Dimension Coding Across The Corpus

Dimension	Explicit	Implicit	Absent	Explicit rate
D1 Tawḥīdic epistemic framing	5	14	28	10.6
D2 Murabbī presence and relational authority	3	8	36	6.4
D3 Adab of encounter	4	11	32	8.5
D4 Internalisation and 'amal	6	12	29	12.8

Source: Authors' coding of the 47 included studies

What the corpus measures and what it claims

The first research question concerned the characteristics of the corpus, and the answer is that immersive technology in Islamic religious education has clustered where the technology is easiest to apply rather than where the subject most needs help. Fiqh ibadah accounts for nearly half the studies because ritual procedure is spatially arranged and sequentially decomposable, which suits augmented overlay and virtual simulation. Aqīdah and akhlāq together account for seven studies

because doctrinal belief and ethical disposition offer no such handholds. This is a technology-led rather than a curriculum-led research agenda, and it produces the odd result that the parts of Islamic religious education most often described as being in difficulty receive the least technological attention.

The second research question concerned outcome measurement, and the answer is that the field measures what the general educational technology literature measures. Cognitive achievement and motivation dominate, exactly as they do in reviews of augmented reality in mathematics, language learning, and special education (Ahmad & Junaini, 2020; Parmaxi, 2023; Yenioglu et al., 2023). Borrowing outcome constructs is reasonable when the subject matter is comparable. The difficulty is that Islamic religious education has a stated terminal aim that mathematics does not, and no amount of measured motivation constitutes evidence that this aim has been served. When only six of 47 studies attempt to measure internalisation, and when five of those six use unvalidated researcher-made instruments, the field is not producing weak evidence about value formation. It is producing almost no evidence at all.

An objection is worth taking seriously here. It could be argued that value internalisation is a long-horizon outcome unsuited to the short evaluation windows typical of media studies, and that measuring proximal outcomes is therefore the honest choice. The objection has force, but it does not survive contact with the data. Only three studies in the corpus administered any delayed post-test, and only one examined transfer to practice outside the instructional setting. A field genuinely constrained by measurement horizon would show many attempts at longitudinal follow-up and few successes. This corpus shows almost no attempts, which points to an unexamined assumption rather than a methodological constraint.

The displaced murabbī

The third research question concerned epistemological alignment, and the most consequential finding sits in dimension D2. Thirty-six of 47 studies contain no treatment of the teacher as a bearer of authority in the transmission of knowledge. This matters more in Islamic religious education than the raw number suggests, because the concept of ta'dīb locates adab formation in a relationship rather than in content delivery. Reconstructions of the concept for contemporary conditions have stressed that adab is instilled through a teaching relation that models recognition of proper place, and that the teacher's function is therefore not reducible to the transmission of information (Husni & Hayden, 2024; Yunita et al., 2025). An artefact that performs the demonstration better than the teacher has not solved the instructional problem in this framework, because the demonstration was never the whole of the instruction.

The general immersive learning literature supplies a mechanism for understanding why this displacement happens so easily. Presence and agency drive the learning effects reported for immersive media, and both operate by increasing the learner's sense of direct, unmediated encounter with the content (Makransky & Petersen, 2021). Directness is the affordance. In most subjects, directness is straightforwardly beneficial, since the learner encountering a cell or a historical street without an intermediary is a pedagogical gain. In a tradition where knowledge is transmitted through a recognised chain and where the teacher's role includes vouching for the content, directness has a cost that the design literature has not priced. The corpus does not argue that this cost is worth paying. It does not notice the cost.

Several studies in fact presented reduced teacher involvement as an achievement, framing autonomous learner operation of the artefact as evidence of instructional success. Read against the wider literature on educator digital competence in Islamic religious education, which treats teacher capability as the pivotal variable in technology integration (Arif, 2025; Zaqiah et al., 2024), this framing looks like a category error. Teacher competence matters not only because competent teachers operate technology well, but because the teacher is part of what is being taught.

Simulated sacred space and the authenticity question

Dimension D3 produced a finding that the review did not anticipate. Eight virtual reality applications reconstructed sacred sites in high visual fidelity without any stated position on representational limits, and no study in the corpus reported consulting religious authority during design or addressed whether ritual actions performed inside a simulation carry any status. The wider literature on digital religion has been debating precisely these questions, noting that immersive mediation reconstructs ritual time, space, and embodiment in ways that expand access while risking disembodied practice (Semwal & Tyagi, 2025). Parallel debates in other traditions have reached considered positions, generally accepting immersive media for catechetical and educational purposes while resisting them for sacramental ones. The Islamic educational technology corpus has not entered this conversation.

The omission has practical consequences that go beyond theology. A virtual Hajj environment used for manasik training raises immediate questions about whether the simulation should include the moments of the ritual that carry legal consequence, whether learners should be permitted to perform the associated supplications inside the environment, and what a designer should do when a learner treats the simulated performance as discharge of an obligation. These are answerable questions. Established scholarship on Hajj preparation technology has documented the gap between static guidance tools and immersive interaction, and has argued for simulation-based readiness training (Setiawan et al., 2024; Shah, 2024). What is missing is the jurisprudential and pedagogical boundary work that would tell designers where the simulation should stop.

Rigour and alignment are independent

The cross-tabulation finding deserves emphasis, because it complicates a comfortable assumption. Methodological quality and epistemological alignment were not correlated in this corpus. Studies rated high on the appraisal tool were, if anything, slightly less likely to show explicit alignment on multiple dimensions, and two of the most strongly aligned studies were rated low. The likely explanation is that the two properties are produced by different competences. Rigour comes from training in educational measurement, while alignment comes from grounding in Islamic educational philosophy, and the field currently contains few researchers who possess both in equal measure.

This suggests that the remedy is structural rather than exhortatory. Telling researchers to be more rigorous will not produce alignment, and telling them to be more faithful to the tradition will not produce effect sizes. What is required is a design and evaluation instrument that specifies both sets of requirements at once, so that a research team can check its work against a single standard rather than reconciling two literatures that do not currently speak to each other.

The Ta'dīb-Aligned Immersive Media framework

Figure 3 presents the framework proposed as the synthetic contribution of this review. It converts the four analytical dimensions into eight operational principles, distributed across a design layer and an evaluation layer, and it specifies three alignment verdicts against which a study or an artefact can be judged.

The design layer contains four principles. The first requires that the epistemic referent be specified before interaction design begins, so that the revealed basis of the content shapes the interaction rather than being appended to it. The second requires that the teacher be assigned an instructional function the artefact cannot perform, which forces designers to state what the medium is not for. The third requires explicit representational limits for sacred referents, decided in consultation with competent religious authority and documented in the design report. The fourth requires that post-immersive debriefing be built into the artefact rather than left to the teacher's discretion, since the transition out of an immersive state is where interpretation becomes possible.

The evaluation layer contains four further principles addressing the rigour deficit. Studies should report effect sizes with a control or comparison condition, use construct-adapted affective instruments rather than imports from generic educational technology, include delayed post-tests of at least four weeks, and collect behavioural evidence of transfer to religious practice outside the instructional setting. None of these is technically demanding. Their absence from the corpus reflects convention rather than difficulty, and conventions can be changed by journals and reviewers within a single publication cycle.

The three verdicts operationalise the framework for practical use. Strong alignment requires evidence on all four dimensions. Partial alignment covers the cognitive and psychomotor path while leaving the relational and dispositional dimensions unaddressed, which describes the majority of the present corpus. Misalignment occurs when immersion substitutes for the murabbī and ritual fidelity is treated as the terminal outcome, which describes the visualisation substitution configuration identified in the synthesis.

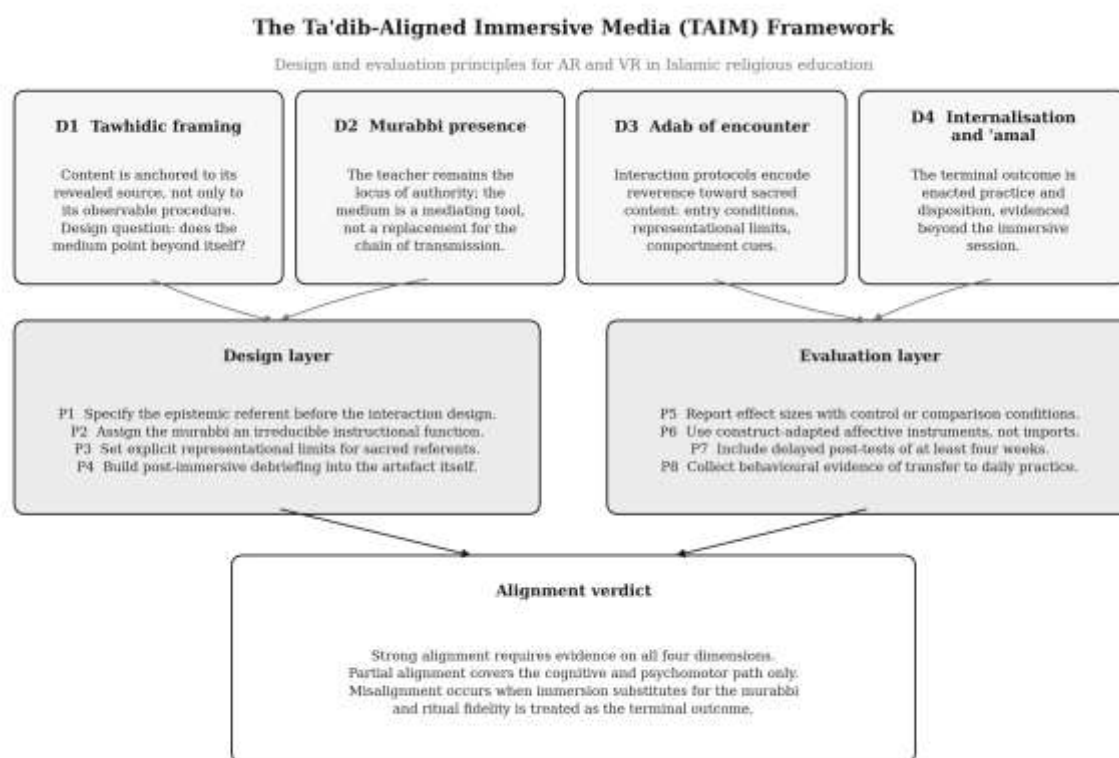


Figure 3. The Ta'dīb-Aligned Immersive Media framework, showing eight principles across a design layer and an evaluation layer with three alignment verdicts

Source: Authors' synthesis

The design layer addresses the epistemological problems identified in dimensions D1 to D3, while the evaluation layer addresses the measurement and rigour deficits documented in Table 6. The framework is offered as a checkable instrument for design teams, reviewers, and doctoral supervisors rather than as a theoretical claim about the nature of religious learning.

Limitations

Four limitations bear on the interpretation of these findings. The language restriction to English, Indonesian, and Malay will have excluded relevant work published in Arabic, Turkish, and Persian, and given that Turkey and the Gulf states are active in educational technology, the geographic concentration reported here is partly an artefact of the search strategy rather than a pure reflection of research activity. The exclusion of theses and preprints will have removed a substantial body of Indonesian graduate work, much of it development-oriented, though its inclusion would likely have deepened rather than altered the reported patterns. The ta'dīb coding framework is a construction of this review, derived from one strand of Islamic educational philosophy, and researchers working from other strands would specify the dimensions differently. Coding relied on what studies reported, which means a design team may have held commitments it did not document, and absence in the coding is absence from the report rather than proven absence from the practice. This last point deserves weight rather than a passing mention. Indonesian and Malaysian development studies are typically written to a template that privileges technical specification and validation scores, and that template leaves little room for stating a

pedagogical philosophy even where the team holds one. Interview or document-based work with design teams would establish how far the reporting gap and the practice gap actually coincide, and this review cannot settle that question.

CONCLUSION

The review shows that the rapid adoption of augmented and virtual reality in Islamic religious education has outrun any examination of the fit between immersive mediation and the epistemological commitments of the tradition, and the pattern holds across all three research questions. The research agenda is technology-led rather than curriculum-led, since fiqh ibadah absorbs 21 of the 47 studies because ritual procedure suits spatial and sequential mediation, while aqīdah and akhlāq together attract only seven and the doctrinal and ethical core of the subject remains largely untouched by immersive design. Outcome measurement has been imported wholesale from generic educational technology, so that cognitive achievement and motivation dominate while value internalisation is attempted in six studies and adab dispositions in two, and the rigour supporting even these measurements is thin. Epistemological alignment is weak on all four ta'dīb dimensions and weakest on relational teaching authority, which is absent from 36 studies, several of which treat the displacement of the teacher as an achievement rather than as a trade-off requiring justification. The review therefore contributes the Ta'dīb-Aligned Immersive Media framework, which converts these findings into eight operational principles across design and evaluation layers together with three alignment verdicts, and it points toward experimental work on teacher-mediated immersion, instrument development for religious value internalisation, and comparative work beyond Indonesia and Malaysia, until which time claims that immersive technology improves Islamic religious education should be read as claims about attention and recall rather than about the formation of adab.

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