

## Smartphone Utilization and Its Impact on Student Learning Motivation in Islamic Religious Education from a Self-Regulated Learning Perspective

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**Abstract.** The utilization of smartphones in Islamic Religious Education (PAI) learning presents both challenges and opportunities to enhance students' learning motivation. This article aims to identify the impact of smartphone usage on the learning motivation of junior high school students from the perspective of Self-Regulated Learning (SRL) and to explore self-regulation strategies in managing this technology. The study employed a comparative case study method with a qualitative-dominant mixed-methods approach, involving two public junior high schools in Cianjur, Indonesia. Data were collected through interviews, observations, and questionnaires, then analyzed thematically and descriptively. The results show that smartphones can stimulate both extrinsic and intrinsic motivation, contingent upon students' level of self-regulation. Smartphones function as a medium for learning access, digital proselytization (da'wah), and spiritual reflection. However, distraction remains a challenge where self-control is weak. Factors such as school environment, teachers' roles as religious digital models, parental support, and religiosity significantly influence motivation. Self-regulated learning strategies, including goal awareness, time management, distraction control, and social-spiritual support, are essential for optimizing smartphone use. Smartphone use must be accompanied by digital literacy development that integrates academic competencies and Islamic values to be an effective and meaningful learning tool.

**Keywords:** Smartphone Utilization, Learning Motivation, Self-Regulated Learning, Islamic Religious Education, Digital Literacy.

### 1 Introduction

The integration of digital technology into pedagogy is no longer a prospective trend but a contemporary reality that fundamentally redefines the educational landscape [1]. Among these technologies, the smartphone has emerged as the most ubiquitous, potent, and disruptive instrument, acting as a portable nexus of information, communication, and entertainment [2]. This ubiquity presents a profound paradox for educators. On one hand, smartphones offer unprecedented access to diverse learning resources, facilitate collaborative learning environments, and provide platforms for creative expression, thereby holding the potential to significantly enhance student engagement and

motivation [3]. On the other hand, the same device serves as a powerful source of distraction, a vector for cyber-social anxieties, and a potential catalyst for shallow learning due to constant task-switching and fragmented attention. The deleterious effects of smartphone addiction on academic performance and motivation are well-documented [4], [5].

This double-edged sword is particularly sharp in the context of junior high school, a critical developmental stage where adolescents are forging their academic identities while simultaneously navigating intense social-digital pressures and developing crucial executive functions [6]. The central research problem, therefore, is no longer *if* smartphones should be used, but *how* their utilization impacts core educational outcomes, specifically student motivation. Motivation, in this context, is not a monolithic entity but a dynamic construct influenced by both external stimuli and internal cognitive processes [7]. The prevalent research gap lies in the superficial treatment of smartphones as a simple independent variable. The impact of this technology is not direct; it is profoundly *mediated* by the student's internal psychological framework.

The most critical mediator in this relationship is Self-Regulated Learning (SRL). Originating from social cognitive theory [8], SRL refers to the proactive process whereby learners set goals, select and deploy strategies, and monitor and evaluate their progress toward those goals [9]. Zimmerman's foundational model posits a three-phase cycle: (1) a *forethought phase*, involving goal-setting and strategic planning; (2) a *performance phase*, characterized by self-control (e.g., distraction control, time management) and self-monitoring; and (3) a *self-reflection phase*, where students evaluate their performance and adjust future strategies. In the digital age, SRL is synonymous with digital literacy and self-control. The student with high SRL can leverage a smartphone as a powerful learning tool, navigating its vast resources with purpose. Conversely, the student with low SRL is overwhelmed by the device's distractive properties, leading to procrastination and decreased motivation [10], [11] (Kokoç, 2025).

This study introduces a novel and critical dimension to this inquiry by situating it within the specific domain of Islamic Religious Education (*Pendidikan Agama Islam - PAI*). This context is unique for two primary reasons. First, the objectives of PAI transcend mere cognitive understanding; they are aimed at *akhlāq* (moral character) formation, spiritual development, and the internalization of faith-based values. Therefore, learning motivation in PAI is inextricably linked to intrinsic and spiritual motivation, not just extrinsic academic grades [12]. Second, the smartphone itself acquires a unique moral and ethical status. It is not just a tool for accessing academic information (e.g., *fiqh*, *tafsīr*) but also a potent site of *mujahadah an-nafs* (the struggle against the self). It presents a constant, real-world test of Islamic ethics—a space where students must actively practice self-control (*tazkiyatun nafs* or soul purification) to resist temptation (e.g., time-wasting entertainment, negative social media) in favor of productive, spiritually-edifying engagement [13].

While extensive literature examines technology in education and the importance of SRL, there remains a significant gap. Few studies have qualitatively explored the complex interplay between smartphone use, learning motivation, and SRL *specifically* within the PAI context in Indonesia. Existing studies are often quantitative or focus on different educational levels [14], [15]. This study, therefore, employs a qualitative comparative case study approach at two public junior high schools in Cianjur, Indonesia (SMP Negeri 2 Cianjur and SMP Negeri 1 Karangtengah Cianjur). This approach

allows for a deep, narrative exploration of the *how* and *why* behind the statistics. It assumes that the smartphone, when filtered through the lens of SRL, can be a transformative tool for PAI, but without this regulation, it becomes a significant impediment.

This study aims to identify and explain the impact of smartphone utilization on student learning motivation within the SRL framework. It seeks to understand the forms of smartphone use, the specific SRL strategies students employ (or fail to employ), the spiritual and ethical meanings students ascribe to this technological engagement, and the contextual factors (school policy, teacher roles, parental support) that differentiate outcomes between the two schools. The expected outcome is a comprehensive, narrative model that explains the smartphone's role not just as a technological tool, but as a complex socio-spiritual phenomenon in modern Islamic education, providing a basis for strategic recommendations for educators and school leaders [16].

## 2 Method

This research employed a qualitative comparative case study design with a concurrent mixed-methods data collection approach. This design was selected for its capacity to provide an intensive, detailed, and holistic description and explanation of the phenomenon—smartphone utilization and its impact on motivation—within its real-world context [17], [18]. The study was conducted at two public junior high schools in Cianjur District, Indonesia: SMP Negeri 2 Cianjur and SMP Negeri 1 Karangtengah Cianjur. These sites were chosen via purposive sampling to provide comparative insight, representing different school cultures and policies regarding technology use.

The study's participants included students from grades VII, VIII, and IX, who were the primary unit of analysis, selected based on their active use of smartphones for learning. Key informants, including PAI teachers and school administrators, were also interviewed to provide institutional context.

Data collection was triangulated using three primary methods. First, a structured questionnaire was administered to a sample of students to gather descriptive quantitative data on the frequency and patterns of smartphone use and self-reported levels of learning motivation. Second, semi-structured interviews were conducted with students and key informants to deeply explore their experiences, perceptions, strategies, and the meanings they attribute to smartphone use, focusing specifically on SRL processes. Third, direct, non-participant observations were conducted during PAI learning activities to capture the *in-practice* use of smartphones, student engagement, and classroom dynamics. Archival data, such as school policies on technology and academic records, were also analyzed.

Data analysis was conducted in two parts. The quantitative data from the questionnaires were analyzed using descriptive statistics to provide a contextual overview. The primary qualitative data from interviews and observations were analyzed thematically. This involved a process of data condensation, iterative coding to identify core themes related to SRL strategies and motivational impacts, and data display in matrices, which were then converted into a narrative. Triangulation of data sources was used to ensure the validity and trustworthiness of the findings [19].

### 3 Result

The analysis of data from SMP Negeri 2 Cianjur and SMP Negeri 1 Karangtengah Cianjur revealed a complex and contingent relationship between smartphone use and student motivation in PAI. The findings demonstrated that the smartphone is not an independent variable with a uniform effect but a dynamic tool whose impact is mediated by students' self-regulatory capacities and shaped by the surrounding socio-ecological context. The results are presented narratively in three sections: the landscape of smartphone utilization, the mediating function of Self-Regulated Learning, and the contextual factors differentiating the two cases.

#### 3.1. The Landscape of Smartphone Utilization and Motivational Impacts in PAI

The findings from both schools indicate that the smartphone has become an integral, if not indispensable, component of the PAI learning process, functioning far beyond a simple communication device. Its utilization, as identified through observations and interviews, coalesced into three dominant categories. First, it serves as a primary *medium for accessing religious information*. Students ubiquitously use search engines (Google), video-sharing platforms (YouTube), and social media (TikTok Edukasi, Instagram) to supplement classroom learning. They actively seek out explanations of Qur'anic verses, historical narratives of the Prophets, and tutorials on *fiqh* (jurisprudence). As one student noted, If there is an assignment about *akhlāq* or the Prophet's history, I search on YouTube to understand it faster. Sometimes I also watch short lectures. This immediate access to a vast, multimedia-rich library of religious content functions as a significant source of *extrinsic motivation* for some students, making learning more interactive, visually engaging, and accessible compared to traditional textbooks [3].

Second, the smartphone functions as a *tool for learning communication and management*. PAI teachers in both schools, particularly at SMPN 2 Cianjur, leverage platforms like WhatsApp groups and Google Classroom to disseminate teaching materials, share video links, assign tasks, and even send reminders for prayer schedules. A PAI teacher at SMPN 1 Karangtengah stated, I use the WA group to send short videos and reading material so they can learn independently from home. This use creates a structured learning environment that extends beyond the classroom, providing a scaffold that can support students' organizational skills. Third, and uniquely relevant to PAI, the smartphone operates as a *space for religious reflection and expression*. Several students reported using digital note-taking apps for personal reflections, sharing *hadith* quotations on their social media statuses, or creating and uploading positive Islamic content. This indicates a personal internalization of PAI values, mediated by digital technology.

However, this utilization is directly linked to a bifurcated impact on motivation. For students with a clear objective, the smartphone acts as a catalyst for *intrinsic motivation*. One student from SMPN 1 Karangtengah remarked, I like watching short lectures on YouTube; they make me understand better and sometimes serve as a reminder to pray on time. This reflects a self-initiated desire to deepen one's spiritual understanding. Conversely, the most frequently cited negative impact was that of *distraction and focus degradation*. The smartphone's design, which privileges notifications and algorithm-driven entertainment, presents a constant challenge to self-control. I intended to

look for PAI material, but I ended up scrolling TikTok and lost track of time, confessed one student. This confirms that without a strong regulatory framework, the smartphone can become a bumerang (boomerang), as one teacher noted, rapidly diminishing focus and undermining the very motivation it was intended to support [20]. The intensity of use, often 3-5 hours daily, was less predictive of outcomes than the *purpose* of that use. This finding clearly establishes that the device itself is motivationally neutral; its positive or negative impact is almost entirely contingent on the user's internal regulatory processes [9].

### 3.2. The Mediating Role of Self-Regulated Learning (SRL) Strategies

The data overwhelmingly indicates that Self-Regulated Learning (SRL) is the determinative mechanism mediating the smartphone's impact on PAI learning motivation. Students who demonstrated positive motivational outcomes were not those who used the smartphone *less*, but those who used it with a high degree of *intentionality and self-control*. Their strategies, mapped onto Zimmerman's SRL framework, were both academic and profoundly spiritual.

The *forethought phase*, involving goal-setting, was foundational. Students with high SRL exhibited clear goal awareness. They did not engage with their devices passively but with a specific, self-generated query. I use my phone to look for *tafsīr*... to be used for assignments but also for daily life, stated a student from SMPN 2 Cianjur. This *task analysis* allowed them to consciously select relevant content—such as specific academic channels or trusted religious figures (e.g., Ustaz Hanan Attaki)—and to differentiate it from non-academic noise. This goal-setting was intrinsically motivating, as the objective was often personal understanding, not just task completion [21].

The *performance phase*, defined by self-control and self-monitoring, was the most critical battleground. Students with high SRL articulated and deployed specific, conscious strategies to manage the digital environment. *Time management* was a common tactic: I study at night from eight to nine. My phone is set to silent mode, so I'm not disturbed by notifications, reported a student from SMPN 1 Karangtengah. This demonstrates a proactive environmental structuring (Zimmerman, 2002). More advanced strategies involved *distraction control*. Students reported using Focus Mode apps, temporarily deleting entertainment apps (TikTok, games) during exam weeks, or physically placing the phone across the room. A student from SMPN 2 Cianjur noted, If I'm studying PAI, I use the 'Focus Mode' app. So, the phone can only open Google and the digital Qur'an. This is a clear act of *metacognitive self-control*, demonstrating an awareness of one's own impulses and a strategy to preemptively manage them.

Perhaps the most unique finding was the integration of Islamic spirituality into this performance phase. Students did not frame this struggle in purely academic terms (e.g., productivity); they framed it in moral and spiritual terms as *mujahadah an-nafs* (the struggle against the self). This *spiritual self-control* reframes distraction as a form of *ghaflah* (heedlessness) and focus as a form of *ibādah* (worship). This religious goal orientation provided a powerful, intrinsic motivator for self-regulation that transcended academic goals [21].

Finally, the *self-reflection phase* was also evident. High-SRL students demonstrated metacognitive awareness by not just consuming content but *transforming* it. They would take notes on the phone's notepad from a lecture video to be opened again

when studying or create digital summaries. This act of self-evaluation solidifies learning. Furthermore, they used the device for *spiritual self-reflection*—a form of *muhasabah* (self-accountability) [9]. Sometimes when I'm lazy to study, I open a motivational lecture. After that, I feel spirited again, like being reminded by Allah through that video. This digital *tazkirah* (reminder) allowed students to evaluate their own motivational state and proactively seek a spiritual re-boot. In this context, SRL is not merely an academic skill but a form of enacted *akhlāq* (ethics), where digital discipline becomes a tangible expression of religious commitment [22].

### 3.3. Contextual Determinants: A Comparative Analysis of School Ecological Factors

The study revealed that the development and application of these SRL strategies were not solely individual achievements. They were significantly influenced by the surrounding ecological system, including school policies, teacher roles, and parental support. The comparative analysis of SMPN 2 Cianjur and SMPN 1 Karangtengah was particularly illuminating.

The primary differentiating factor was the *school environment and technology policy*. SMPN 2 Cianjur had adopted a flexible and educative trust and verify system. Students were permitted to bring smartphones to support learning, guided by clear teacher supervision. This policy fostered a culture of responsibility and autonomy. As a PAI teacher there noted, We direct them to use their phones to find material or watch learning videos. So, the phone isn't a prohibition, but a tool. This policy thrust the development of SRL into the open, making it a public, shared, and coachable skill. Conversely, SMPN 1 Karangtengah enforced a more restrictive policy, limiting smartphone use to specific, controlled situations. This prohibitive stance, while well-intentioned, appeared to inadvertently foster a rebound effect [23]. Students reported using phones covertly, primarily for entertainment, and were less practiced in the *act* of self-regulation in an academic context. The restrictive policy inhibited the development of digital SRL.

The second factor was *the* role of the PAI teacher as a digital model and facilitator. At SMPN 2 Cianjur, the PAI teachers were active digital users themselves. They served as digital religious role models by creating content, managing the learning platforms, and demonstrating Islamic digital ethics (*adab*)—such as using technology for positive *da'wah* (proselytization) and avoiding negative online [12], [16]. They actively tasked students with creative digital projects (e.g., making short videos on *akhlāq*), thereby framing the smartphone as a tool for good deeds. At SMPN 1 Karangtengah, teachers were more conventional, using technology less. A student there remarked, My PAI teacher never uses a phone in class. So, we also don't know how to use a phone for learning religion. This lack of modeling left students without a clear, positive template for religious digital engagement.

Finally, parental support and home supervision played a crucial role [24]. Students from SMPN 2 Cianjur more frequently reported a moderate and dialogical style of home supervision, where parents set time limits and discussed content. At SMPN 1 Karangtengah, the reported pattern was more polarized, oscillating between total prohibition and complete non-intervention. The prohibitive approach at home, much like at school, was found to be counterproductive, leading to hidden and unregulated use. These factors collectively demonstrate that student motivation and SRL are not

isolated; they are the product of a coherent ecosystem—or lack thereof—where school, teachers, and parents collaboratively (or disjointedly) frame the *meaning* and *practice* of digital technology [13].

## 4 Discussion

The findings of this comparative case study compellingly argue that the impact of smartphones on student learning motivation in PAI is neither direct nor predetermined. The smartphone operates as an amplifier: it can amplify focus, intrinsic curiosity, and spiritual reflection, or it can amplify distraction, superficiality, and heedlessness. The variable that dictates this outcome is the student's capacity for Self-Regulated Learning (SRL). This study moves beyond the simplistic boon or bane debate to posit that the central challenge of digital education is not technological, but *metacognitive* and, in the context of PAI, *spiritual*. The findings from the three narrative results—the landscape of use, the mediation of SRL, and the influence of the school ecosystem—combine to form an integrated model of digital pedagogy in religious education [1].

The first major finding—that the smartphone functions as a multi-purpose learning assistant, communication tool, and spiritual device—confirms its deep integration into students' lives [2]. However, the corresponding finding that this use leads to both motivational increases (extrinsic and intrinsic) and sharp decreases (distraction) reinforces the centrality of the SRL construct [9]. Without the *forethought* to set goals, the device's potential is lost to its entertainment-driven architecture (Kara, 2020). This highlights a critical failure in many digital literacy programs, which often focus on technical skills (i.e., *how* to use an app) rather than the metacognitive skills of *why* and *when* to use it, and *when to stop*.

The study's second and most significant contribution is the mapping of SRL strategies in the *specific context of PAI*. The findings extend Zimmerman [9] model by infusing it with theological meaning. The act of self-control is not just a cognitive tactic for academic efficiency; it is reframed by students as *mujahadah an-nafs* (a spiritual struggle). Goal-setting is not just about grades; it is about *niyyah* (intention), seeking knowledge *lillahi ta'ala* (for the sake of God). Self-reflection becomes *muhasabah* (self-accountability), and the content itself becomes a *tazkirah* (reminder). This *spiritualized SRL* provides a far more potent and durable source of intrinsic motivation than academic achievement alone [7]. It suggests that PAI teachers have a unique opportunity: they can teach digital self-control not just as a study skill, but as a core component of *akhlāq* (Islamic ethics) in the 21st century.

The third finding, derived from the comparative analysis of the two schools, demonstrates that this spiritualized SRL does not develop in a vacuum. It must be explicitly *taught, modeled, and scaffolded* by the entire school ecosystem [16]. The contrast between SMPN 2's flexible, trust and-model approach and SMPN 1's restrictive policy provides a clear lesson. A restrictive environment, while seemingly safer, is a form of learned helplessness [8], it denies students the opportunity to *practice* self-regulation, leaving them ill-equipped for the autonomy they will inevitably face. The flexible model, in contrast, treats SRL as a core competency to be developed. The role of the PAI teacher as a digital religious role model [12] is paramount. When teachers model ethical and productive digital use, they provide a powerful, positive script for

students to emulate. This supports the call for a religious digital literacy that is collaboratively reinforced by parents [24].

This study has limitations. As a qualitative case study, its findings are context-bound and not generalizable, though they offer theoretical transferability [25]. Future research could use these qualitative findings to develop a quantitative instrument to measure spiritual SRL and its correlation with PAI motivation on a larger scale. Nonetheless, this study provides a deep, narrative account of a critical phenomenon, offering a clear-eyed view of the smartphone not as a threat to be banned, but as a complex environment that demands a new pedagogy rooted in metacognition, self-control, and spiritual purpose.

## 5 Conclusion

This study concludes that smartphone utilization in Islamic Religious Education (PAI) classrooms presents a significant paradox. The device functions as a powerful tool for accessing information, fostering creativity, and enabling spiritual reflection, yet it simultaneously serves as a potent source of distraction that can undermine learning motivation. The determinative factor that mediates this impact is the student's capacity for Self-Regulated Learning (SRL).

Students who demonstrate high SRL—characterized by conscious goal-setting, proactive time management, and robust distraction control—are able to leverage the smartphone to enhance both intrinsic and extrinsic motivation. Critically, in the PAI context, this self-regulation is imbued with spiritual meaning, framed as a form of *mu-jahadah an-nafs* (struggle against the self), which provides a powerful ethical framework for digital discipline. Conversely, students with low SRL are susceptible to the device's distractive elements, leading to decreased focus and motivation. Furthermore, the school's ecosystem, particularly the teacher's role as a digital religious model and the implementation of flexible, trust-based technology policies, is crucial in fostering this regulatory capacity. Therefore, recommendations are directed not at prohibiting technology, but at developing a holistic *religious digital literacy* that integrates SRL skill-building with Islamic character education.

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