

RECONSTRUCTING THE POSITION OF QUR'ANIC MEMORIZATION IN BLOOM'S TAXONOMY: FROM LOWER-ORDER THINKING SKILLS (LOTS) TO SPIRITUAL HIGHER-ORDER THINKING SKILLS (HOTS)

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ABSTRACT

Bloom's Taxonomy traditionally positions memorization at the lowest cognitive level (remember) and categorizes it as a lower-order thinking skill (LOTS). This view often reduces memorization to a mechanical process with limited intellectual value compared to critical and creative thinking. In the tradition of Islamic education, however, particularly in Qur'anic memorization, memorization plays a central role that combines cognitive, spiritual, and affective dimensions, shaping students' character, morality, and scholarly identity. This study seeks to reconstruct the position of Qur'anic memorization within Bloom's Taxonomy, aiming to demonstrate that memorization can progress beyond LOTS toward higher-order thinking skills (HOTS) while simultaneously nurturing spiritual development. A qualitative descriptive-analytical design was employed, combining a literature review of Bloom's Taxonomy and Islamic pedagogy with in-depth interviews involving *tahfidz* teachers, Islamic education lecturers, and Qur'an-memorizing students. The collected data were analyzed thematically to capture both empirical experiences and conceptual interpretations. The findings reveal that Qur'anic memorization provides a foundation for understanding, application, analysis, evaluation, and even the creation of new ideas rooted in Qur'anic values. This research concludes that memorization should not be seen as a low-level skill but as an epistemological and spiritual instrument that integrates knowledge, faith, and ethical practice, enriching educational excellence and inspiring innovative pedagogical approaches.

Keywords: Bloom's Taxonomy, HOTS, Islamic education, LOTS, Qur'anic memorization

INTRODUCTION

Bloom's Taxonomy has long served as a global reference for designing learning objectives across educational levels. Within this framework, memorization is placed at the lowest cognitive category, namely *remember*, which refers to the learner's capacity to recognize, reproduce, and recall previously learned information (Anderson & Krathwohl, 2001). This level is commonly associated with lower-order thinking skills (LOTS) and is understood as a preparatory stage before learners engage in more complex cognitive processes such as understanding, analyzing, evaluating, and creating.

In many contemporary Western educational discourses, memorization is frequently interpreted as a mechanical and repetitive cognitive activity with limited educational value (Ausubel, 1968). Learning achievement is often equated with learners' abilities to comprehend concepts, apply knowledge to new situations, and demonstrate critical or creative thinking, while recall-based performance is regarded as cognitively minimal (Biggs et al., 2001). This interpretation reflects a secular pedagogical orientation that prioritizes analytical reasoning and knowledge production as the primary aims of education.

However, such an interpretation becomes contested when applied to educational traditions grounded in different epistemological assumptions. Within the Islamic educational worldview, memorization, particularly of the Qur'an and prophetic traditions, has historically

functioned as a foundational pedagogical practice (Robinson, 2007). In this tradition, memorization is understood not merely as information retention but as a structured process of internalizing meaning and values that contributes to intellectual formation alongside affective and spiritual development. This understanding represents a normative orientation of Islamic pedagogy rather than an empirical claim.

The recurring debate surrounding memorization is further shaped by the absence of a formally articulated learning taxonomy derived explicitly from Islamic epistemology that parallels the structure and influence of Bloom's Taxonomy. Consequently, Islamic educational practices frequently adopt Western cognitive frameworks developed within secular paradigms. When such frameworks are applied without epistemological negotiation, tensions may arise, particularly in learning contexts that integrate cognition, emotion, ethics, and spirituality.

Despite increasing recognition of Qur'anic memorization in contemporary educational policies and practices, existing academic studies often approach the issue from separate perspectives. Some studies apply Bloom's Taxonomy without critically examining its epistemological assumptions, while others discuss Qur'anic memorization normatively without engaging modern educational theory (Bloom, 1956; Anderson & Krathwohl 2001). This indicates a conceptual gap in the literature, the lack of an integrative analytical framework that situates memorization within Bloom's cognitive taxonomy while simultaneously accounting for Islamic epistemological perspectives.

Accordingly, this study departs from the assumption that the tension between memorization as LOTS in Bloom's framework and memorization as a foundational practice in Islamic education constitutes a theoretical rather than an empirical problem. Instead of revising or replacing Bloom's Taxonomy, the current study employs an interpretive-integrative approach to reexplore the educational significance of memorization, with a particular emphasis on Qur'anic memorization (Günther, 2012; Berkey, 1992; Al-A'zami, 2003). This is achieved through a dialogue that bridges Western cognitive theory and Islamic educational epistemology. The conceptual distinction between these paradigms is summarized in Table 1.

Table 1. The Conceptual Distinction of Western and Islamic Paradigms

No	Aspect	Western Paradigm (Bloom's Taxonomy)	Islamic Paradigm (Qur'anic Education Worldview)
1	Position in learning framework	Positioned at the remember level, categorized as lower-order thinking skills (LOTS)	Positioned as a foundational pedagogical practice
2	Meaning of memorization	Recall and reproduction of information	Internalization of meaning and values within the learning process
3	Cognitive role	Preliminary stage preceding higher-order cognitive processes	Foundational process supporting intellectual development
4	Affective dimension	Not explicitly emphasized within the taxonomy	Integrated with affective dispositions such as discipline and sincerity
5	Educational function	Cognitive support for subsequent analytical and creative processes	Pedagogical foundation for intellectual, moral, and spiritual formation
6	Ultimate educational orientation	Development of analytical, critical, and creative thinking skills	Formation of knowledgeable and ethically grounded learners

The contrast between Western cognitive taxonomy and Islamic educational perspectives becomes more apparent when examined through the lens of classical Islamic epistemology. Ibn

Sīnā's hierarchical theory of the intellect (*al-'aql*), which comprises the material intellect, habitual intellect, actual intellect, and acquired intellect, describes a gradual progression of human reasoning from latent cognitive potential toward abstract and creative intellectual activity. This hierarchical structure shows a formal parallel with Bloom's progression from *remember* to *create*, while differing in its epistemological orientation by situating intellectual development within broader ethical and metaphysical considerations (Ibn Sīnā, 1960; Ibn Sīnā, 1985; Gutas, 2014; McGinnis, 2010).

Building on this tradition, several contemporary scholars have proposed integrative conceptual models that relate Islamic understandings of *'aql* to layered cognitive functioning informed by insights from psychology and neuroscience (Adamson & Taylor, 2005; Al-Attas, 1978, 1980; Utz, 2011; Rothman & Coyle, 2021; Cook, 2018; Kandel, et al., 2013). Within these interpretive frameworks, memorization is viewed as an initial cognitive process that supports subsequent stages of meaning-making, ethical reasoning, and reflective awareness. These dimensions, while not explicitly addressed within Bloom's secular taxonomy, are considered central within Islamic educational discourse. Importantly, such models are conceptual in nature and do not claim to empirically revise Bloom's framework.

The continued relevance of Qur'anic memorization within modern educational contexts is also reflected in contemporary academic policies and practices (Haddad, Smith, & Moore, 2009; IIUM, 2020; Bowen, 2016; UNESCO, 2019). In Indonesia, for example, several universities provide special admission pathways and scholarships for students with Qur'anic memorization backgrounds, while regional governments promote Qur'anic literacy through formal educational regulations. Empirical studies have reported associations between participation in *tahfidz* programs and indicators such as emotional regulation, learning concentration, academic persistence, and psychological well-being (Fitriani, 2020; Munirah, 2019; Aziz et al., 2020; Hidayat, 2021; Rahman, 2022). These findings, while context-specific, suggest that memorization practices may be associated with broader cognitive and affective outcomes.

Taken together, these developments indicate that Qur'anic memorization functions, within Islamic educational contexts, as an integrative learning practice involving cognitive, affective, and embodied dimensions. This observation raises a conceptual tension when such practices are interpreted solely through Western cognitive taxonomies in which memorization is classified as a lower-order skill. The tension does not arise from empirical contradiction, but from differing epistemological assumptions regarding the nature and purpose of learning.

Accordingly, this study departs from the premise that the positioning of memorization as LOTS within Bloom's Taxonomy and its foundational role in Islamic education constitute a theoretical problem warranting analytical re-examination. The research questions guiding this study are: How should memorization be understood within contemporary educational theory when Western cognitive frameworks and Islamic epistemological perspectives are brought into dialogue? In what ways can memorization be conceptualized not merely as a lower-order cognitive process, but as a foundational practice that may support higher-order thinking alongside affective and spiritual dimensions?

The objective of this study is therefore to develop an interpretive conceptual framework that re-examines the educational meaning of memorization without reducing it to a low-level cognitive skill. By integrating Bloom's Taxonomy with insights from Islamic epistemology, this study seeks to contribute a more holistic understanding of learning, one that acknowledges cognitive development while also accounting for ethical orientation, affective engagement, and scholarly identity formation. This framework is intended as a theoretical contribution rather than an empirical revision of existing taxonomies

Memorization in Bloom's Taxonomy: A Cognitive Framework

Within modern Western educational theory, memorization is formally situated within Bloom's Taxonomy as the *remember* level, which represents the ability to recognize, reproduce, and recall previously learned information (Anderson & Krathwohl, 2001). At this stage, learners are not required to interpret meaning or transfer knowledge to new contexts. Memorization is therefore commonly associated with rote learning and is understood as a foundational, yet limited, cognitive process.

Bloom's hierarchical structure assumes a progressive movement from memorization toward higher cognitive processes, *understand, apply, analyze, evaluate, and create*. Within this framework, memorization functions primarily as a prerequisite for more complex thinking. Educational value is thus often attributed to learners' ability to move beyond recall toward conceptual understanding, problem-solving, and creative production. Consequently, memorization tends to be framed instrumentally, valued mainly for its role in supporting higher-order thinking skills (HOTS), rather than as a meaningful learning outcome in its own right.

While Bloom's taxonomy remains methodologically influential, scholars have noted that its cognitive orientation offers limited space for affective, ethical, and spiritual dimensions of learning. These limitations become particularly visible when the taxonomy is applied to educational contexts that conceptualize learning as an integrated process involving discipline, value internalization, and moral formation. Importantly, such critiques do not invalidate Bloom's framework but highlight its epistemological scope and boundaries.

Memorization in the Islamic Educational Worldview

Within the Islamic educational tradition, memorization, especially of the Qur'an and prophetic traditions, has historically been positioned as a foundational pedagogical practice. From this worldview, memorization is understood not merely as information retention, but as a structured process of internalizing meaning that contributes to intellectual, affective, and spiritual development. This positioning reflects a normative orientation of Islamic pedagogy rather than an empirical generalization.

Classical Islamic educational practices, such as those found in pesantren and early madrasah systems, place memorization at the center of knowledge transmission (Al-Attas, 1991). Learners memorize not only the Qur'an, but also foundational scholarly texts, as a means of cultivating discipline, consistency, and textual familiarity. Pedagogical practices such as *muraja'ah* (systematic review) and *talāqqī* (recitation before a teacher) function to reinforce learning while also shaping ethical dispositions such as patience, humility, and perseverance.

Within this worldview, memorization is closely linked to character formation. A learner who memorizes sacred texts is expected to gradually align behavior with the values embedded in those texts. Thus, memorization operates simultaneously as a cognitive exercise and as a moral-spiritual practice. These dimensions, while central to Islamic educational thought, are not explicitly theorized within Bloom's secular cognitive taxonomy.

Integrating Western and Islamic Perspectives on Memorization

The contrast between Bloom's Taxonomy and Islamic educational perspectives highlights a theoretical tension rather than an empirical contradiction. Bloom's framework conceptualizes memorization as a lower-order cognitive process to be transcended, whereas Islamic pedagogy treats memorization as a foundational practice that accompanies intellectual development throughout the learning trajectory.

Recent integrative scholarship has attempted to place these perspectives in dialogue by examining classical Islamic epistemology, particularly Ibn Sīnā's hierarchical theory of the intellect (*al-'aql*). Ibn Sīnā's model describes a gradual progression from latent intellectual

potential toward abstract reasoning, paralleling Bloom's cognitive hierarchy in form, while differing in epistemological orientation by embedding ethical and metaphysical considerations within intellectual growth. Such parallels suggest conceptual compatibility without implying equivalence or revision of Bloom's taxonomy.

From an integrative standpoint, memorization may be understood as an initial cognitive grounding that supports subsequent meaning-making, ethical reasoning, and reflective awareness. These dimensions extend beyond the explicit scope of Bloom's taxonomy, yet remain relevant for understanding learning processes in religious educational contexts. Importantly, this interpretation remains conceptual and does not claim to empirically modify Bloom's model.

Cognitive Psychology and Contemporary Learning Theories

Insights from cognitive psychology further support a nuanced understanding of memorization practices. Qur'anic memorization involves structured repetition, distributed practice, and continuous review, aligning with principles of self-regulated learning (Zimmerman, 2002). Learners engage in goal-setting, performance monitoring, and reflective evaluation, indicating that memorization is embedded within a dynamic learning process rather than passive repetition.

Motivational theories, such as Self-Determination Theory (Deci & Ryan, 2000), also offer interpretive value. *Tahfid* practices often involve intrinsic motivation rooted in personal meaning and commitment, sustained competence development through incremental mastery, and strong relational support within learning communities. These elements contribute to learner persistence and psychological well-being, although such outcomes remain context-dependent.

Neuroscientific studies suggest associations between structured memorization practices and indicators of memory consolidation, emotional regulation, and cognitive resilience. While these findings should be interpreted cautiously, they provide additional support for viewing memorization as a cognitively and affectively engaged process rather than a purely mechanical activity.

Theoretical Synthesis

Taken together, these perspectives indicate that Qur'anic memorization, as understood within Islamic educational discourse, functions as an integrative learning practice that engages cognitive, affective, and spiritual dimensions. When examined through an interpretive-integrative lens, memorization can be conceptualized not merely as a lower-order cognitive skill, but as a foundational process that supports higher-order thinking while also contributing to ethical orientation and scholarly identity formation.

Accordingly, the present study does not seek to revise or replace Bloom's Taxonomy. Rather, it aims to re-examine the educational meaning of memorization by situating Bloom's cognitive framework in dialogue with Islamic epistemological perspectives. This theoretical synthesis offers a more holistic understanding of learning, one that acknowledges cognitive development while remaining attentive to the affective and spiritual dimensions emphasized within Islamic education.

Synthesis of Tahfidz Dimensions Leading to Spiritual HOTS

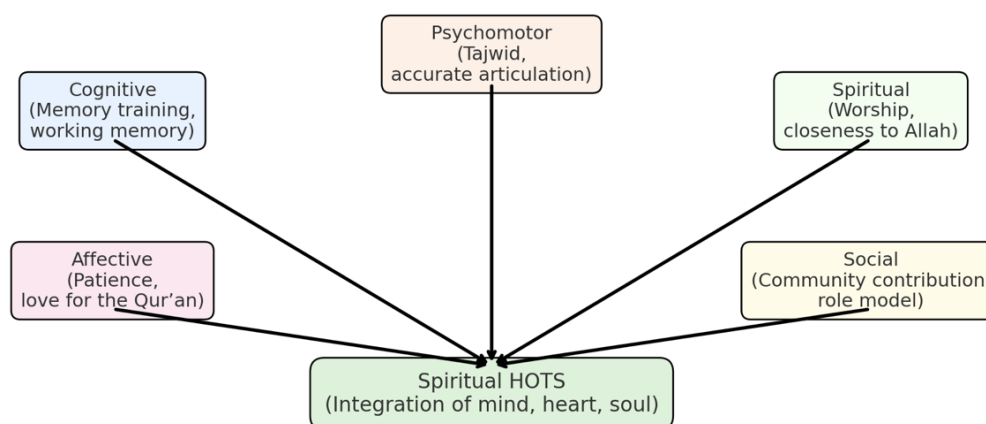


Figure 1. The Synthesis of Tahfidz Dimensions

Figure 1 portrays the conceptual framework of Tahfidz Dimensions, Qur’anic memorization is not interpreted as an endpoint of learning, nor is it equated empirically with higher-order thinking skills. Instead, it is understood as a foundational practice that may *support* the development of complex cognitive processes when situated within an integrated educational ecology. The notion of “spiritual higher-order thinking” in this study, therefore, functions as an interpretive category rather than a formal extension or revision of Bloom’s Taxonomy.

This model offers a way to reinterpret Qur’anic memorization in contemporary Islamic education, not as a practice limited to textual recall, but as a multidimensional learning process that potentially contributes to intellectual engagement, ethical orientation, and spiritual awareness. Such an interpretation remains theoretical and contextual, and does not claim universal applicability beyond the scope of the present study.

METHOD

This study employs a qualitative descriptive–analytical design to explore the educational meaning and positioning of memorization within an integrative dialogue between Bloom’s Taxonomy and the Islamic educational tradition. Qualitative inquiry is appropriate for examining meaning-rich, context-dependent educational phenomena (Creswell & Plano Clark, 2017). The study is interpretive in nature and does not empirically test, revise, or replace Bloom’s Taxonomy. Rather, it seeks to interpret how memorization is understood and practiced within Islamic educational contexts and how these understandings relate conceptually to Western cognitive taxonomies.

Data Sources and Participants

Data were collected from two primary sources. First, a document-based literature review examined key works on Bloom’s Taxonomy, including its revision by Anderson & Krathwohl (2001), as well as contemporary and classical Islamic education literature addressing memorization. Classical Islamic educational perspectives were examined through foundational texts such as al-Ghazali’s *Ihyā’ ‘Ulūm al-Dīn*, particularly the Book of Knowledge, and Ibn Khaldun’s *Muqaddimah*, both of which articulate comprehensive theories of learning, intellectual development, and pedagogical method. To contextualize these foundations within contemporary practice, studies on Indonesian pesantren traditions were consulted (Lukens-Bull,

2005; Hefner, 2009; van Bruinessen, 1994), highlighting the dynamic continuity between classical epistemology and modern Islamic educational institutions.

In addition, field data were obtained through in-depth semi-structured interviews with six purposively selected informants: two *tahfid* teachers from Islamic boarding schools in Yogyakarta, two lecturers of Islamic Religious Education at state Islamic universities, and two Qur'an-memorizing students at UIN Sunan Kalijaga Yogyakarta. Participants were selected based on their direct involvement in Qur'anic memorization as educators or practitioners, enabling the study to capture diverse experiential perspectives.

Data Collection and Analysis

Subsequently, the interview data and textual materials were subjected to thematic analysis (Braun & Clarke, 2006) in order to identify recurring patterns across the cognitive, affective, spiritual, and pedagogical dimensions of memorization. The overall analytic process adhered to the framework outlined by Miles and Huberman (1994), which includes data reduction, data display, and conclusion drawing. This structured approach facilitated a systematic organization of the findings while ensuring transparency between the empirical data and the interpretive claims. Furthermore, the analysis was conducted iteratively, with continuous movement between concepts derived from the literature and participants' accounts. This iterative process allowed for the identification of convergences and divergences within the data. Importantly, findings from the interviews were regarded as participants' experiences and perspectives, rather than as generalized representations of Islamic education as a whole.

Analytical Approach and Researcher Positionality

The study adopts a comparative–interpretive approach, comparing Bloom's cognitive categorization of memorization with the lived practices of Qur'anic *tahfid* as reported by participants and described in the literature. This comparison is analytical rather than evaluative; it aims to clarify conceptual tensions without asserting epistemological superiority.

The researcher's role is that of an Braun situated within Islamic educational discourse. The study explicitly distinguishes between (a) participants' narratives, (b) normative positions within the Islamic educational worldview, and (c) the researcher's interpretive synthesis. This positioning helps maintain analytical distance and avoid conflating theological commitments with empirical findings.

Scope and Limitations

Given its qualitative and interpretive design, the study's findings are context-specific and not intended for statistical generalization. Claims regarding higher-order thinking are framed as conceptual and supportive, indicating how memorization may function as a foundational practice within an integrative learning model, rather than as definitive empirical outcomes.

Methodological Contribution

This methodological design enables a careful re-examination of memorization as an educational practice situated at the intersection of Western cognitive theory and Islamic epistemology. By integrating textual analysis with participants' experiences, the study offers a theoretically informed interpretation of memorization that remains grounded in empirical context while respecting the epistemological boundaries of both traditions.

RESULTS AND DISCUSSION

Memorization as a Cognitive Foundation (Participants' Accounts)

Interviews with two *tahfidz* teachers from Islamic boarding schools in Yogyakarta indicate that Qur'anic memorization is perceived by participants as a foundational practice in the learning process. Both teachers emphasized that memorization is not considered an end in itself, but rather an initial resource that supports students' engagement with broader fields of knowledge.

One teacher (G1) explained that having verses readily available in memory facilitates participation in academic discussion: "*Students who have memorized verses about justice can more easily follow discussions on Islamic law because the text is already embedded in their memory. They do not need to search for the verse in the mushaf, as it is readily available*" (G1, Personal Communication, June 2025).

From the participants' perspective, memorization provides immediate access to textual material, which they experience as helpful for following explanations and engaging in analytical discussion. Teachers reported that this availability supports students' ability to connect Qur'anic verses with social, legal, and ethical topics under study.

The second teacher (G2) highlighted perceived differences in learning habits between *tahfidz* and non-*tahfidz* students: "*Students with Qur'anic memorization tend to be more focused. They are accustomed to setting daily memorization targets, which helps them organize their study routines in other subjects*" (G2, Personal Communication, June 2025).

Similarly, interviews with Qur'an-memorizing university students revealed that participants experienced memorization as supporting their academic learning. One student (M1) reported that memorization helped him grasp educational theories more quickly because he could relate them to verses already stored in memory. These accounts suggest that participants associate Qur'anic memorization with improved learning organization, focus, and ease of reference during academic study. Importantly, these findings represent participants' experiences and perceptions, not generalized causal claims.

Memorization as a Basis for Understanding and Application

Interviews with two lecturers of Islamic Religious Education (PAI) indicated that memorization is perceived as meaningful only when accompanied by understanding and application. Both lecturers emphasized that memorized verses need to be interpreted through *tafsir*, contextualized historically (*asbāb al-nuzūl*), and related to contemporary social realities. One lecturer (D1) stated: "*Memorization without understanding is like storing a text without a soul. Education should bring the verse to life in everyday behavior*" (D1, Personal Communication, June 2025).

Another lecturer (D2) noted that understanding memorized verses can shape ethical awareness. For example, memorizing verses on justice was described as having a greater impact when students understand their interpretive context and apply the values in addressing social issues such as corruption or discrimination.

Students' accounts supported this view. One student (M2) reported that memorization became meaningful when combined with *tafsir*, enabling verses to function as guidance in personal decision-making. These findings suggest that participants view memorization as a trigger for meaning-making and application, rather than as an isolated cognitive activity.

Memorization as a Resource for Analysis and Evaluation

Interviews with Qur'an-memorizing students (M1 and M2) further indicated that memorization is experienced as a resource for academic analysis and evaluation. Participants reported that having verses firmly embedded in memory allowed them to access references quickly during discussions and writing.

One student (M1) explained: “When studying educational theory, I immediately recall Qur’anic verses about *tarbiyah*, which helps me assess whether the theory aligns with Islamic values” (M1, Personal Communication, June 2025).

Another student (M2) described using memorized verses as reference points for comparing interpretations across classical and contemporary *tafsir*. From their perspective, memorization supported engagement with differing viewpoints and facilitated evaluative judgment. These accounts indicate that participants experience memorization as enabling analytical and evaluative engagement, particularly when interacting with diverse scholarly perspectives.

Memorization and Creative Engagement

Participants also described memorization as motivating creative and social engagement. Teachers and students reported that memorization often encouraged further activities such as writing, teaching, or community involvement.

One teacher (G2) stated: “Memorization is not the finish line, but the beginning of responsibility to transmit knowledge and values” (G2, Personal Communication, June 2025).

A student (M2) similarly noted that starting academic writing from memorized verses helped him frame ideas more meaningfully. These experiences suggest that participants perceive memorization as a source of inspiration for creative academic and social contributions.

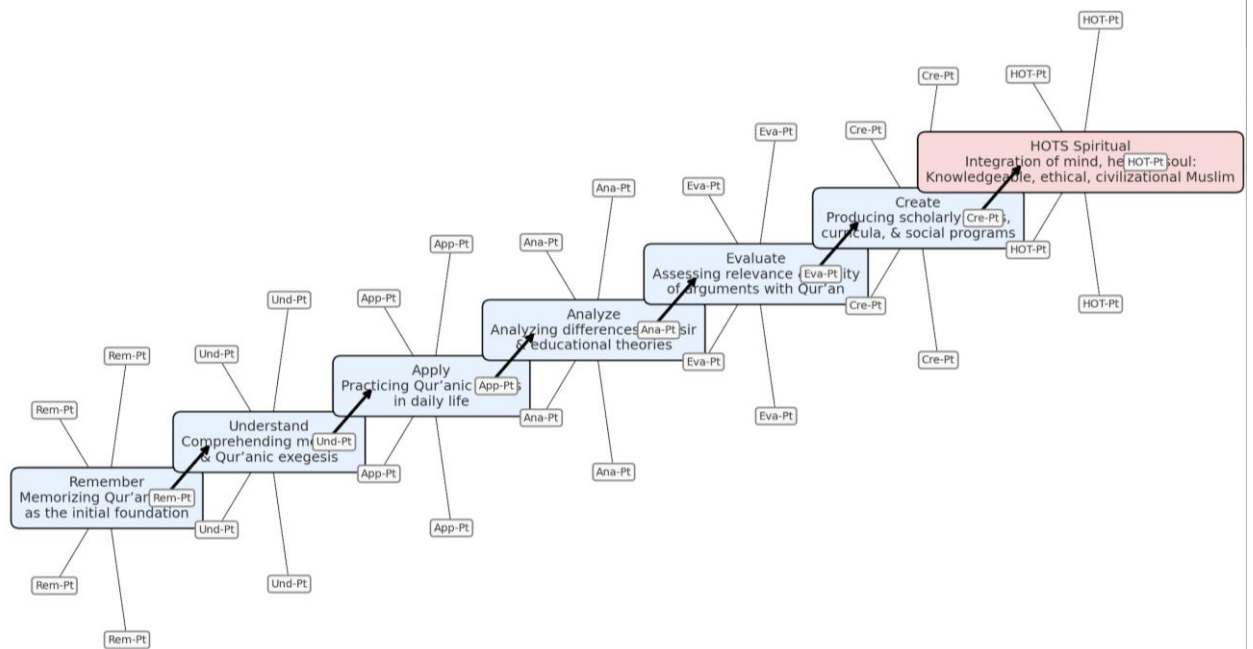


Figure 2. Conceptual visualization of Qur’anic memorization across Bloom’s cognitive levels

This figure illustrates Bloom’s cognitive hierarchy (*remember–create*) as a methodological reference, enriched with mind-map representations of Qur’anic memorization practices at each level. The spiritual dimension is presented as an interpretive layer that may support and enrich higher-order cognitive engagement within the Islamic educational worldview. Importantly, this model does not propose a new cognitive level or revise Bloom’s Taxonomy, but rather offers a conceptual framework for understanding how memorization practices can interact with the cognitive, affective, and spiritual dimensions of learning.

The integration of Bloom's Taxonomy with the *taḥfīd* tradition can be analytically explored through curriculum reconstruction approaches grounded in Islamic epistemology (Latipah & Hasan, 2023). Previous studies suggest that motivational orientation, self-regulation, and learners' spiritual experiences may influence how memorization is situated within broader learning processes (Latipah, 2022). In addition, experiential and reflective approaches in Islamic Religious Education (PAI) have been shown to support the internalization of Qur'anic values when learning activities encourage contextual engagement (Kistoro & Latipah, 2023). These perspectives provide an interpretive background for situating the present findings.

Re-examining the Position of Memorization within Bloom's Framework

The findings of this study do not suggest a revision of Bloom's Taxonomy, nor do they challenge its hierarchical structure. Rather, they invite a contextual re-examination of how memorization functions within specific educational traditions. In classical Bloomian terms, *remember* occupies the foundational level of cognition, serving as the basis upon which higher cognitive processes, such as understanding, application, analysis, evaluation, and creation, may develop (Bloom et al., 1956; Anderson & Krathwohl, 2001). Bloom's original framework does not conceptualize memorization as trivial or pedagogically inferior; instead, it treats recall as a necessary cognitive condition that enables subsequent meaning-making and intellectual complexity.

Participants' accounts in this study illustrate how this foundational function of memorization operates within Islamic educational contexts, particularly within the *taḥfīd* tradition. Interviews with *taḥfīd* teachers, Islamic Education lecturers, and Qur'an-memorizing students consistently framed memorization not as an end in itself, but as an enabling resource for subsequent learning activities. Participants described memorization as supporting comprehension, application, analytical reasoning, and evaluative engagement when combined with interpretive practices such as *tafsīr*, historical contextualization (*asbab al-nuzūl*), and reflective discussion. Importantly, these accounts should be understood as participants' situated experiences, rather than as generalized claims about memorization across all educational settings.

From an analytical standpoint, these findings align with Bloom's original logic and with subsequent cognitive research emphasizing the role of prior knowledge and stable memory structures in higher-order thinking. Cognitive psychology has long demonstrated that retrieval of stored knowledge reduces cognitive load and facilitates deeper processing, problem-solving, and critical reasoning (Sweller, 1988; Baddeley, 2012). Similarly, educational research on scaffolding highlights that learners' ability to analyze, evaluate, and create is strongly dependent on the availability of internalized foundational knowledge (Vygotsky, 1978; Bruner, 1986).

Within Islamic educational thought, this understanding resonates with classical perspectives such as that of Ibn Khaldūn, who emphasized memorization as a preparatory discipline that establishes textual familiarity, intellectual stability, and scholarly readiness (*al-Muqaddimah*; Al-Faruqi, 1982). For Ibn Khaldūn, memorization was not opposed to reasoning, but functioned as a prerequisite that enabled deeper interpretive and critical engagement with texts. Read through a contemporary educational lens, this position is consistent with modern conceptions of cognitive scaffolding, where memorization provides structural support for higher-level intellectual work rather than inhibiting it.

Accordingly, participants' experiences in this study do not contradict Bloom's framework; instead, they illustrate how memorization may function as contextual cognitive scaffolding within particular educational and cultural traditions. When embedded in interpretive, reflective, and value-oriented learning environments, memorization appears to support progression across Bloom's cognitive levels without being reduced to mechanical recall.

This interpretation remains contextual and qualitative, and does not imply a universal redefinition of memorization or a modification of Bloom's Taxonomy beyond its original epistemological scope.

Memorization as a Cognitive Foundation

Within Bloom's Taxonomy, *remember* is commonly described as involving the recognition and recall of previously learned information (Bloom et al., 1956; Anderson & Krathwohl, 2001). At this level, learners retrieve factual or conceptual knowledge without necessarily engaging in interpretation or transfer. While this characterization has often led to the perception of memorization as a relatively simple cognitive activity, Bloom's original framework does not equate *remember* with trivial learning. Rather, recall is positioned as a foundational cognitive operation upon which higher-order processes depend.

Participants in this study emphasized that, within Islamic educational practice, memorization is not experienced as mere mechanical recall. Instead, it is closely linked to meaning-making and intellectual preparation. Teachers described memorization as providing epistemological stability, enabling learners to engage more effectively with interpretation (*tafsir*), application in real-life contexts, and analytical reasoning. Memorized Qur'anic verses were frequently referred to as internal reference points that remain readily accessible during learning activities, thereby supporting continuity of thought across discussions, writing tasks, and problem-solving situations.

From the perspective of cognitive psychology, this role of memorization aligns with research on prior knowledge and working memory. Stable retrieval of information from long-term memory reduces cognitive load and allows learners to allocate greater mental resources to comprehension, analysis, and evaluation (Sweller, 1988; Baddeley, 2012). In this sense, memorization functions as a cognitive anchor that supports higher-level processing rather than competing with it. When learners do not need to expend effort searching for basic information, they are better positioned to engage in deeper reasoning and conceptual integration.

Such descriptions also resonate with classical Islamic educational thought, particularly Ibn Khaldūn's emphasis on memorization as a means of establishing textual familiarity and intellectual discipline. In *al-Muqaddimah*, Ibn Khaldūn argues that early mastery of foundational texts through memorization prepares learners for more advanced interpretive and analytical work. Memorization, in his view, stabilizes knowledge structures and cultivates scholarly readiness, serving as a necessary stage before critical engagement and independent reasoning can emerge.

Read through a contemporary educational lens, this perspective parallels the concept of cognitive scaffolding, in which foundational knowledge supports learners' progression toward more complex forms of thinking (Vygotsky, 1978; Bruner, 1986). From this standpoint, memorization can be interpreted as a preparatory practice that supports higher-level reasoning when embedded within reflective and interpretive learning environments. It is not a mechanical activity to be quickly surpassed, but a cognitive foundation that enables learners to engage meaningfully with subsequent stages of learning.

Accordingly, the findings of this study suggest that Qur'anic memorization, as experienced by participants, operates as a foundational cognitive resource that supports comprehension, application, and analysis. This interpretation remains contextual and qualitative, and does not imply that memorization alone guarantees higher-order thinking. Rather, it highlights how memorization may function as an enabling condition for deeper intellectual engagement within specific educational traditions.

From Understanding to Application

Participants consistently stressed that memorization becomes educationally meaningful only when it is connected to understanding and application. Lecturers emphasized that memorized verses must be interpreted through *tafsir*, situated within their historical and situational context (*asbāb al-nuzūl*), and related to contemporary ethical and social concerns. Without such interpretive engagement, memorization was described as incomplete and pedagogically limited. Student accounts similarly indicated that memorized verses often served as moral reminders that shaped attitudes and guided everyday decision-making, particularly in situations involving responsibility, integrity, and social interaction.

From an analytical perspective, these experiences reflect Bloom's progression from *remember* to *understand* and *apply* (Bloom et al., 1956; Anderson & Krathwohl, 2001). Understanding involves constructing meaning from instructional messages, while application requires using that understanding in new or real-life situations. In this sense, memorization does not replace higher cognitive processes, nor does it operate independently of them. Rather, it provides a stable textual foundation that supports interpretation and contextual transfer. Memorized content becomes educationally active when learners are encouraged to explore meaning, recognize underlying principles, and apply them to concrete contexts.

This pattern is consistent with constructivist learning theory, which emphasizes that knowledge becomes meaningful when learners actively connect new information to prior knowledge and lived experience (Bruner, 1986). Memorization, when integrated into reflective learning environments, may support this process by ensuring that core texts remain cognitively available for interpretation and application. In Islamic educational contexts, this integration is traditionally achieved through the interplay between memorization (*hifz*), understanding (*fahm*), and practice (*'amal*), a triadic relationship widely discussed in classical and contemporary Islamic pedagogy.

Student narratives in this study illustrate how memorized verses are not merely recalled during formal learning activities, but are also activated in everyday situations. Verses associated with concepts such as trust (*amanah*), justice (*'adl*), or accountability (*hisab*) were described as influencing ethical choices and behavioral reflection. Importantly, these accounts do not suggest that memorization automatically produces ethical behavior. Rather, they indicate that memorization may function as a cognitive and moral resource that learners draw upon when interpretive and reflective processes are already in place.

Educationally, these findings suggest that memorization may facilitate the transition from *remember* to *understand* and *apply* when instructional practices deliberately promote contextualization, discussion, and reflection. This supports the view that memorization is most effective when embedded within pedagogical designs that emphasize meaning-making and ethical engagement, rather than isolated repetition. As such, memorization can be understood as an enabling condition for applied understanding, rather than as an endpoint of learning.

Memorization, Analysis, and Evaluation

Student interviews further indicate that memorization may support analytical and evaluative engagement by stabilizing access to primary textual references. Memorized verses were consistently described as cognitive anchors, readily available points of reference that allow learners to engage more directly with interpretation, comparison, and critique. Rather than expending cognitive resources on searching for texts, students reported being able to focus on examining meanings, contrasting interpretations, and assessing the relevance of ideas. Importantly, participants did not present memorization as equivalent to analysis or evaluation; instead, it was experienced as a facilitating condition that supports these higher-order processes.

From a cognitive psychology perspective, this experience aligns with research on working memory and cognitive load. When foundational information is already stored in long-term memory, learners can allocate greater cognitive capacity to higher-level reasoning tasks such as comparison, inference, and judgment (Sweller, 1988; Baddeley, 2012). In this sense, memorization may reduce extraneous cognitive load associated with information retrieval, thereby enabling more sustained analytical engagement. Participants' accounts reflect this mechanism, as memorized Qur'anic verses functioned as stable mental representations that could be readily activated during discussion or critical reflection.

Within Bloom's Taxonomy, *analyze* involves breaking information into constituent parts, identifying relationships, and recognizing underlying structures, while *evaluate* entails making judgments based on criteria and standards (Anderson & Krathwohl, 2001). Participants' narratives suggest that memorization can support both processes when combined with interpretive and critical practices. For example, students described using memorized verses as benchmarks against which diverse *tafsir* interpretations, pedagogical theories, or ethical arguments could be examined. This practice enables comparative reasoning, allowing learners to identify similarities, differences, and underlying assumptions across perspectives.

In Islamic educational contexts, where the Qur'an functions as a primary epistemic reference, memorization appears to play a distinctive role in analytical and evaluative engagement. Rather than serving merely as recalled content, memorized verses operate as normative and interpretive reference points that inform judgment. However, it is crucial to emphasize that such evaluative use depends on learners' exposure to interpretive tools (*tafsir*, historical context, scholarly discourse) and critical pedagogical practices. Memorization alone does not guarantee analytical depth; it becomes educationally productive when situated within environments that encourage questioning, dialogue, and reflective judgment.

Taken together, these findings suggest that memorization may function as a supportive resource for *analyze* and *evaluate* within Bloom's framework, particularly in learning traditions where authoritative texts are central to knowledge construction. This role should be understood as contextual and facilitative rather than deterministic. Memorization does not constitute higher-order thinking in itself, but it may enable learners to engage more effectively in analytical and evaluative reasoning by stabilizing reference points and supporting sustained cognitive engagement.

Memorization and Creative Engagement

Participants also associated memorization with creative and productive engagement, including academic writing, teaching activities, and involvement in community-based initiatives. Within Bloom's Taxonomy, such activities correspond to the *create* level, which involves generating new ideas, products, or ways of understanding based on prior knowledge (Anderson & Krathwohl, 2001). Importantly, participants did not describe memorization as directly producing creativity. Rather, memorization was experienced as a supporting cognitive and epistemic resource that informs and inspires creative engagement.

In participants' accounts, creative outcomes emerged through the interaction between memorized Qur'anic texts, interpretive practices (*tafsir*), prior disciplinary knowledge, and concrete contextual challenges. Memorization provided readily accessible textual material that could be reinterpreted, recontextualized, and integrated into new forms of expression, such as academic arguments, pedagogical designs, sermons, or social programs. In this sense, memorization functioned as a stable knowledge base from which creative recombination and transformation could occur.

This finding resonates with constructivist and cognitive perspectives on creativity, which emphasize that creative production is rarely the result of isolated inspiration but rather arises

from the reorganization and reinterpretation of existing knowledge structures (Sawyer, 2012; Sternberg, 2018). When foundational material is well internalized, learners are better positioned to engage in synthesis, innovation, and problem-solving. Participants' experiences suggest that memorization may contribute to these processes by providing a rich repertoire of meaningful content that can be mobilized in response to new intellectual or social demands.

Within Islamic educational contexts, memorized Qur'anic verses were often described as framing devices for creative engagement. Students reported beginning writing projects, teaching sessions, or community initiatives from verses they had memorized, which then guided the direction, values, and purposes of their work. However, these creative outcomes depended not on memorization alone, but on subsequent interpretive effort, dialogue with scholarly sources, and responsiveness to lived realities. This underscores that creativity emerged through a dynamic process, rather than as an automatic extension of memorization.

Analytically, these accounts align with Bloom's framework in that *create* presupposes mastery of earlier cognitive processes, including remember, understand, apply, analyze, and evaluate. Memorization, as described by participants, supports creative engagement insofar as it strengthens continuity across these stages. By stabilizing access to primary texts, memorization allows learners to focus cognitive effort on synthesis and innovation rather than on information retrieval. Nevertheless, memorization itself should not be equated with creativity, nor should creative outcomes be attributed solely to memorization practices.

Taken together, the findings suggest that memorization may contribute to creative engagement when learners are encouraged to connect memorized material with broader intellectual, ethical, and social contexts. Such contributions are mediated by pedagogical environments that emphasize interpretation, reflection, and problem-oriented learning. As with other findings in this study, these interpretations remain contextual and qualitative, and they should not be generalized beyond the scope of the present research.

Analytical Synthesis

Taken together, the findings of this study do not claim that memorization constitutes higher-order thinking in itself, nor do they propose a modification or extension of Bloom's cognitive hierarchy. Bloom's Taxonomy remains analytically intact as a hierarchical framework for classifying cognitive processes from *remember* to *create* (Anderson & Krathwohl, 2001). Instead, this study offers a contextual interpretation of how memorization functions within a specific educational and epistemological tradition, Islamic education as practiced in the *tahfidz* context.

Across interviews with teachers, lecturers, and students, Qur'anic memorization was consistently described as a foundational learning practice that supports engagement with higher-order cognitive processes when embedded in integrative learning environments. Memorization, as experienced by participants, enabled continuity across cognitive stages by stabilizing access to primary texts, supporting meaning-making through interpretation (*tafsir*), informing ethical judgment, and inspiring creative engagement. In this sense, memorization functioned not as an isolated cognitive act but as part of a broader pedagogical ecology that integrates cognition, affect, and value orientation.

Accordingly, references to a "spiritual dimension of higher-order thinking" in this study should be understood strictly as an interpretive category rather than as an additional cognitive level or a redefinition of Bloom's Taxonomy. This category is employed to describe how higher-order cognitive engagement, such as analysis, evaluation, and creative production, may be enriched by moral purpose and spiritual orientation within the Islamic educational worldview. It does not imply that spirituality replaces cognition, nor that spiritual experience itself

constitutes a distinct cognitive operation. Rather, it highlights how cognitive processes may be directed, contextualized, and given meaning through ethical and transcendental commitments.

This interpretation is consistent with broader educational scholarship emphasizing that cognition does not operate in isolation from affective, motivational, and value-laden dimensions of learning (Biggs & Tang, 2011; Illeris, 2018). From this perspective, higher-order thinking can be understood not only in terms of structural cognitive complexity, but also in relation to the purposes, orientations, and commitments that shape how thinking is exercised in practice. In Islamic education, where revelation functions as a central epistemic and moral reference, such orientation is inseparable from the learning process itself.

Methodologically, it is important to emphasize that these conclusions are derived from qualitative, interpretive data drawn from a limited number of participants within specific institutional and cultural settings. The findings, therefore, do not warrant generalization beyond the scope of the present study. Rather than offering universal claims about memorization or cognition, this study contributes a contextualized understanding of how memorization may operate as a supportive learning practice within one educational tradition.

Overall, the analytical synthesis of this study suggests that Qur'anic memorization can be understood as a foundational resource that supports engagement with higher-order cognitive processes when situated within integrative pedagogical contexts. While memorization itself does not constitute higher-order thinking, it may enable and enrich such thinking by providing stable reference points, supporting interpretive depth, and orienting cognitive activity toward ethical and spiritual aims. This interpretation respects the integrity of Bloom's Taxonomy while offering a nuanced account of how its categories may be meaningfully enacted within diverse educational worldviews.

CONCLUSION

This qualitative study examined the position and meaning of Qur'anic memorization through an interpretive dialogue between Bloom's Taxonomy and the Islamic educational tradition. Drawing on literature analysis and interviews with *tahfidz* teachers, Islamic Education lecturers, and Qur'an-memorizing students, the findings suggest that memorization, as experienced by participants, functions as a foundational learning practice that supports engagement with higher-order cognitive processes when accompanied by interpretation, application, and reflective learning contexts. Rather than challenging or revising Bloom's Taxonomy, this study shows how memorization may operate as cognitive scaffolding that enables progression from *remember* toward *understand*, *apply*, *analyze*, *evaluate*, and *create* within specific Islamic educational settings. At the same time, the study is limited by its qualitative design, small number of participants, and contextual focus, which restrict the generalizability of its findings. Theoretically, the study contributes an integrative perspective that situates memorization within cognitive, affective, and spiritual dimensions without redefining Bloom's hierarchy. Practically, it suggests that Islamic education curricula may benefit from positioning Qur'anic memorization not merely as rote activity, but as a pedagogical foundation that supports critical engagement, ethical reflection, and meaningful learning when integrated with interpretive and experiential approaches.

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BIBLIOGRAPHY

- Adamson, P., & Taylor, R. (Eds.). (2005). *The Cambridge Companion to Arabic Philosophy*. Cambridge: Cambridge University Press.
- Al-A'zami, M. M. (2003). *The History of the Qur'anic Text*. Leicester: UK Islamic Academy.
- Al-Attas, S. M. N. (1978). *Islam and Secularism*. Kuala Lumpur: ABIM
- Al-Attas, S. M. N. (1980). *The Concept of Education in Islam*. Kuala Lumpur: ISTAC
- Al-Attas, S. M. N. (1991). *The Concept of Education in Islam: A Framework for an Islamic Philosophy of Education*. Kuala Lumpur: ISTAC.
- Al-Faruqi, I. R. (1982). *Islamization of Knowledge: General Principles and Workplan*. Herndon, VA: IIT
- Al-Ghazālī. (2013). *The Book of Knowledge* (trans. N. A. Faris). Cambridge: Islamic Texts Society.
- Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing*. London: Longman.
- Ausubel, D. P. (1968). *Educational Psychology: A Cognitive View*. New York: Holt, Rinehart and Winston.
- Aziz, Mursal, Nasution, Z., Lubis, M. S. A., Suhardi, & Harahap, M. R. (2020). *Ekstrakurikuler PAI (Pendidikan Agama Islam): Dari Membaca Al-Qur'an sampai Menulis Kaligrafi*. Serang: Media Madani.
- Baddeley, A. (2012). Working memory: theories, models, and controversies. *Annual Review of Psychology*, 63, 1–29. <https://doi.org/10.1146/annurev-psych-120710-100422>
- Berkey, J. P. (1992). *The Transmission of Knowledge in Medieval Cairo*. Princeton, New Jersey: Princeton University Press.
- Biggs, J. B., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Buckinghamshire: Open University Press.
- Biggs, J., Kember, D., & Leung, D. Y. P. (2001). *The revised two-factor study process questionnaire: R-SPQ-2F*. *British Journal of Educational Psychology*, 71(1), 133–149. <https://doi.org/10.1348/000709901158433>
- Bloom, B. S. (Ed.). (1956). *Taxonomy of Educational Objectives: Handbook I: Cognitive Domain*. London: Longmans.
- Bowen, J. R. (2016). *On British Islam: Religion, Law, and Everyday Practice*. Princeton: Princeton University Press
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Bruner, J. (1986). *Actual Minds, Possible Worlds*. Cambridge, MA: Harvard University Press.
- Cook, C. C. H. (Ed.). (2018). *Neuroscience and the Soul*. Oxfordshire: Routledge.
- Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). Thousand Oaks, CA: Sage.

- Deci, E. L., & Ryan, R. M. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Fitriani, I. K. (2022). Implementasi kegiatan ekstrakurikuler keagamaan dalam pembentukan karakter religius peserta didik di Madrasah Tsanawiyah. *Jurnal Basicedu*, 6(3), 4612–4621. <https://doi.org/10.31004/basicedu.v6i3.2913>
- Günther, S. (2012). *Knowledge and Education in Classical Islam*. Leiden: Brill
- Gutas, D. (2014). *Avicenna and the Aristotelian tradition: Introduction to reading Avicenna's philosophical works* (2nd ed.). Leiden: Brill.
- Haddad, Y. Y., Smith, J. I., & Moore, K. M. (Eds.). (2009). *Educating the Muslims of America*. Oxford: Oxford University Press.
- Hampshire, J. (2012). Literacy practices in Qur'anic education: Comparing the traditional and the modern. *Comparative Education*, 48(4), 503–518.
- Hefner, R. W. (2009). *Making Modern Muslims: The Politics of Islamic Education in Southeast Asia*. Manoa Valley: University of Hawai'i Press.
- Hidayat, H. (2021). Manajemen Pemasaran Pendidikan di Sekolah Menengah Pertama (SMP) Islam Terpadu Izzuddin Palembang. *El-Idare: Journal of Islamic Education Management*, 7(2), 39–47. <https://doi.org/10.19109/elidare.v7i2.6621>
- Ibn Khaldūn. (1967). *The Muqaddimah* (trans. Franz Rosenthal). Princeton: Princeton University Press.
- Ibn Sīnā. (1960). *Al-Shifā': Al-Ilahiyāt* (I. Madkūr et al., Eds.). Cairo: al-Hay'ah al-Miṣriyyah al-Āmmah li-l-Kitāb.
- Ibn Sīnā. (1985). *Al-Najāṭ min al-Gharq fī Bahṛ al-Ḍalālāt* (M. T. Danesh Pajouh, Ed.). Tehran: University of Tehran Press
- Illeris, K. (2018). An overview of the history of learning theory. *European Journal of Education*, 53(1), 86–101. <https://doi.org/10.1111/ejed.12265>
- International Islamic University Malaysia (IIUM). (2020). *Undergraduate Regulations and Curriculum Structure*. Gombak: IIUM
- Kandel, E. R., et al. (2013). *Principles of Neural Science*. New York: McGraw-Hill.
- Kistoro, H. C. A., & Latipah, E. (2023). Probing experiential learning approach in Islamic religious education. *Jurnal Pendidikan Islam*, 9(2), 157–169. <https://doi.org/10.15575/jpi.v9i2.24374>
- Latipah, E. (2022). Motives, self-regulation, and spiritual experiences of hafidz in Indonesia. *Indonesian Journal of Islam (IJI)*, 15(1), 653–672. Retrieved from <https://e-iji.net/ats/index.php/pub/article/view/467>.
- Latipah, E., & Hasan, N. (2023). Curriculum reconstruction in Islamic higher education: Towards integration of knowledge and spirituality. *Jurnal Pendidikan Agama Islam (JPAI)*, 20(1), 1–19. <https://doi.org/10.14421/jpai.v20i1.7756>.
- Lukens-Bull, R. (2005). *A Peaceful Jihad: Negotiating Identity and Modernity in Muslim Java*. London: Palgrave Macmillan.
- Lukens-Bull, R. (2013). *Islamic Higher Education in Indonesia: Continuity and Conflict*. London: Palgrave Macmillan.
- McGinnis, J. (2010). *Avicenna*. Oxford: Oxford University Press.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Rahman, B. A. (2022). Islamic revival and cultural diversity: Pesantren's configuration in contemporary Aceh, Indonesia. *Indonesian Journal of Islam and Muslim Societies*, 12(1), 201–229. <https://doi.org/10.18326/ijims.v12i1.201-229>

- Robinson, F. (2007). *The Book in the Islamic World: The Written Word and Communication in the Middle East*. Cambridge: Cambridge University Press.
- Rothman, A., & Coyle, A. (2021). *Islamic Psychology*. Oxfordshire: Routledge.
- Sawyer, R. K. (2012). *Explaining Creativity: The Science of Human Innovation* (2nd ed.). New York: Oxford University Press.
- Sternberg, R. J. (2018). *Speculations on the Role of Successful Intelligence in Solving Contemporary World Problems*. *Journal of Intelligence*, 6(1), Article 4. <https://doi.org/10.3390/jintelligence6010004>
- Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, 12(2), 257–285. [https://doi.org/10.1016/0364-0213\(88\)90023-7](https://doi.org/10.1016/0364-0213(88)90023-7)
- UNESCO. (2019). *Global Education Monitoring Report 2019: Migration, Displacement and Education – Building Bridges, Not Walls*. Paris: UNESCO
- Utz, A. (2011). *Psychology from the Islamic Perspective*. Tashkent: IIT.
- Van Bruinessen, M. (1994). *Traditionalist Muslims in a Modernizing World*. Oxfordshire: Routledge.
- Vygotsky, L. S. (1978). *Mind in Society*. Cambridge, MA: Harvard University Press.
- Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice*, 41(2), 64–70. https://doi.org/10.1207/s15430421tip4102_2