



Contextualizing Social Media as a Cognitive Tool in Islamic Religious Education: A Multi-Site Case Study

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Abstract:

Social media are widely used by secondary-school students, yet their presence in education does not automatically support meaningful learning. This study examined how social media were contextualized as cognitive tools in Islamic Religious Education (IRE) at SMP Muhammadiyah 3 Ciparay and SMP IT Bani Umar Arjasari in West Java, Indonesia. A qualitative multi-site case study was conducted with 30 participants, comprising 10 students and five IRE teachers from each school. Data were collected over two months through semi-structured interviews and classroom observations and analyzed using thematic and cross-site analysis. The findings revealed that social media served five interrelated functions: providing access to learning resources, supporting structured tasks, facilitating teacher-student and peer interaction, enabling information verification, and encouraging reflection on religious knowledge and digital conduct. SMP Muhammadiyah 3 Ciparay demonstrated a more participatory pattern characterized by active discussion, resource exchange, and project coordination. SMP IT Bani Umar Arjasari exhibited a more teacher-directed pattern centered on material distribution, assignment communication, and clarification. The principal constraints were unequal digital skills, passive participation, information overload, distraction, and difficulty evaluating the credibility of online religious content. Social media functioned as a cognitive tool only when teachers moved its use beyond content delivery by requiring students to explain, compare, evaluate, and reflect on digital information. The study contributes a contextualized social-media cognitive-tool framework consisting of access, structured tasks, interaction, verification, and reflection. This framework can guide the design of digitally mediated IRE that integrates knowledge construction, religious-information literacy, collaboration, and ethical responsibility.

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Introduction (مقدمة)

Digital media have expanded learning beyond the physical classroom by allowing students

to access information, communicate with others, and participate in knowledge-producing communities. For adolescents, social media are no longer used solely for interpersonal communication; they form part of an interconnected environment in which formal instruction, informal learning, identity development, and social participation increasingly overlap. This development creates opportunities for schools to connect curricular learning with students' everyday digital practices, while simultaneously requiring careful attention to children's rights and the educational quality of technology use (Greenhow & Lewin, 2016; Livingstone & Third, 2017; UNESCO, 2023).

In Indonesia, Islamic Religious Education (IRE) is expected to develop students' religious knowledge, moral awareness, and capacity to apply Islamic values in daily life. This mandate is consistent with Law No. 20 of 2003 on the National Education System, which positions education as a process for developing spiritual strength, self-control, intelligence, noble character, and socially valuable competencies. From the perspective of Islamic education, learning should therefore integrate intellectual understanding with ethical formation and responsible action rather than merely transmit doctrinal knowledge. This integrative function becomes increasingly important when students encounter religious messages, moral claims, and competing interpretations through digital platforms (Halstead, 2004; Republic of Indonesia, 2003; Sanzi et al., 2025).

The educational value of social media can be explained through the concept of cognitive tools or *mindtools*. Within this perspective, technology does not replace students' thinking or simply deliver information; it supports learners in searching for, organizing, representing, comparing, discussing, and constructing knowledge. A digital platform becomes a cognitive tool only when students actively use its functions to examine ideas, articulate understanding, solve problems, or reflect on information. Consequently, students' familiarity with smartphones and social media cannot automatically be equated with the ability to use them critically and productively for learning (Jonassen, 2000; Ng, 2012).

When pedagogically structured, social media can provide an interactive space for sharing learning resources, asking questions, presenting interpretations, receiving feedback, and conducting collaborative inquiry. Its participatory features can extend communication between teachers and students beyond scheduled classroom meetings and connect formal learning with students' informal digital experiences. Research has shown that social media-supported collaboration can strengthen interaction, knowledge exchange, and student participation, although its effectiveness depends on the learning design, teacher facilitation, and relevance of the activities to curricular objectives (Ansari & Khan, 2020; Chugh & Ruhi, 2018; Greenhow & Askari, 2017).

Evidence concerning the educational consequences of social media, however, remains mixed. Academic use may facilitate communication, socialization, and learning engagement, but intensive or unfocused use may also compete with academic activities. Reviews of social-media integration further indicate that the availability of a platform does not guarantee meaningful learning because educational outcomes are influenced by the purpose of use, the quality of interaction, and the extent to which activities require students to process rather than merely consume information. Social media should therefore be examined as a context-dependent pedagogical environment instead of being treated as an inherently effective instructional medium (Ainin et al., 2015; Kirschner & Karpinski, 2010; Manca, 2020).

These concerns are particularly relevant to IRE because social media expose students to religious information of varying accuracy, authority, and ideological orientation. Students may encounter simplified teachings, decontextualized scriptural quotations, misinformation, intolerant narratives, or persuasive content whose credibility they are not yet prepared to

evaluate. Studies of online information evaluation demonstrate that students often struggle to identify the source, evidence, and reliability of digital content. Social media-based IRE must therefore combine subject-matter learning with information evaluation, digital ethics, privacy awareness, respectful communication, and teacher-guided reflection (McGrew et al., 2018; Ng, 2012; Odgers & Jensen, 2020).

The existing literature has examined social media as a communication medium, collaborative-learning environment, and resource-sharing platform. Nevertheless, much of this research has been conducted in higher education or has emphasized general student engagement and academic performance. Research at the secondary-school level identifies multiple educational applications of social media, but also reveals substantial variation in pedagogical design and teacher guidance. Within IRE, recent studies have increasingly discussed digital transformation and the development of digital teaching materials, yet limited attention has been paid to how teachers and students contextually transform everyday social-media practices into cognitive activities that support the interpretation and application of religious knowledge (Hamdi et al., 2024; Otchie & Pedaste, 2020; Tess, 2013).

A preliminary investigation at SMP Muhammadiyah 3 Ciparay and SMP IT Bani Umar Arjasari revealed this problem in two contrasting school contexts. At SMP Muhammadiyah 3 Ciparay, teachers and students used social media relatively actively for distributing materials, communicating, and discussing IRE content, and student engagement appeared comparatively high. However, differences in digital skills limited some students' ability to use platform features for academic purposes. At SMP IT Bani Umar Arjasari, social-media use for IRE was more moderate and student engagement was less consistent. Students also experienced difficulty managing the volume of available information and distinguishing relevant learning resources from unrelated or unreliable content. These conditions indicate that social media are already present in IRE practices, but their cognitive and pedagogical functions have not been equally developed across the two schools.

This situation exposes a research gap between the recognized affordances of social media and the ways those affordances are enacted in specific IRE learning environments. Previous studies have generally focused on adoption, frequency of use, engagement, or learning outcomes, while providing less explanation of how platform functions are contextualized through teachers' instructional decisions, students' cognitive activities, religious-learning objectives, and school-specific conditions. The novelty of this study lies in conceptualizing social media not merely as a communication or content-delivery medium but as a contextualized cognitive tool and in comparing how this function is constructed, constrained, and negotiated in two junior secondary schools with different institutional characteristics (Manca, 2020; Sanzi et al., 2025).

Accordingly, this study aims to analyze how social media are contextualized as cognitive tools in IRE learning at SMP Muhammadiyah 3 Ciparay and SMP IT Bani Umar Arjasari. It examines the forms and purposes of social-media use, the cognitive activities supported by the platforms, the roles performed by teachers and students, differences between the two school contexts, and the challenges that shape implementation. The study is important because it can provide an empirically grounded framework for moving social-media use from routine communication toward guided knowledge construction. Academically, it extends the cognitive-tool perspective into the context of secondary-level Islamic education; practically, it can assist teachers and schools in designing IRE activities that promote critical understanding, collaborative participation, digital responsibility, and the ethical application of religious values.



Method (منهج)

Research Design

This study employed a qualitative approach with a multi-site case study design. This design was selected to obtain a contextual understanding of how social media were used as cognitive tools in Islamic Religious Education (IRE) learning and to compare their implementation across two junior secondary schools. Each school was treated as an individual case before a cross-site analysis was conducted to identify shared patterns, contextual differences, and implementation challenges. The case study design was appropriate because the use of social media was examined within naturally occurring instructional practices rather than separated from the institutional and pedagogical contexts in which it occurred (Creswell & Poth, 2018; Khan, 2022; Yin, 2018).

Research Sites and Participants

The study was conducted at SMP Muhammadiyah 3 Ciparay and SMP IT Bani Umar Arjasari in Bandung Regency, West Java, Indonesia. The schools were purposively selected because both had incorporated social media into IRE-related communication and learning activities, while demonstrating different levels and patterns of implementation. The study involved 30 participants, consisting of 10 students and five IRE teachers from each school. Student participants were selected based on their experience using social media for IRE learning, whereas teacher participants were selected based on their involvement in planning, implementing, or supervising digitally mediated learning activities. Purposive sampling enabled the researchers to obtain information from participants who had direct experience of the phenomenon under investigation (Patton, 2015).

Data Collection

Data were collected over two months through semi-structured interviews and direct classroom observations. Individual interviews with teachers explored the purposes and forms of social-media use, instructional strategies, cognitive activities assigned to students, teacher guidance, platform selection, and implementation challenges. Student interviews examined their experiences of accessing IRE materials, participating in online discussions, collaborating with peers, evaluating religious information, and managing distractions or excessive information. The semi-structured format allowed the researchers to examine predetermined topics while pursuing relevant issues that emerged from participants' responses.

Observations were conducted during IRE lessons and related social-media-supported activities. The researchers observed how teachers distributed materials, initiated discussions, provided feedback, and guided students in evaluating digital information. Attention was also given to students' participation, peer interaction, information-seeking practices, and use of platform features for academic purposes. Field notes were prepared immediately after each observation. Data from interviews and observations were compared across participant groups and research sites to identify consistencies, differences, and evidence requiring further clarification.

Data Analysis

The data were analyzed iteratively using thematic analysis combined with the interactive processes of data condensation, data display, and conclusion drawing and verification. Interview recordings were transcribed verbatim, while observation notes were organized according to school, participant group, and learning activity. The researchers repeatedly read the data, assigned initial codes, compared related codes, and organized them into provisional themes. The

coding process focused on the forms and purposes of social-media use, social media as a cognitive tool, teacher scaffolding, student engagement, collaborative knowledge construction, digital-literacy practices, and implementation challenges. Additional themes were developed inductively when they emerged from the data (Braun & Clarke, 2019; Miles et al., 2014).

Within-site analysis was first conducted to develop a contextual account of social-media-supported IRE learning at each school. The two cases were subsequently compared through a cross-site matrix to identify convergent and contrasting patterns. Particular attention was given to differences in the intensity of social-media use, student engagement, digital skills, information management, and teacher guidance. Interpretations were continuously checked against interview transcripts and observation notes to ensure that the findings remained grounded in the collected evidence.

Trustworthiness and Research Ethics

Trustworthiness was addressed through credibility, transferability, dependability, and confirmability. Credibility was strengthened through source triangulation involving teachers and students and method triangulation involving interviews and observations. Interpretive summaries were returned to selected participants for member checking, enabling them to confirm or clarify the researchers' interpretations. Transferability was supported by describing the institutional settings, participants, learning practices, and social-media contexts of the two schools. Dependability and confirmability were maintained by documenting the processes of participant selection, data collection, coding, theme development, and cross-site comparison so that the analytical decisions could be traced to the original evidence (Nowell et al., 2017; Shenton, 2004).

Formal permission was obtained from both schools before data collection. Participation was voluntary, and participants were informed about the study's purpose, procedures, confidentiality measures, and their right to withdraw without penalty. Because the student participants were minors, parental or guardian consent and student assent were obtained. Participants' identities were replaced with codes, identifying information was excluded from the report, and the collected data were used solely for research purposes. Observations and interviews were arranged to minimize disruption to teaching and learning activities.

Result (نتائج)

Forms and Purposes of Social-Media Use in IRE Learning

The findings showed that social media were used in both schools as an extension of classroom-based Islamic Religious Education (IRE). Teachers employed familiar digital platforms to distribute learning materials, communicate instructions, remind students about assignments, and facilitate discussion outside scheduled lessons. Students accessed textual explanations, presentation files, images, short videos, and links to religious-learning resources through these platforms. Nevertheless, the intensity and pedagogical organization of their use differed between the two research sites.

At SMP Muhammadiyah 3 Ciparay, social-media use was relatively active and integrated into a wider range of learning activities. Teachers distributed materials before or after classroom meetings, initiated follow-up discussions, and encouraged students to search for supplementary explanations. Students also used digital groups to ask questions, exchange responses, and coordinate group assignments. Social media therefore functioned not only as a channel for announcements but also as a space that extended academic interaction beyond the classroom.

At SMP IT Bani Umar Arjasari, social media were used more moderately and primarily for

distributing materials, communicating assignments, and providing learning reminders. Online discussion occurred, but it was less continuous and depended more strongly on teacher initiation. Students tended to read or download the shared content without consistently responding to it. The platform consequently functioned more frequently as a supplementary communication medium than as an interactive learning environment.

Across the two schools, the most common purposes of social-media use were information distribution, teacher-student communication, discussion, resource sharing, and project coordination. Teachers considered these functions practical because students were already familiar with the platforms and could access learning materials beyond school hours. Students similarly valued the ability to revisit explanations and obtain information when they could not immediately understand a topic during classroom instruction.

The comparison demonstrated that access to social media alone did not determine its educational function. The same basic platform could operate as a one-way distribution channel, a communication space, or an interactive learning environment depending on the activities organized by the teacher. SMP Muhammadiyah 3 Ciparay demonstrated a more participatory pattern, whereas SMP IT Bani Umar Arjasari displayed a more teacher-directed pattern. These differences became the foundation for examining whether social media supported students' cognitive engagement with IRE content.

Table 1. Forms and purposes of social-media use across the two schools

Dimension	SMP Muhammadiyah 3 Ciparay	SMP IT Bani Umar Arjasari	Cross-site pattern
Intensity of use	Relatively active	Moderate	Use varied by teacher initiation and activity design
Material distribution	Frequent sharing of materials and supplementary resources	Primarily materials, assignments, and reminders	Present at both schools
Online discussion	More active and continuous	Occasional and teacher-initiated	Interaction was stronger when guided
Student collaboration	Used to coordinate group tasks and exchange ideas	Used mainly for task coordination	Collaboration remained activity-dependent
Dominant function	Communication and interactive learning	Supplementary communication and content delivery	Platform functions were contextually constructed

Social Media as a Cognitive Tool for Accessing and Processing IRE Knowledge

Social media supported students' access to IRE knowledge by making learning resources available beyond classroom time. Students could reopen materials, replay explanatory videos, follow links, and compare information from several sources. This flexibility was particularly useful when students required additional time to understand religious concepts or when classroom explanations needed to be reinforced through visual and audiovisual materials.

At SMP Muhammadiyah 3 Ciparay, students more frequently used shared materials as starting points for further exploration. After receiving a topic or resource from the teacher, some students searched for related explanations, examples, or videos and returned to the digital group to discuss what they had found. This process was visible in activities requiring students to explain concepts, respond to questions, or connect religious teachings with situations encountered in everyday life.

At SMP IT Bani Umar Arjasari, students benefited from the accessibility and repeatability of digital content, but their information-processing activities were less consistent. Many students

focused on receiving, reading, and storing the materials shared by teachers. Independent searches occurred, although they sometimes generated confusion because students encountered multiple explanations without having adequate criteria for determining which sources were relevant and reliable.

Three cognitive functions emerged from the data: extending memory, organizing information, and supporting interpretation. Social media extended students' memory by preserving materials and discussions that could be revisited. It supported information organization when teachers grouped resources according to topics or assignments. It also supported interpretation when students were required to explain a source, compare viewpoints, formulate questions, or relate a digital resource to the IRE concepts discussed in class.

The findings nevertheless showed that social media did not automatically produce higher-order thinking. When activities ended with downloading, reading, or forwarding information, the platform functioned primarily as a repository. Its cognitive function became stronger when teachers asked students to select relevant information, explain meaning, compare sources, or justify an interpretation. The transition from accessing information to processing knowledge therefore depended on the intellectual demands embedded in the learning activity.

Table 2. Cognitive functions of social media in IRE learning

Cognitive function	Evidence at SMP Muhammadiyah 3 Ciparay	Evidence at SMP IT Bani Umar Arjasari	Level of development
Accessing information	Students accessed and expanded teacher-provided resources	Students accessed and stored shared materials	Developed at both schools
Extending memory	Materials and discussions were revisited	Materials and instructions could be reopened	Developed at both schools
Organizing information	Resources were connected to topics and group tasks	Organization relied mainly on teacher distribution	More structured at SMP Muhammadiyah 3 Ciparay
Interpreting information	Students explained and discussed selected content	Interpretation occurred mainly after teacher prompts	Uneven across schools
Evaluating sources	Initial comparison of digital information occurred	Students experienced difficulty selecting reliable information	Required stronger scaffolding

Interaction, Collaboration, and Student Engagement

The use of social media expanded opportunities for interaction among teachers and students. Students who were reluctant to speak during face-to-face lessons could submit questions or responses through digital communication. Teachers could also respond to questions after class, clarify assignments, and provide additional explanations. This extended interaction made learning less dependent on the limited duration of classroom meetings.

Student engagement was comparatively high at SMP Muhammadiyah 3 Ciparay. Students responded to shared materials, participated in discussions, and exchanged information with classmates. Collaborative tasks were facilitated because group members could coordinate responsibilities and combine their contributions without having to meet physically. The digital space also enabled students to continue unfinished classroom discussions and prepare ideas before presenting them in class.

At SMP IT Bani Umar Arjasari, engagement was moderate and varied across students. Several students responded actively when teachers provided direct questions or clearly defined tasks, while others remained passive readers. Participation declined when instructions were

general, discussions were not moderated, or students perceived social media as merely a place to receive assignments. Engagement was therefore closely associated with the clarity and structure of the activity.

Collaboration was most productive when students were given a specific problem, defined roles, and an expected output. Students used social media to share resources, negotiate task distribution, review one another's work, and prepare presentations. In less structured activities, online interaction tended to become brief, repetitive, or unrelated to the learning objective. The quality of collaboration was thus determined by the organization of the task rather than by the presence of a digital group alone.

Across the two cases, social media increased opportunities to participate but did not distribute participation equally. Students with stronger digital skills and greater confidence tended to contribute more frequently, whereas less confident students often observed without responding. Teacher prompts, follow-up questions, and acknowledgement of student contributions helped broaden participation. These findings indicate that visible online activity should not automatically be interpreted as equivalent cognitive engagement for all students.

Table 3. Interaction, collaboration, and engagement patterns

Dimension	SMP Muhammadiyah 3 Ciparay	SMP IT Bani Umar Arjasari	Main condition
Teacher-student interaction	Frequent communication	Occasional and task-focused communication	Teacher availability and prompting
Student participation	Relatively high	Moderate and uneven	Clarity of questions and activities
Peer discussion	More continuous	Limited without teacher initiation	Active moderation
Group collaboration	Resource exchange and project coordination	Primarily task coordination	Defined roles and expected outputs
Participation gap	Present among students with different digital skills	More visible among passive students	Individual confidence and digital competence

Teacher Scaffolding, Information Evaluation, and Digital Ethics

Teachers played a central role in determining whether social media supported meaningful IRE learning. Their responsibilities extended beyond uploading materials to selecting resources, framing questions, moderating interaction, clarifying misconceptions, and connecting online content with curriculum objectives. Students relied on teachers to indicate which sources were suitable and how digital information should be interpreted within the context of Islamic teachings.

At SMP Muhammadiyah 3 Ciparay, teacher scaffolding was visible in follow-up questions and requests for students to explain the information they shared. Teachers did not always accept forwarded content as a completed response; students were encouraged to describe its relevance to the topic. This practice reduced purely mechanical sharing and created opportunities for students to articulate their understanding, although the depth of guidance differed among teachers.

At SMP IT Bani Umar Arjasari, teacher guidance focused more strongly on controlling the relevance of information. Students frequently encountered numerous search results, videos, and religious messages but found it difficult to determine which sources were trustworthy. Teachers responded by recommending selected resources, correcting unsuitable interpretations, and reminding students not to rely on unfamiliar accounts or unattributed religious statements.

Digital ethics emerged as an inseparable component of social-media-supported IRE

learning. Teachers emphasized respectful language, responsible sharing, avoidance of offensive comments, and caution when forwarding religious content. Students were reminded that communication in digital spaces remained subject to moral responsibility. These practices connected online behaviour with the values discussed in IRE rather than treating digital conduct as a separate technical issue.

Despite these efforts, source evaluation had not yet become a systematic learning activity in either school. Guidance was commonly provided after confusion or questionable information appeared, rather than through an explicit verification procedure applied to every assignment. Students needed clearer criteria for identifying authorship, institutional authority, supporting evidence, contextual accuracy, and agreement with credible references. The findings therefore revealed a need to shift from corrective supervision toward planned instruction in religious information literacy.

Table 4. Teacher scaffolding and digital-responsibility practices

Aspect	SMP Muhammadiyah 3 Ciparay	SMP IT Bani Umar Arjasari	Identified need
Resource selection	Teachers shared and expanded learning resources	Teachers recommended selected resources	Transparent source-selection criteria
Cognitive scaffolding	Follow-up questions and explanation requests	Direct clarification and teacher prompts	Consistent higher-order questioning
Misconception management	Corrections during discussion	Corrections after information confusion	Earlier diagnostic guidance
Digital ethics	Respectful interaction and responsible sharing	Caution in sharing religious information	Integration into regular assignments
Source verification	Conducted when problems emerged	Strongly teacher-dependent	A systematic verification procedure

Supporting Conditions, Constraints, and Cross-Site Implementation Pattern

Several supporting conditions enabled social-media use in the two schools. Students' familiarity with mobile devices reduced the time needed to introduce basic platform functions. Existing digital groups provided a ready communication channel, while teachers' willingness to share materials and respond outside classroom hours sustained the learning process. Social media also offered flexible access to multimedia resources that were difficult to present fully during limited classroom time.

The strongest support at SMP Muhammadiyah 3 Ciparay was the relatively active interaction between teachers and students. Repeated use helped students perceive digital groups as learning spaces in addition to communication spaces. At SMP IT Bani Umar Arjasari, the strongest support was the teacher's role in providing organized materials and maintaining the relevance of digital communication. Both patterns demonstrated that teacher commitment remained central even when students were familiar with technology.

The main constraint at SMP Muhammadiyah 3 Ciparay was the uneven level of students' digital skills. Some students could locate, select, and communicate information effectively, whereas others required assistance with platform functions and academic searches. This disparity affected the distribution of participation and the quality of students' contributions. It also increased the teacher's workload because different levels of guidance were required within the same activity.

At SMP IT Bani Umar Arjasari, the dominant constraint was information overload and students' difficulty distinguishing useful content from irrelevant or unreliable information. The quantity of available religious material did not necessarily facilitate understanding. Instead, it

sometimes produced uncertainty, fragmented attention, and dependence on teacher confirmation. Distractions from non-academic content further reduced sustained engagement when students moved between learning resources and entertainment features.

Cross-site analysis produced a contextual implementation pattern consisting of five connected elements: access, structured tasks, interaction, verification, and reflection. Access enabled students to obtain resources; structured tasks directed their attention; interaction allowed knowledge to be negotiated; verification protected learning from unreliable information; and reflection connected digital content with religious understanding and daily conduct. Weakness in any element reduced the platform's cognitive value. Social media functioned most effectively as a cognitive tool when all five elements were intentionally coordinated by the teacher.

Table 5. Supporting conditions, constraints, and the cross-site implementation pattern

Element	Supporting condition	Principal constraint	Required development
Access	Familiar devices and accessible digital groups	Unequal technical capability	Inclusive technical support
Structured tasks	Teacher-provided questions and assignments	Activities sometimes limited to content delivery	Tasks requiring explanation and comparison
Interaction	Extended communication and peer collaboration	Unequal or passive participation	Moderation and differentiated prompts
Verification	Teacher recommendations and corrections	Difficulty assessing source credibility	Explicit verification criteria
Reflection	Connection between digital conduct and Islamic values	Reflection was not consistently documented	Guided reflection on knowledge and behaviour



Discussion (مناقشة)

The findings demonstrate that social media became cognitive tools only when their technical features were connected to activities requiring students to process knowledge. Their cognitive value did not arise from access to digital content itself but from the use of content to search, organize, compare, explain, and discuss IRE concepts. This finding supports Jonassen's (2000) conception of technology as a *mindtool*: technology contributes to learning when learners use it to represent and construct knowledge rather than receive information passively. The distinction observed between resource storage and active interpretation also reinforces the argument that digital familiarity does not automatically constitute digital competence (Ng, 2012).

Differences between the two schools show that social-media integration is contextually produced. SMP Muhammadiyah 3 Ciparay displayed a more participatory pattern, whereas SMP IT Bani Umar Arjasari relied more heavily on teacher-directed content distribution and clarification. These patterns support Greenhow and Lewin's (2016) proposition that social media can connect formal and informal learning, but they also show that this connection requires deliberate pedagogical design. The findings are consistent with research in secondary education indicating that social media support multiple forms of learning while producing varied outcomes according to the institutional context, platform practices, and level of instructional guidance (Greenhow & Askari, 2017; Otchie & Pedaste, 2020).

The increased interaction and collaboration found in both schools confirm the potential of social media to extend participation beyond scheduled classroom meetings. Students could ask questions, exchange resources, and coordinate assignments, while teachers could provide continuing feedback. This result aligns with Ansari and Khan's (2020) finding that social-media-supported collaborative learning can improve interaction among students and teachers.

However, the present study clarifies that interaction should not be measured only by the number of messages or responses. Productive collaboration emerged when tasks included specific questions, assigned responsibilities, and assessable outputs, supporting the conclusion that the learning benefits of social media depend on structured pedagogical use (Chugh & Ruhi, 2018; Manca, 2020).

The problems of uneven digital skills and information overload demonstrate that students require more than operational competence. They need the ability to select keywords, compare explanations, identify the authority behind a source, examine supporting evidence, and determine whether information is relevant to the learning problem. This finding is consistent with McGrew et al. (2018), who found that students frequently experience difficulty evaluating online sources, and with Ng's (2012) multidimensional understanding of digital literacy. In this study, teacher correction protected students from questionable content, but verification remained reactive rather than systematically embedded in learning. Religious information literacy should therefore become an explicit component of social-media-supported IRE.

The integration of digital ethics is especially significant in IRE because religious education is concerned with both understanding and moral action. Teachers' emphasis on respectful communication, responsible sharing, and caution toward unattributed religious messages demonstrates an effort to connect digital practices with Islamic ethical principles. This finding corresponds with Halstead's (2004) view that Islamic education integrates intellectual, moral, and behavioural development. It also supports calls for contemporary Islamic education to respond to digitally mediated social realities by developing learners who can apply religious values critically and responsibly in online and offline environments (Sanzi et al., 2025).

The study's academic contribution is the formulation of a contextualized social-media cognitive-tool framework comprising five interdependent processes: access, structured tasks, interaction, verification, and reflection. Existing studies commonly emphasize access, communication, collaboration, or engagement as separate benefits; the present findings show that these elements acquire educational meaning only when combined with source verification and value-oriented reflection. The framework extends the *mindtool* perspective into secondary-level IRE and explains why similar platforms can produce different cognitive functions across schools. It also offers an analytical basis for future studies to evaluate social-media integration according to the quality of knowledge construction and ethical reflection rather than merely the frequency of platform use.



Conclusion (خاتمة)

This study concludes that the educational value of social media in IRE is determined less by the availability of digital platforms than by the cognitive and ethical activities designed around them. At both schools, social media expanded access to learning materials, communication, discussion, and group coordination, but the two sites demonstrated different implementation patterns. SMP Muhammadiyah 3 Ciparay showed more active and participatory use, whereas SMP IT Bani Umar Arjasari relied more strongly on teacher-directed distribution and clarification. Across the cases, meaningful use emerged when students were required to search for relevant information, explain ideas, compare sources, collaborate with peers, verify religious content, and reflect on digital behaviour. These findings produced a five-component framework—access, structured tasks, interaction, verification, and reflection—which explains how social media can move from being a communication channel to becoming a cognitive tool for IRE.

The study is limited to two schools, 30 purposively selected participants, two data-collection methods, and a two-month research period; consequently, its findings are context-bound and should not be statistically generalized to all secondary schools. The study also examined participants' reported experiences and observed practices without measuring changes in learning achievement or tracing students' digital activity longitudinally. Future research should test the proposed framework in more diverse schools, include documentary or digital-interaction data, and examine its relationship with critical thinking, religious understanding, digital ethics, and learning outcomes. Schools are recommended to develop explicit guidelines for social-media-supported IRE, provide professional development on cognitive-task design and online moderation, and teach students systematic procedures for verifying digital religious information. Teachers should also balance flexible access with structured interaction, inclusive participation, source evaluation, and guided reflection so that social media use remains academically meaningful and ethically responsible

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