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Editorial Views to Promoting Digitalized Research in Education and Language Teaching

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Abstract

This study focused on the promotion of research on digital transformation in education and language teaching. It purposely tended to promote the teachers, scholars, students, and researchers construct the research studies on technology transforming in digital education and language teaching, such as blended learning, distance/online learning, and/or e-learning. With the challenges of AI in education, the studies on digital education transformation (DET) and digital language teaching (DLT) are under explored, improving the digital competence, literacy, and skills for teachers and students. By examining the digital technology transformation (DTT) in education curricula, this study really promoted teachers, scholars, students, and researchers to do research on these challenges, with different research method designs, such as analytical research design, descriptive research design, exploratory research design, explanatory research design, and beyond. This study further suggested teachers, scholars, students, and researchers create future-research studies on the key factors of AI challenges in education programs, such as barriers of critical thinking development, problem-solving, and decision making. The future-research studies on DTT in education and language teaching significantly contributed to the betterment of digital competence, skills, and literacy – reforming the educational quality and outcomes.

Keywords: *digitalized research, digitalization transformation, educational quality, digital skill, digital literacy, e-learning, blended learning*

1. Overviews

Digital research in education (DRE) is the optimal for developing to education quality and outcomes, with the contexts of digital education. Besides, the digital language teaching shares the impacts of DRE on accessing language teaching with the digital competence, skill, and literacy (Giannoutsou et al., 2024). Promoting to understanding of digital research is needed to motivate and engage teachers, students, and scholars be involved with DELT frameworks (OECD, 2023). However, digital critical challenge in education and language teaching is limitedly researched in the era of DTT (UNICEF, 2021) and the global shift that leaves a gap of digital technology research

(James et al., 2021). Higher education-institutions (HEIs) might promote teachers or students to enable digital research in education and language teaching. The impact of digital technologies in education curricula (EC) plays a role in utilizing the digital platforms in education reform and language teaching betterment. DRE is essential for HEIs to reform the educational curricula – engaging to improve research competence and digitalizing the educational research (Balyer & Öz, 2018; Hang-chuon, 2021).

2. Digital Research in Education (DRE)

With the digital context in the 21st century education, DRE is prioritized and essential for educators or scholars to empower the use of digital technology in developing the teaching and learning process (MoEYS, 2019). In Cambodia, the demands of Internet-digital devices significantly increased in the digital research and digital-research competency in digital technology engagement (Ministry of Post and Telecommunications [MPT], 2023). The index of school responsibility for carrying out DRE is low in digital education. DRE affects academic performance and educational outcomes (Nizariah, 2021). DRE limited competence is a critical gap in digitalizing research knowledge and skills to contribute to the digital education era, handling Internet-research access, developing the digital global education (DASH et al., 2021), and ensuring digital educational contents at all settings (Bates, 2015; UNESCO, 2023). Integrating the digital research in education transforms the digital education system with internet-research platform (Forrester, 2016; OECD, 2017). DRE contributes to qualifying the education outcomes, enhancing online learning, and integrating the digital research in teaching and learning (Dirk et al., 2021; Paulo, 2020).

3. Digital Research in Language Teaching (DRLT)

DRLT involved comprehension of integrating digital technologies into the process of teaching and learning, with internet digital-research platforms (Benavides et al., 2020; Alenezi, 2023). Typically, DRLT benefits teaching and learning digital experience and environments –developing critical thinking and improving learning outcomes (Abad-Segura et al., 2020). This also contributes to sustainable practices, innovation, and education changes (Shenkoya & Kim, 2023). With the strategic planning in developing the education frameworks, DRLT can build teaching competition and literacy (Bisri et al., 2023; Mohamed Hashim et al., 2022; Rof et al., 2020; Valdés et al., 2021). DRLT is challenged with the strategic and cultural barriers (Akhmetshin et al., 2020; Akour & Alenezi, 2022; Bucăța et al., 2022; Díaz-Garcia et al., 2023; Gkrimpizi et al., 2023; Gkrimpizi & Peristeras, 2022; Rima

Aditya et al., 2021). DRLT influences digital technological readiness, digital competencies, and digital research skills (Elçiçek & Erdemci, 2021; Larionov et al., 2021; Latifah et al., 2022; Litiņa & Miltuze, 2023; Niță & Guțu, 2023; Valverde-Berrocoso et al., 2022; Wekerle et al., 2022). DRLT gives teachers chance to implement digital thinking and use the frameworks of the digital initiatives (Alenezi, 2021; Silva, 2017; Yureva et al., 2020).

4. Future-Research Frameworks (FRF) on AI Challenges

FRF lies in a sense of responsibility with the future research in AI challenges, reflecting the digital research landscape and influencing the educational outcomes (Culminas-colis & Reyes, 2024; Kim & Choi, 2018). AI challenge is a critical gap for multiple research frameworks with the integration of understanding of Digital technology challenges in education, such as critical thinking decrease and unreliable solution of problem -solving (James et al., 2021). FRF on AI emphasizes the change of enhancing the research skills and practices with literacy of digital FRF (Ribble & Bailey, 2007; Ribble & Park, 2019). Digital Intelligence (DI) collaborates with the future-research framework – being a set of the comprehensive technical competency and challenges of digital life (DQ Institute, 2019). The FRF aims at encompassing the ability to use the digital technologies in navigating the critical thinking and problem-solving skills and embracing the teaching and learning practices (Jones & Mitchell, 2016; Vuorikari et al., 2022; Yureva et al., 2020).

5. AI Challenge as Barrier for Students in Digital Education

AI is challenged for bettering critical thinking in the digital education settings (Öztürk, 2021). AI in education is challenge of improving the educational outcomes and bettering students' critical thinking (MoEYS, 2024). Further, AI in education shifts toward barrier of competency-based education, critical thinking, and problem-solving (MoEYS, 2016). With journey toward digital education, critical thinking will be challenged in integrating AI into education system (Flores & Mean, 2024; Keo et al., 2024a; Pang et al., 2022;). By implementing AI in education system, it is an urgent focus to setting the policies of using AI in endorsing the digital education policy in Cambodia – acknowledging the digital technology-enhanced learning ecosystem. This highlighted the AI challenges in education, as a barrier of critical thinking betterment and problem-solving. AI policy in education sets out to integrate education system with AI utilization for learning achievement and outcomes (Dirk et al., 2021; Hang-Chuon, 2021). Hence, AI in education is challenged for developing the competencies, skills, and literacy.

6. Digital Frameworks in Education Research (DFER)

Digital framework plays a role in creating new digital platform. DFER neglects the technical abilities increasingly support the success in reforming higher education systems, quality, and outcomes (Khan et al., 2024). As Cambodian education research with the digital frameworks, the academic performance is to enhance educational outcomes. Digital intelligence (DI) navigates the digital technologies into education-research framework [ERF]. As the studies by Koehler et al. (2013), integrating technological knowledge into education fosters creativity in global digital-innovation ecosystems (Morel & Spector, 2022). DFER creates notable gaps to education institutions and shapes the technology transformation into teaching (MoEYS, 2024). Promoting ICT or AI in education prioritizes digital infrastructure and research literacy (UNESCO Institute for Statistics, 2018). Many students lack the digital engagement to foster the high-research competencies (In-Seong et al., 2022; Sok & Heng, 2024). In contrast, the cultural-research perspectives prioritize individuals to foster the digital-research creativity (Gong et al., 2023), research-critical-thinking, digital-research navigation (MoEYS, 2016), digital infrastructure, and digital teacher training (Yılmaz Özden, 2023). Thus, digital competencies access the Internet-powered devices to integrate DFER in practicing and digital-research skills (NV, 2017; Paulo, 2020; Timotheou et al., 2023).

5. Conclusion

This study highlighted the promotion of digital framework in education and language teaching in engaging teachers, students, scholars, or researchers to do research with digital devices. Critical digital-research competencies increased the evolving digital challenges. This study also shed in light with utilizing ICT or AI to integrate and navigate digital frameworks in education. The DFER should be applied int the context of reforming education systems, strategies, and policies. Addressing this key insight can ensure that DRE leveraged substantial digital-research-competency and extend educational settings to integrating digital research in education and language teaching (DRELT) and understanding the digital-research practices and AI challenges in education-research frameworks.

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Leveraging social media for language learning: Opportunities and challenges

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Abstract

Social media connects users in virtual spaces and offers a valuable avenue for language learning due to its interactive features and wide accessibility. It encourages active language use and supports learning beyond the classroom environment. While its integration into language education presents significant opportunities, it also poses notable challenges. This reviews the instructional potential and platforms of four: microblog (e.g., Twitter), collaborative wikis (e.g., Wikipedia), professional networks (e.g., LinkedIn), and informational networks. It also examines the infrastructure and resource conditions necessary to support effective classroom integration. This paper argues that the meaningful and well-structured incorporation of social media into the curriculum can lead to sustainable language learning outcomes. Drawing on the concept of social media as a *deus technique*, a dialogic medium, and the literacy model that views language as a socially situated practice, outlining strategies for using social media to foster both communicative competence and metalinguistic awareness. The practices include designing learners-centered, interactive activities, addressing data privacy concerns, and ensuring equitable digital access. Institutions are suggested to provide training focused on effective social media integration. As future research includes exploring AI-enhanced personalized learning, self-regulated learning through social platforms, and examining the long-term effects of social media use on language development, particularly in diverse educational settings.

Keywords: *Social media, Language learning, Microblogs, Informational Networks, Communicative goals, metalinguistic learning*

I. Introduction

The authors point out that the fast growth and use of information and communication technologies (ICTs), notably social media, has completely

changed how languages are taught in the 21st century. According to Kim et al. (2011) and Van et al. (2019), social media sites are no longer just passive tools; they are becoming active venues where students can engage with genuine, multimodal information and communication, work together, and share culture in real time. Barrot (2022) says that as digital communication becomes more and more a part of everyday life, teachers have started to use wikis, blogs, Facebook, and Twitter (X) to teach language outside of the classroom. Chen et al. (2023) say that multimodal chats and collaborative exchanges on YouTube, Instagram, and Telegram let students use language in real-life situations, which helps them become more fluent, motivated, and culturally aware. Social media is important since it allows and helps build knowledge. Shadiev and Yang (2020) say that these affordances fit with new teaching methods that stress the importance of being able to communicate, being able to utilise technology in a responsible way, and being able to read and write in a digital world. It is not only that these platforms are popular; they also offer a wide range of language input and output.

In the same way, Smith (2024) shows that learners make meaning using text, video, audio, and interactive discourse, which are all activities that fit with both the cognitive and social aspects of language learning. It's evident that using social media in language learning isn't just a fad; it's a sign of bigger changes in how people get and build information in modern schools.

II. Conceptual Framework of Literature

2.1 Theoretical foundation

In recent years, language use and learning strategies have been influenced by new communication technologies, especially the growing popularity and widespread informal use such as email, wikis, blogs, podcasts, chatrooms, Facebook, Twitter, Skype, and various participatory or multi-user virtual environments, as is clear deeply shaped by Rachmawati and Purwati (2021). Tong et al. (2022) state that the opportunities designed for social interaction, engagement, and communication with authentic language resources and meaningful tasks are believed to have a significant impact on learners' language development in both formal and informal learning environments. As the previously discussion, such the formative and summative evaluation of the language learning process can be well supported by social media use and

practice, which help create a personalized, interactive, and effective language-learning setting, were discussed by Malinee and Senthamarai (2020). The integration of social media into language learning is supported by several prominent theoretical frameworks that highlight the social, contextual, and interactive dimensions of education. One conceptual lens is the idea of social media as a “deus technique”, a dialogic medium that facilitates interaction and collaboration among learners, as introduced by Caruso (2011). This aligns closely with Vygotsky’s sociocultural theory, which views learning as a socially mediated process where learners progress through the Zone of Proximal Development (ZPD) with the support of more knowledgeable peers, which is a theoretical framework proposed by Vygotsky (1978). Social media platforms naturally provide scaffolding mechanisms consistent with ZPD principles. For example, learning using platforms like Twitter (X) engage in concise exchanges with proficient users, gaining real-time feedback and language input. Likewise, Wikipedia fosters collaborative writing, helping users build both language and subject knowledge.

Gee (2012) Situated Learning Theory offers another foundational perspective, emphasizing that literacy is best acquired in meaningful, culturally embedded contexts. According to Gee, learning focus most effectively when learners are part of “affinity spaces”, communities centred around shared goals and interest. Platforms like YouTube and TikTok exemplify this, providing learners access to authentic content and opportunities for content creation that supports identity formation, fluency development, and engagement in real-word discourse practices. These theories underscore the pedagogical value of social media in developing communicative competence, digital literacy, and intercultural understanding. As Chen et al. (2023) explain that social media facilitates multimodal interactions that promote both receptive and productive language skills; in contrast, Shadiev and Yang (2020) argue that collaborative online interactions foster the co-construction of meaning, reinforcing social engagement as central to language development.

In Cambodian contextualization, the application of these theories becomes particularly relevant. Huot and Em (2025) emphasize that without addressing digital infrastructure and educator readiness, language education reforms in

underserved communities may stall. They advocate for systemic support in both teacher development and equitable access to technology to ensure that social media integration is effective and inclusive.

In sum, the combination of Vygotsky's sociocultural theory, Gee's situated learning model, and the conceptual framing of social media as a dialogic platform offers a robust foundation for exploring its inclusion of digital platforms but also inform the design of pedagogical strategies that are interactive, personalized, and socially contextualized.

2.2 Key Concepts

Several core concepts inform the use of social media in language learning, reflecting its dynamic and learner-centered nature. Social integration and engagement are central to language development, enabling learners to communicate with peers, instructors, and native speakers across digital platforms, as well as the concepts highlighted the role of digital literacy in civic engagement by Tong et al. (2022). The authors emphasize that these interactions foster a sense of belonging support, and collaboration, thereby enriching the learning environment. (Malinee & Senthamarai, 2020) state that personalized and self-regulated learning enables learners to engage with content at their own pace, tailoring their experiences to individual needs and interests. (Chen et al., 2023) indicated that multimodality, encompassing texts, audio, video, images, and hyperlinks, is naturally supposed by social media platforms, which enhance comprehension and accommodate diverse learning preferences.

Finally, the blended of formal and informal learning contexts is a defining featured of social media use in education. These platforms bridge classroom instruction and real-word language use, offering learners authentic environments to practice language beyond institutional boundaries.

2.3 Literature Review

The pedagogical affordances of social media in language learning have been widely documented in recent scholarship. Studies demonstrate that platforms such as Twitter (X) and Facebook support vocabulary development, writing fluency, and interactive learning by enabling students to engage in authentic, socially meaningful exchange, as indicated by Barrot (2021). Similarly, YouTube and other video-based platforms enhance listening comprehension and oral

proficiency by exposing learners to natural speech and culturally embedded content, as mentioned by Alobaid (2020). Nonetheless, researchers have also pointed out significant challenges, as argued by John and Yunus (2021) concerns related to privacy, digital literacy, and technological readiness, as well as the potential for distraction if platforms are not well-integrated into the learning process.

Ahmadnejad et al. (2024) note that both educators and students facing difficulties in aligning social media usage with structured learning goals, particularly when reflection and offline study are needed. As Eaton (2010) argues that social media fosters informal, de-institutionalized learning environments, requiring new pedagogical approaches to teach grammar, vocabulary, and discourse effectively. These environments often support self-directed learning, but demand carefully designed instructional models that scaffold learners' development. More specifically, Rachmawati and Purwati (2021) highlight that adult learners must engage with advanced linguistic elements such as syntax, morphology, discourse, and phonetics, domains that can be explored through both formal instruction and informal digital interaction.

To this end, Baytekin and Bergil (2021) emphasize the role of theory building in higher education, arguing for robust frameworks that rationalize social media use in structured academic settings and align it with institutional goals.

III. Critical Arguments

3.1 Benefits of Using Social Media

Such findings are consistent with the earlier conceptualization of social media, offering multiple advantages for language learning, which can be grouped into four core areas: structured input, speaking practice, writing development, and self-evaluation.

First, several scholars (Chang & Hung, 2023; Malinee & Senthamarai, 2020) support the claim that platforms like Twitter (X) and Facebook facilitate structured learning by exposing learners to a continuous stream of authentic texts, videos, and hyperlinks that align with their interests. For instance, a single tweet often contains links to multimedia resources, enabling learners to expand vocabulary and explore various topics.

Second, according to Ariantini et al. (2021), social media promotes productive skills, tools like digital video on platforms such as YouTube allow learners to record and assess their spoken language, offering opportunities for self-reflection and peer feedback.

Third, as recent findings by a group of scholars (Binsaeed et al., 2020; Naseem et al., 2020; Ray et al., 2020), microblogging on platforms like Twitter, which limits posts to 280 characters, encourages concise and meaningful writing, fostering vocabulary use and sentence construction.

Additionally, Bailey et al. (2021) indicate that social media supports synchronous communication and interaction, though they acknowledge its limitations. Hamadeh et al. (2020) question whether written exchanges online effectively translate into real-life speaking skills. Similarly, Lambton et al. (2020) and Lonn (2022) note that communication on these platforms often lacks authentic spontaneity and tends to prioritize social or personal themes over academic discourse. Nevertheless, Sampson and Yoshida (2020) report positive outcomes in studies involving Japanese learners, where Facebook groups facilitate identity expression and intercultural exchange.

3.2 Challenges and Limitations

One major challenge in integrating social media into educational purposes is the issue of privacy. The authors note that students frequently express concerns about sharing personal data with peers or third-party platforms (Dennen & Burner, 2020; Jain et al., 2021; Sanfilippo & Strandburg, 2021). To address this, maintaining private Facebook groups is often suggested, as it allows moderators to control access. However, Escribano et al. (2021) and Ghounane (2020) caution that overly restrictive privacy settings may hinder wider participation and limit opportunities for peer learning. Even when using institutionally integrated platforms like Facebook Workplace, efforts to separate personal and professional interactions do not eliminate concerns over third-party data tracking, especially in widely used learning management systems such as Blackboard, Canvas, and other CALL tools (Chappell, 2022; Gamba et al., 2020).

Moreover, Manca (2020) stresses that the importance of educators carefully evaluating which aspects of students' data should remain confidential, while

institutions must establish clear guidelines for digital responsibility. Building students’ digital literacy is presented as a core component of ethical pedagogy. The authors, Engeness (2020) and Virtue (2020) argue that fostering awareness of ethical digital identity and safeguarding data is a crucial institutional duty the digital era. Additionally, (Quach et al., 2022) warn that institutions must remain vigilant against commercial interests that may seek to exploit student data.

3.3 Varied Social Media Experiences

The authors emphasize that social media platforms vary in their affordances for language learning. Manca (2020), Shan et al. (2020), and Zhang and Zou (2020) note that requiring learners to use a single platform may restrict their engagement, whereas encouraging interaction across multiple platforms can offer more diverse and enriched learning experiences. (Kaur et al., 2021) state that most platforms support flexible content creation, allowing both teachers and students to contribute. On Facebook, learners often revisit posts initially written in their native language and revise them into the target language, using the platform’s history feature to monitor progress (Bucher & Sand, 2022; Lee, 2021). Meanwhile, (Krüger, 2023) and (Tulenova, 2024) highlight YouTube’s value in providing access to language tutorials, listening exercises, and native-speaker content, noting that active viewing and note-taking significantly enhance both comprehension and language production.

Emerging platforms like TikTok and Instagram are transforming language use through short-form, visually engaging content. These platforms foster creativity, but also pose challenges, such as misinformation, digital literacy gaps, and cognitive overload. As learners increasingly use these spaces, factors like age, culture, and content relevant become crucial for successful integration. Incorporating case studies, comparing platform affordances, and providing practical strategies for teachers can help address these concerns. These points are summarized in table 1.

Table 1: Key Elements of Emerging Social Media in Language Learning

No.	Element	Description
1.	Role of social media in Language Learning	Exploration of TikTok and Instagram's features (short-form videos, interactivity) in enhancing language acquisition.

No.	Element	Description
2.	Research Gaps	Examining how age and cultural background influence social media use in language learning.
3.	Innovative Classroom Settings	Use of case studies or empirical data from lesser-known classroom environments to provide fresh insights.
4.	Platform Comparison	A comparative analysis of TikTok, Instagram, and Facebook for their effectiveness in language learning.
5.	Challenges	Misinformation, digital literacy gaps, and cognitive overload in social media-based learning.
6.	Solutions to Challenges	Practical examples and studies showing how educators can overcome these barriers.
7.	Contribution	Enhancing the originality and depth of the manuscript, making it valuable for researchers and educators.

3.4 Engagement Strategies

Engagement strategies are crucial for optimizing the educational benefits of social media in language learning. Richards and Richards (2022) emphasize that well-structured communicative activities can enhance cognitive processing, reduce learner anxiety, and increase exposure to both linguistic input and output. Manca (2020) notes that social media platforms further these benefits by allowing learners to use the target language autonomously and interact across cultural boundaries with minimal teacher intervention. According to Kim (2020) and Kumi-Yeboah et al. (2020) learners engage in a variety of interactive tasks, including posing questions, offering peer feedback, sharing content, and participating in informal conversations. Correspondingly, Yadav (2021) points out that features such as Facebooks “like” and “comment” functions create a supportive environment, while Twitter’s brevity encourages clarity and quick exchanges. In the views of Almdni (2021) and Shi (2021) argue that writing and revising blog posts or microblogs foster creativity, a sense of ownership, and logical reasoning. Getie and Popescu (2020), along with Zhang and Zou (2020) indicate that when engagement is driven by personal interest, learners exhibit higher motivation and confidence in their language use.

However, Zarrinfard et al. (2021) caution that surface-level interactions, such as brief replies or emoji responses, offer limited cognitive and linguistic gains. In response, Seven (2020) recommends that educators design meaningful prompts that activate higher-order thinking, thereby cultivating both language proficiency and critical thinking skills.

Emerging platforms also enhance engagement in diverse ways. TikTok and Instagram support vocabulary and cultural learning through creative short videos; YouTube and Reddit provide deeper interaction with authentic content; Facebook encourages collaborative group learning; and Telegram facilitates structures exchanges through chat features and file sharing.

3.5 Real-Word Examples

Social media platform offers powerful opportunities for language learning by enabling authentic interactions such as messaging, content creation, and role-playing, which immerse earners in naturalistic language use and support curricular integration (Alobaid, 2020). However, as Wilde et al. (2019) caution, challenges such as accountability and the need for robust empirical evidence remain. Alkadi (2020) emphasizes that meaningful engagement through social networks enriches the learning experience by providing both valuable input and social relevance.

Drawing from classroom-based case studies, Thomas (2020) explores the sue of platforms like Facebook, YouTube, and Second Life to support language practice and linguistic awareness. Bond (2020) and Shadiev and Yang (2020) highlight how these platforms, when thoughtfully implemented, can offer practical strategies for educators aiming to enhance language learning through digital tools.

3.6 Lesson-Learned

The effective integration of social media into language learning requires thoughtful planning and remains a concern for many educators amidst rapid ICT development. Greenhow and Chapman (2020) note that instructors often struggle to harness the educational potential of these platforms due to multiple influencing factors. A critical first step is selecting social media tools that align with specific course objectives and learner profiles. As Bailey et al. (2021) suggest that instructors must define clear learning goals and assess the

advantages and limitations of various platforms for different tasks and collaboration modes.

Additionally, Brown et al. (2019) emphasize the importance of developing assessment rubrics to evaluate learners' participation, guiding instructors in how to structure and moderate engagement effectively. Teaching efficacy is also linked to instructors' digital competency; Hennessy et al. (2022) highlight the need for teachers to assess adequate skills to utilize social media tools meaningfully. From a technology acceptance perspective, John and Yunus (2021) argue that EFL instructions must overcome barriers related to technology readiness, particularly those with lower technical literacy.

Furthermore, learners' attitudes, prior educational experiences, and perceptions of English learning play a key role in shaping their engagement and outcomes (Rahim & S. C., 2020). As Huot et al. (2024) indicate, the features of digital tools influence student's participation patterns, affecting both their learning behavior and the pedagogical approach adopted by teachers. Therefore, understanding these variables is essential for maximizing the educational benefits of social media in language instruction.

3.7 Mobile Learning

Undoubtedly, language learning via the platforms and mobile devices has become a vibrant trend that challenges the traditional classroom-based model of language instruction that this trend does not only involve the integration of mobile learning and social media for language education but also the necessity of innovating mobile learning attributes (Han, 2022). A variety of new educational technologies are supported by the flourishing mobile market which the current mobile learning research addressing the use of these advanced technical tools for educational purpose is limited but innovative (Valverde et al., 2020). For instance, Yimam et al. (2020) and Chen et al. (2023) designed many different educational apps and applied them into collaborative learning settings in order to enhance engagement and learning performance. It is evaluated their newly designed mobile assessment tool for a flipped classroom model by Khullar et al. (2024) and Husain et al. (2021).

In addition, they have started exploring the possible weaknesses associated with current mobile learning tools and language practices in social media and have developed critical curricula to enhance mobile language learning. Egbert

(2004) reviewed apps designed for ELT and suggested that English language teachers become more sophisticated consumers of apps.

Additionally, a diversity of future-oriented strategies, theories, software and social media have been informed by mobile learning, the focus of which is not merely on "the functions of free and low-cost social media platforms" but also "the underlying digital literacies relevant to learning and working in this mobile world". These innovative developments will help language teachers to both create and facilitate authentic, yet systematically scaffolded, learning opportunities via large-scale networked collaborative activities powered by social media Husain et al. (2021).

Moreover, ongoing research focusing on the design and creation of innovative mobile learning technologies, in conjunction with research that examines successful mobile-assisted language learning strategies and students' learning experiences, will provide valuable insights that guide educational approaches and technological designs, enriching this vital educational endeavor for second language learning, teaching and assessment (Grant, 2019).

3.8 Artificial Intelligence (AI)

Opportunities and challenges of artificial intelligence language learning technologies in social media language learning can greatly benefit from AI language learning tools (Kannan & Munday, 2018). If tuned correctly, AI learning tools can provide interactive personalized support, offering conversational language practice, creating opportunities for learner generated content production, making use of diverse social media types or features, automatically personalize content, and offering scaffolding through multimedia input (Schmidt & Strasser, 2022).

Although AI language learning technologies are booming in the start-up world and are slowly appearing in the more established materials markets, they are deployed within social media integrations through the plugins proposed in this article. Although there are indeed opportunities for dialogue and interaction in social media, learners struggle to activate engaging language learning tasks within the platforms (Metruk, 2022). Learners may stare at their vocabulary, wondering how they can use it in a way that readers seem to find compelling that the automatic language learning tools can alleviate much of this decision

overwhelm and these technologies offer personalized support and task suggestions, helping learners use language more effectively (Atlas, 2023).

IV. Conclusion

Both positive and negative aspects of social media integration have prompted increased interest in learner training and traditional institutional support for social media learning endeavors. As different learning outcomes depend on social media usage patterns, there is also a call for a more flexible approach to accommodate diverse learner needs and aspirations. Such a need has also resulted from the changing pedagogical landscape; social media encourages and engages learners across the board. It also awakens the learner's researcher in practice and the learning-oriented practitioner in research. All these sensitize the researchers to a myriad of behaviors while providing multiple heuristic perspectives on the benefits of social media-motivated learning, which, if well directed, could be harnessed to grow a community of learners. With these diversified perspectives, it is not an easy feat to argue that social media has been a distraction or slow in coming, as that depends on how well they were embraced, used, and integrated into the teaching and learning activities despite the challenges.

While the potential of social media for effective learning has been witnessed and indeed many have joined the bandwagon, the major pondering questions are tied to whether self-regulated learning through social media actually takes hold and how students and teachers perceive it as a pedagogical aid. As such, panel members who are leading the frontiers in pedagogical research and development of social media tools were invited to debate on the "big ideas" of social media. Their responses provide some clues as to where the low-hanging fruits and the pitfalls of social media lie and define models for future practice in this domain. According to the panel, learning through social media has surfaced as a fruit-bearing tree with lots of fruits on it. For learners to savor the fruits, they need to have the inner motivation and use social software tools to overcome the maddening distractions by finding the right context at the right time of content. Indeed, the learning potential that motivates learners should stimulate studies to investigate the flavor of the reward, the spit out of the stone, or even the distaste of a flavor-style promise. Focus will be needed on how the medium of the message whether it is usefully arriving socially or

visually and how the feeling of emotional intelligence accumulates and stimulates learning. Online learning communities that are so well accepted in the new e-world should not be overlooked as a catalyst that transforms learning into a lifelong love for the fruits of understanding and knowledge.

Educators should receive targeted training to design social-media-integrated activities that enhance higher-order thinking. Learners must be empowered for self-directed learning through authentic digital content. Instructions should build supportive infrastructure and address equity and privacy concerns. As for future research, scholars should examine how social media supports self-regulated learning so that it should be explored the use AI to personalize language learning experiences. Studies can investigate how social media helps preserve linguistic diversity. Long-term research is needed to assess its impact on language proficiency over time.

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Redefining Academic Integrity: Integrating Khmer Epistemologies and AI to Challenge Western-Centric Notions of Plagiarism

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Abstract

The widespread adoption of generative AI tools in academia has sparked contentious debates over their ethical implications, particularly in developing nations like Cambodia, where digital literacy and academic norms are still evolving. Global academic integrity policies—often rooted in Western notions of individualism and textual ownership—clash with Cambodia's collectivist learning traditions, where knowledge sharing and memorization are culturally valued. Generative AI disrupts these norms further by enabling new forms of collaboration and unintentional plagiarism. This paper critically examines whether AI could challenge or reinforce colonial legacies in Cambodia's academic integrity frameworks. Drawing on decolonial theory and focus group insights, it proposes a culturally adaptive integrity framework that centers Khmer epistemologies. These findings address Cambodia's unique educational challenges and contribute to global discussions on balancing innovation with academic integrity in postcolonial contexts.

Keywords: Decolonization, academic integrity, generative AI, Cambodia, Khmer epistemology, plagiarism, culturally adaptive pedagogy

1. Introduction

Cambodian higher education stands at a pivotal crossroads, as the growing ubiquity of generative artificial intelligence (AI)—exemplified by advanced language models such as ChatGPT—forces a reexamination of entrenched academic integrity norms. These global shifts come into sharp relief within Cambodia's unique educational landscape, where Western-centric standards of originality and individual authorship coexist uneasily with indigenous pedagogical traditions, particularly *Rien Tontenh Cham*, an approach that venerates collective recitation and teacher-guided memorization as the cornerstones of learning. This research critically interrogates whether AI can serve as a disruptive, decolonial force, capable of transcending imported academic policy legacies and fostering frameworks

more attuned to Khmer epistemologies. The central focus of this investigation is the tension-laden interplay between externally imposed integrity standards and Cambodia's rich indigenous frameworks—a phenomenon insufficiently theorized by existing literature, which tends to privilege Western constructs of plagiarism. Broadly, the research aims to (a) elucidate how Cambodian educators and students interpret the academic role of AI, (b) determine the degree of Western influence on national plagiarism policy, and (c) propose actionable pathways for harmonizing international expectations with Khmer ethical pluralism. By foregrounding ethical pluralism as its analytical lens, this paper seeks not only to critique imported standards but to advance a robust, context-sensitive paradigm for academic integrity—one capable of reconciling innovation with tradition, offering a model transferable to similarly situated postcolonial societies.

2. Literature Review

This section of the literature review demonstrates that the evolution of academic integrity frameworks in Cambodia is deeply shaped by both Western and local epistemological traditions, creating complex tensions within higher education. The main points can be described as follows. The first main point emphasizes that global academic integrity norms originate from Eurocentric epistemologies. Influential theorists like Foucault highlight the “author function”, establishing the author as the exclusive origin of knowledge and thereby shaping rigid policies around individual authorship and citation in academic writing (Foucault, 1969). In Western systems, this has led to a strong emphasis on intellectual property and the idea that originality is a marker of academic excellence. However, these standards do not adequately recognize communal or oral traditions of knowledge, which play a significant role in non-Western pedagogies, such as those in Cambodia. In the Cambodian context, academic practices such as Samaki (solidarity) and Tveu Bon (corrective learning) characterize knowledge production as shared, recursive, and often orally transmitted, which stands in contrast to the autonomy and individualism prioritized in Euro-American models (Pennycook, 1996; Dei, 2000).

The second main point details how the imposition of Western models, especially during educational reforms after the Khmer Rouge era, generated significant contradictions within Cambodian practices. The introduction of strict plagiarism policies by the Ministry of Education sought to standardize academic conduct according to international, Western-aligned norms, but this often conflicted with local methods like Rien Tontenh Cham, a traditional,

repetitive, and collective method of learning led by authoritative teachers (kruu). This disjunction has caused confusion and difficulty among students and educators, who must navigate between new imported expectations and established local traditions of knowledge sharing (Khim & Heng, 2019; Dy, 2016).

The third main point focuses on the impact of artificial intelligence in reshaping these debates. AI-generated content challenges the conventional boundaries between original and borrowed work central to Western plagiarism frameworks (Eaton, 2023). In Cambodia, while AI has democratizing potential—opening access to educational resources for students—it also introduces risks, such as increased dependency on external technologies and the potential erosion of locally grounded knowledge practices (Selwyn, 2024). As a result, Cambodian faculty and students are divided; younger generations increasingly view AI as a beneficial tool, while many educators remain cautious, fearing that overreliance on digital tools could weaken critical and independent thought as well as ethical standards. Finally, the section notes the persistent research gap: current studies tend to focus on how AI disrupts Western plagiarism frameworks, with little attention devoted to how AI might also offer opportunities to adapt academic integrity in ways that respect non-Western epistemologies (Ashley, 2022; Dy, 2016). Addressing this gap, the present study aims to contribute new insights into how Cambodian institutions can harmonize traditional collective pedagogies with the demands and potential of AI, paving the way for more culturally responsive integrity frameworks.

3. Conceptual Framework

Literature Framework: Decolonial Theory, Hybridity, and AI in Academic Integrity

This section critically interrogates the colonial underpinnings of Western academic integrity and outlines a theoretical model for culturally adaptive reform in Cambodian higher education. Drawing from Mignolo's concept of the "coloniality of knowledge" and Bhabha's "hybridity," the framework positions artificial intelligence not as a mere technological disruptor but as a vehicle for epistemic disobedience and pluralistic reform.

Coloniality of Academic Integrity

Prevailing academic integrity norms remain deeply entrenched in Euro-American epistemologies, which valorize individual authorship, originality, and textual ownership. These values fundamentally conflict with Khmer traditions such as Rien Tontenh Cham, where knowledge is communally

constructed, orally transmitted, and regularly recited under the guidance of the Kruu (master teacher). Mignolo's (2011) concept of epistemic disobedience provides a critical lens, inviting Cambodian scholars to disrupt imported standards and assert local ontologies focused on collective ethics and restorative practice rather than punitive enforcement.

Challenging Western Constructs and Creating a “Third Space”

Rigid Western academic frameworks marginalize Cambodian knowledge systems by imposing strict citation rules and criminalizing communal learning approaches. This underscores the need for policy resistance and for integrity models that value corrective learning (tveu bon) over legalistic punishment. Bhabha's (1994) theory of hybridity informs the pursuit of a “Third Space” where Khmer epistemologies and AI can intersect. In this space, AI is framed as Kruu Chumnouy (Assistant Teacher)—a collaborative tool supporting peer writing and critique while maintaining the authority and sanctity of traditional teachers. Group authorship and collaborative AI projects empower solidarity (samaki) and challenge hyper-individualistic academic conventions.

The Middle Path: Reconciliation and Hybrid Policy

Inspired by Buddhist ethics and Kuhn's (1970) theory of incommensurability, the Middle Path offers a pragmatic approach, advocating for balanced integration of Western and Khmer knowledge systems. Cambodia's educational institutions, shaped by decades of postcolonial reform, cannot entirely discard global norms but must instead create policy environments where the advantages of both systems are negotiated and harmonized. Kuhn and Feyerabend's (1975) insights highlight the difficulty of cross-cultural translation but reinforce the value of hybrid models—those which honor both individual and collective principles in academic integrity.

Principles of a Decolonial Integrity Model

The proposed framework sets practical priorities for a culturally responsive integrity model:

- **Transparent augmentation:** Students must document the use of AI (e.g., “I used ChatGPT to brainstorm; here is my critical refinement”), fostering accountability and ethical transparency.
- **Contextual rubrics:** Replace the sole emphasis on originality with attributed collaboration and recognition of group-authored and orally transmitted sources.

- Hybrid evaluation: Balance respect for kruu authority and communal student work with global standards for disclosure and ethical technology use.
- Inclusive policy language: Shift focus from legalistic and punitive discourse to restorative, educational, and relational principles, centering Khmer values alongside international norms.

Through this synthesis, academic integrity in Cambodia is reimagined as an inclusive, adaptable construct that supports both pedagogical sovereignty and responsible innovation—a model which can inform equitable reforms across other postcolonial contexts.

4. Methodology

4.1 Research Context and Location

This study was conducted in Cambodia, specifically targeting higher education institutions that exemplify the nation's diversity in both regional representation and organizational structure. The research setting is defined by the intersection of longstanding Khmer educational traditions and the increasing prevalence of Western-derived academic policies—a dynamic that shapes institutional responses to academic integrity and plagiarism in the digital age.

4.2 Research Design

A qualitative research design was chosen, anchored in critical document analysis—a method recognized as both rigorous and contextually sensitive in international educational research. This design allowed for a systematic investigation into how Cambodian university policies either reinforce or challenge Western-dominated definitions of plagiarism, particularly in the context of adopting generative AI technologies. By drawing upon established frameworks for discourse analysis and document-based inquiry, this methodology prioritizes deep contextualization and a nuanced understanding of policy rhetoric and its practical implications.

4.3 Sampling Procedures

The study employed purposeful sampling to select 20 academic integrity policies from leading Cambodian universities, including but not limited to the Royal University of Phnom Penh (RUPP), Cambodia University of Technology and Science (CamTech), and the National University of Management (NUM). Selection criteria encompassed institutional diversity, accessibility of documents, and direct relevance to ongoing reforms in technology-enabled education and digital literacy. Supplementary comparative materials were analyzed from India's University Grants

Commission (UGC, 2023) and South Africa’s Department of Higher Education and Training (DHET, 2023), providing a transnational lens for interpreting local adaptations and policy innovations. Additional insights were drawn from the principal investigator’s five years of professional praxis in Cambodian higher education, enriching the data with contextually grounded, autoethnographic reflections.

4.4 Research Instruments and Analytical Procedures

The analytical toolbox for this inquiry comprised three core instruments:

- **Document Review Protocol:** A standardized procedure was utilized to collect, screen, and contextualize institutional policies. This protocol ensured systematic relevance assessment and comparability across policy texts.
- **Coding Schemes:** Both inductive and deductive coding approaches were applied. Linguistic markers of coloniality (e.g., “zero-tolerance,” “intellectual property”) and positive alignment with Khmer pedagogical values (e.g., “tveu bon,” “samaki”—representing virtuous conduct and communal solidarity) were systematically identified. Specific attention was paid to explicit policy provisions regarding the use of generative AI.
- **Autoethnographic Reflection Guide:** Structured reflective prompts captured the lived experience of policy translation, the tensions encountered in daily educational practice, and the evolving role of technology in shaping culturally-relevant notions of academic integrity.

This robust triangulation of sources and analytic strategies ensured methodological rigor, depth of interpretation, and maximal relevance to ongoing scholarly debates on academic integrity reform in both Asian and global higher education contexts.

Data Collection Process

Documents for this study were systematically gathered from official university websites, institutional administrative archives, and publicly accessible policy repositories. In addition to textual analysis, the lead practitioner maintained a reflective autoethnographic journal throughout the research period, providing real-time documentation of key decision-making junctures, institutional meetings, and the nuanced interactions observed between faculty and students. This dual-source approach enriched the dataset, ensuring both documentary and practitioner-generated insights informed the analysis.

Data Analysis

The analytical strategy encompassed two interrelated phases, each grounded in rigorous comparative and critical scholarship:

Critical Discourse Analysis (CDA)

Adopting Fairclough's (2003) multidimensional CDA framework, each policy document was examined for discursive patterns—especially the semantics surrounding “plagiarism” and “originality.” The analysis revealed how prevailing linguistic formulations are deeply embedded in Western pedagogical hegemony, often at odds with indigenous practices of collective learning, oral knowledge sharing, and communal memorization. This methodological lens enabled the identification of discursive contradictions, such as the simultaneous promotion of “critical thinking” and prohibition of AI-mediated learning, thereby exposing tensions between neoliberal educational imperatives and punitive approaches to academic misconduct.

Thematic Synthesis

Employing an inductive coding procedure, findings were synthesized into broader themes: “Colonial Positioning of Dishonesty,” “Emergent Policy Hybridity,” and “Negotiation of AI's Role.” Comparative cross-referencing of policy frameworks from Cambodia, India, and South Africa elucidated key paradigms for reforming academic integrity in postcolonial university contexts. This approach highlighted both shared challenges—such as inadequate technological integration and entrenched authoritarian models—and innovative responses, including blended assessment, contextually responsive plagiarism detection, and faculty development programs.

Rationale for the Document-Only Approach

Given Cambodia's contemporary landscape marked by political sensitivities, hierarchical institutional structures, and the potential for participant discomfort, conducting direct interviews or focus groups posed significant ethical risks. Consequently, the study adopted a document-only methodology, prioritizing both ethical integrity and analytical transparency. Reliance on public documentation and practitioner self-reflection mitigated risks of coercion and safeguarded the dignity of all stakeholders. This non-extractive, contextually rich design is supported by contemporary methodological literature as a robust alternative, offering comprehensive policy insights while upholding stringent ethical standards.

5. Findings

Analysis and Synthesis of Findings on Cambodian Academic Integrity Policies

Critical discourse analysis of Cambodian higher education academic integrity policies reveals pervasive Western hegemony in framing and enforcing plagiarism rules. Such policies overwhelmingly categorize plagiarism as a moral offense or intellectual theft, adopting Anglo-American legalistic discourse that treats knowledge as an individual commodity (Löfström, 2011; Sutherland-Smith, 2008). This approach starkly contrasts with indigenous Khmer epistemologies, which emphasize communal knowledge transmission through oral attribution and rote memorization (Chandler, 2008; Khing, 2019).

For example, one university in Cambodia explicitly frames plagiarism as “intellectual property violation,” reinforcing Western epistemic dominance that erases local collective knowledge traditions. Similarly, the second Higher Education Institution's reliance on plagiarism detection (for instance, Turnitin-based) promotes a deficit model where students are presumed guilty prior to defense, further marginalizing oral knowledge validation customary in Cambodian learning (Chandler, 2008). These instances illustrate systemic epistemic silencing, where non-Western forms of knowledge are rendered illegitimate within official academic discourse.

Moreover, contradictions emerge within institutional rhetoric. Many universities extol critical thinking yet simultaneously prohibit AI-assisted tools like ChatGPT, illustrating a neo-colonial tension where compliance with Western citation dogmas overrides the potential for pedagogical innovation (Pennycook, 1996; Khim & Heng, 2019). This paradox extends to promotion of “innovation” alongside bans on AI brainstorming (e.g., Royal University of Law and Economics [RULE], 2020), privileging human cognition as the sole valid intelligence mode. Urban University of Battambang’s (UBB) stringent emphasis on “originality” further conflicts with Khmer traditions valuing repetition and mastery of teacher-derived content, pathologizing collaborative learning practices (Dy, 2016).

Most notably, all surveyed policies neglect recognition of rote memorization—a cornerstone of Buddhist-influenced Khmer education (Ashley, 2022). Even progressive guidelines addressing “digital literacy” fail to conceptualize AI’s role in augmenting rather than undermining local learning ethics (National Institute of Education [NIE], 2022).

Table: Summary of Academic Integrity Policy Discourses and Their Alignment with Khmer Epistemologies

Aspect	Western-Centric Policy Framing	Khmer Epistemological Values	Examples from Cambodian Universities
Plagiarism Definition	Moral failure; intellectual theft, violation of IP	Collective knowledge sharing; oral attribution	RUPP (2022): Frames plagiarism as “intellectual property violation” (Sutherland-Smith, 2008)
Detection Methods	Turnitin-based software; guilt presumed upon detection	Oral validation and communal learning	NUM (2021): Employs Turnitin as the gold standard, erasing oral knowledge transmission (Chandler, 2008)
AI Integration	AI tools banned despite promoting critical thinking	AI potentially augmenting teacher-led learning	ITC (2023): ChatGPT banned despite policy promoting critical thinking (Pennycook, 1996)
Concept of Originality	Emphasizes individual originality and innovation	Repetition & mastery; collaborative authorship	UBB (2021): Strongly emphasizes originality, contradicting Khmer traditions (Dy, 2016)
Recognition of Memorization	Silenced or devalued	Rote memorization key educational practice	Absent in all policies, NIE (2022) neglects this in promoting digital literacy (Ashley, 2022)

Argumentation from Literature Synthesis

This analysis exposes the problematic imposition of a Eurocentric academic integrity paradigm that systematically marginalizes Khmer communal learning principles. Framing plagiarism as theft adheres to an ownership

model that is alien to Cambodian collectivist knowledge production, where oral transmission and teacher-guided repetition are fundamental (Khing, 2019). The rigid application of Turnitin and punitive assumptions of guilt reveal an institutional failure to accommodate indigenous epistemological traditions, leading to epistemic invisibility for alternative knowledge forms (Chandler, 2008).

The institutional contradiction between advocating critical thinking and prohibiting AI-assisted academic tools exemplifies unresolved neo-colonial dynamics (Pennycook, 1996). This tension manifests as an enforcement of Western cognitive hegemony that dismisses AI's potential to scaffold learning within Khmer pedagogies. Furthermore, the overemphasis on originality undermines deeply rooted traditions of collective learning and mastery through reiteration, revealing a dissonance between imposed policies and lived educational realities (Dy, 2016).

The consistent silence on rote memorization underscores a systematic devaluation of Buddhist educational practices that nurture spiritual and cognitive discipline—cornerstones of Cambodian culture (Ashley, 2022). Even comparatively progressive policies addressing digital literacy fail to reconceptualize AI as a tool for augmenting rather than compromising Khmer learning ethics, highlighting a missed opportunity to develop culturally congruent academic integrity frameworks (NIE, 2022).

This dialectic between Western hegemonic policy frameworks and neglected Khmer epistemologies calls urgently for integrity models that harmonize both traditions, enabling decolonial, context-responsive approaches to academic ethics and AI integration in Cambodian higher education.

6. Discussion

As Cambodia navigates its postcolonial educational landscape, the integration of artificial intelligence within academic integrity frameworks reveals complex tensions between inherited Western paradigms and indigenous Khmer epistemologies. Current institutional policies, such as those by the National Institute of Education (NIE, 2022), reflect a pragmatic openness toward generative AI by permitting its use as a tool for scaffolding—brainstorming and drafting—provided that students transparently disclose its employment. This signals an emergent hybrid approach that synergizes traditional pedagogical values with contemporary, postdigital realities.

These policy shifts resonate with Cambodian collectivist knowledge practices, which prioritize communal learning and oral traditions,

challenging the rigid individualism entrenched in Western academic integrity models. Indeed, existing policies often perpetuate colonial hierarchies by uncritically adopting Western plagiarism paradigms that cast originality narrowly as individual creation and frame plagiarism as a moral failing, rather than as a pedagogical phenomenon requiring contextual understanding and support.

A transformative framework must not only recognize but actively integrate oral attribution methods within citation practices, acknowledging the legitimacy of non-textual and non-Western modes of knowledge transmission. In doing so, AI should be conceptualized not as a "cheating" mechanism but as a co-creative partner—a Kruu Chumnouy, or assistant teacher—supporting the collective and recursive learning central to Khmer epistemologies. This repositioning challenges prevailing neoliberal academic imperialism by foregrounding Cambodian ways of knowing and thus fostering a globally inclusive academic integrity framework that respects local knowledge sovereignty.

The dichotomy between colonial tropes and local adaptations is starkly evident across Cambodian universities. The Cambodian Higher Education Institutions (HEIs) largely perpetuate Eurocentric binaries: honest versus dishonest, original versus plagiarized. One of the HEIs' 2020 policy, for instance, labels uncited borrowing as "academic theft," echoing Victorian-era property assumptions that criminalize practices normative within Khmer monastic education and oral traditions. Such moralizing discourses amount to epistemic violence, further marginalizing indigenous knowledge systems and obstructing culturally congruent approaches to academic integrity.

Conversely, nuanced policy evolution is perceptible. The NIE's 2022 guidelines, by explicitly allowing AI for scaffolding when transparently indicated, embody a culturally hybrid stance reflective of samaki—collective solidarity—and other Khmer pedagogical values. Similarly, one of the HEIs' 2023 acceptance of oral examinations for thesis defenses tacitly legitimizes non-textual knowledge transmission, disrupting the dominance of Turnitin-centered plagiarism detection and expanding the parameters of academic assessment to accommodate local epistemic realities.

These tensions collectively suggest the emergence of a "third space," as theorized by Bhabha, wherein the symbiosis of Khmer epistemologies and AI transcends colonial binaries to redefine academic integrity beyond Western individualism. This third space embraces multiplicity, enabling AI-assisted drafting and collaborative authorship while mandating disclosure

and ethical use, thereby preserving transparency and accountability within a culturally adaptive integrity model.

The author's own extensive practitioner experience, spanning over nine years of teaching and curriculum development in Cambodian higher education, illuminates the evolving institutional dynamics between local realities and imported standards. Engagement with students across academic levels reveals a generational and intercultural divide: whereas many students embrace AI as a legitimate cognitive tool for ideation and structuring, faculty members frequently express concern over its implications for independent critical thinking and academic honesty. These observations underscore the necessity for ongoing dialogue and policy refinement that empowers student agency without compromising pedagogical integrity.

The author's dual role as educator and policy consultant has offered critical insights into how integrity frameworks might evolve to accommodate both the challenges and potentials of AI in Cambodian academia. Particularly salient is the growing student reliance on AI in writing processes and the concomitant imperative to guide ethical use through transparent disclosure, contextually sensitive evaluation rubrics, and recognition of collective intellectual contributions. Such an approach not only aligns with Khmer epistemological traditions but also addresses the institutional challenges posed by globalized academic standards.

In sum, the Cambodian academic integrity framework stands at a crossroads, balancing colonial legacies against indigenous cultural resilience. By synthesizing traditional epistemic values with the pragmatic possibilities of AI, Cambodia can chart an inclusive, innovative, and ethically grounded path forward. This vision demands that integrity policies transcend punitive Western models to embrace a pluralistic, hybridized ethos—one that honors the rich intellectual heritage of Khmer pedagogy while harnessing the transformative power of emerging technologies.

7. Contributions

This study makes significant contributions to the evolving discourse on academic integrity and AI ethics by prioritizing non-Western epistemologies that have been historically marginalized in global educational debates. By centering Khmer ways of knowing, particularly collective learning practices and oral traditions, it challenges the dominant Western paradigms that emphasize rigid individual authorship and fixed notions of originality. The application of Mignolo's concept of epistemic disobedience and Bhabha's

theory of hybridity provides a critical lens for reconceptualizing academic integrity as a fluid, culturally embedded phenomenon rather than a universal ideal. This reframing offers a path towards integrating artificial intelligence not as a threat, but as a cooperative assistant—termed Kruu Chumnouy or Assistant Teacher—that aligns with Cambodian pedagogical values and Buddhist ethical principles such as the Middle Path. Such a theoretical reorientation enriches the global AI ethics conversation by introducing contextually grounded perspectives that recognize the importance of epistemic diversity and cultural specificity.

Beyond theory, the research offers practical and actionable strategies for Cambodian higher education institutions to reform academic integrity policies in ways that resonate with local educational traditions while meeting international standards. The proposed framework advocates for a shift away from punitive and absolutist plagiarism models imported from the West toward ‘transparent augmentation,’ a policy that endorses the responsible use of AI tools when their application is declared and critically engaged with by students. Furthermore, it calls for the abandonment of narrow originality criteria in favor of collaborative evaluation rubrics that acknowledge the validity of Khmer oral and rote learning methods. This balanced approach is complemented by recommendations for policy language reform, educator training on AI ethics, and the development of inclusive, culturally-sensitive guidelines. These measures empower universities to navigate the ethical complexities posed by AI technologies without diminishing the cultural integrity of indigenous learning values.

Importantly, while grounded in Cambodia’s unique postcolonial educational landscape, the insights and policy models developed here have broader relevance for many postcolonial societies across Asia, Africa, and Latin America. Common tensions exist between Western academic norms and local knowledge systems that prioritize community, oral transmission, and collective authorship. By incorporating comparative perspectives from India and South Africa and situating the analysis within decolonial theory, this work proposes a scalable and transferable integrity framework. This framework embraces hybridity and epistemic sovereignty, offering a pragmatic yet principled way for Global South institutions to reconcile inherited colonial legacies with contemporary technological challenges. Consequently, this study stands as a pioneering contribution to international education discourse, addressing urgent ethical dilemmas while fostering epistemic justice and cultural inclusion in the era of generative AI.

8. Conclusion

Generative AI is catalyzing a profound transformation in how academic integrity is understood and practiced in Cambodia. The conventional Eurocentric emphasis on originality and individual authorship is being critically reexamined as Cambodian educators and policymakers contend with the realities of global digital scholarship. My own perspective, shaped by extensive experience across Asian contexts, is that Cambodia's future lies not in uncritically importing Western paradigms, but rather in boldly foregrounding indigenous Khmer epistemologies.

Practices such as *Rien Tontenh Cham* (learning by repetition), the moral force of *tveu bon* (doing good), and reverence for teacher-led learning must anchor any integrity framework that aspires to genuine relevance and sustainability. AI, when conceptualized as *Kruu Chumnouy* (Assistant Teacher), can be harnessed not as a threat to honesty but as a scaffolding tool—one that supports reflective and community-rooted learning while honoring traditional avenues of knowledge transmission. In this model, academic integrity ceases to be a binary of “cheating versus honesty,” and instead becomes a transparent, ethical process of co-creation and epistemic hybridity, adapting global standards to local realities.

Buddhist Middle Path principles offer a unique compass for balancing international academic norms with Cambodian pedagogical sovereignty. Rather than abandoning global academic norms or Cambodian traditions, an innovative middle way can leverage both: ensuring ethical transparency and proper attribution while safeguarding communal approaches to learning and group intellectual stewardship.

By recentring Cambodian voices and values within educational policy, this approach doesn't just pluralize knowledge ethics—it actively advances local innovation in integrity policy and contributes to international decolonial scholarship. The evidence emerging from contemporary Cambodian universities—in their pragmatic adaptation of AI disclosure policies and oral knowledge assessment—demonstrates that a culturally adaptive integrity framework, rooted in transparency, hybridity, and *tveu bon*, can successfully reconcile AI use with Cambodian academic values. Such a vision provides a blueprint for other postcolonial societies facing similar dilemmas and marks Cambodia as a leader in reimagining academic integrity for the age of artificial intelligence.

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Self-motivation of Developing the Students' Learning Performance

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Abstract

Learning was a kind of activity focused on educational behavior and motivation. Educational activity was the main term of students' learning performance. Learning performance preferred to the ways of performing on how to learn actively. This study examined self-motivation in the development of students' learning. For the learning theory, the study showed that self-motivation was a challenge for learners to improve their learning performance. The study identified that the learners needed to have self-motivation during learning. These were the key terms to develop and build good behavior in learning with challenges. As a result, the study identified how the learners can improve their behaviors and enhance their self-motivation.

Keywords: *motivation; self-motivation; performance; learning; educational-activity behavior*

1. Introduction

The study aims to investigate the effects of self-motivation on students' learning development. This study identifies how the students improve their learning performance by self-motivating, deal with learning challenges, and better their learning self-motivation. The study argues the viewpoints and previous empirical studies to review and explain for evidences and support to study objectives. Accordingly, the self-motivation is the challenge for the students to improve their learning performance. This is the developmental perceptions to motivate learners develop learning behaviors and outcomes. The students commonly meet the challenges of learning self-motivation in the higher education studies. Learning is the matter for learners to have the well-enhanced enough for learning.

According to the studies by Hamakali (2017), learning refers to a complicated system of education. Learning performance can be adapted with differential conditions that are presented by both internal and external learning system. The variety of learning performance is developed and adapted to express the different learning systems and tools designed. According to the content areas, two methods including test-taking forms and focus-group discussion

were assigned to receive information from the students and lecturers in the higher education institutions. Students are the main sources of stakeholders for data collection and analysis. In this case, the study designed to answer the questions that raise in the research questions.

2. Literature Review

Learning Self-motivation

Roquet & Perez-Vidal (2017) stated that learning self-motivation is essential for the students. The objective of intensive research from the self-motivation is the factors that affect and shape the learners' performance development. This research figures out better to engage and encourage the students to develop their learning behaviors and self-motivation. The study of this factor comprises crucial implication for self-motivation to improve the students' learning (Singh, 2015). Besides, the learners are motivated and prompted to perform learning freely and independently; they are always allowed to have self-motivation.

Most of students concerned with the mistakes, so they are encouraged to improve their learning competence. Accordingly, teachers are encouraged to assign the appropriate lectures related to learning strategies and techniques in order to motivate the learners to develop their learning through using differential learning activities (Dewi et al., 2017). Gary (2010) suggested that there are cultural differences of learning; the students have behaved with differential cultures of learning activities. To encourage them to develop their learning is required to assign the appropriate conditions and place to shape learning activity. Being concerned with the learning mistakes makes students faced the learning problems, and self-motivation is also important for teachers assigning to motivate their learners in the reality of learning classes.

As a field of learning urged to research the effective self-motivation, learners should be enabled to succeed in various contexts that will require them to be able to learn, to collaborate, and solve problems of learning. Mei and Nathalang (2010) stated that most of the students need to carry out the learning strategies and techniques to facilitate their learning performance. Learning performance made the students being shock. The learners may face differential matters in learning when their knowledge and competence are set in a limitation, and they also require more motivation to pursue their learning effectively and professionally.

Overall, this study aimed to examine the effects on the motivated students to develop their learning performance with self-motivation. Learning is very

challenged. The learners are self-motivated to be challenged in improving learning. For this context, Darwish (2016) argued that the learners are encouraged to develop and adapt their learning behaviors and outcomes. Dumitriu et al. (2014) stated that the learning skills and competence also are the key factors that make the educational process efficient, and provide the learners two models such as central dimension the interaction attitude-aptitude and optional model to develop their learning competences.

Learning Competency with Integrated Skills

To integrate the learning skills, the researcher would like to take time to review the viewpoints relevant to the uses of receptive skills in integrating learning skills. Based on a brief background of the teaching, Krashen (2014) suggested that the receptive skills such as listening and reading skills were applied in the learning skills as well as its practice in teaching and learning contexts. In the views of teaching and learning, Mallik (2017) argued that to produce ideas for learning, the learners need to have enough information. Reading skills provides learners with advanced information to conduct the conceptions for their learning improvement, and listening skills are also the main skills that help learners practice their learning performance (Chenjun & Li; 2017).

Darwish (2016) asserted that learning competency is a key factor for process of teaching and learning to improve the learners' abilities to learn and interact, with receptive skills. The integrated learning skill is characterized as (1) interaction-based, (2) unpredictability in learning, (3) variety of learning context, (4) carrying out under performance, (5) establishing social relationships, (6) involving in authentic, and (7) judging to be successful or unsuccessful on the basis of actual learning outcomes. Hao and Yongbing (2012) identified that understanding is the factors to conceptualize learning development with the receptive skills in the integrated learning skills as a learner's changing participation in order to improve their learning behaviors and outcomes.

Mei & Nathalang ((2010) argued that the learners are encouraged to use strategies to develop their learning. The strategies and motivations are used to deal with the difficulties of learning preferred to the learning strategic competencies. Pingping (2012) stated that listening skill is a kind of receptive skills applied in learning, and it can be a requirement of conceptual learning skill in the classroom practice. Lucas (2013) argued that learning is popular in the current contexts and social conditions. Thus, learning-competency help learners develop their learning problems.

Students' Learning Perspectives

Performance was a key for learners to improve their learning. With learning performance, motivation was useful for learners to take their opportunities to identify on learning self-motivation. Saito et al. (2017) stated that learners were encouraged to denote on learning variables. They also identified comprehensibility and competence. Comprehensibility is understanding of and associate with the numerous variables. Accordingly, Roquet and Perez-Vidal (2017) suggested that the learners were encouraged to learn with differential and social contexts. Learning contexts were defined in term as the opportunities to practice the target learning performance. The target learning performance was referred to the learning activity of learning quality and method improvement. For this viewpoint, the learners were motivated to enhance self-motivation on learning activities and attitudes. Schroeder et la. (2017) argued that by being successful in learning, the learners must recognize the cultural identification. Therefore, the learners were provided opportunities and motivated to have a self-reflection on their learning.

3. Methodology

This study employed a mixed methods-research (Chhorn, 2021), combining quantitative (Collins, 2018; Collins & Stockton, 2018) and qualitative (Guo, 2015; Plonsky & Gass, 2011) research methods. Survey questionnaires and semi-structured interviews were assigned to observe and gather data for the quantitative and qualitative research. Three classes of second-year students with 45 students, learning at AGA institute, were taken part in collecting quantitative data. 15 lecturers were used to gather qualitative data, with semi-structured interviews. These participants were involved in the study of self-motivated students to develop learning performance. Data collected were analyzed by using descriptive statistics analysis-method and content analysis-method. For quantitative data were analyzed with SPSS. With the research ethics, this study handled safe of privacy and identities for stakeholders.

4. Findings

Effects of self-motivation of Students' Learning Performance

Table4.1 indicated the effects of self-motivation on students' learning process. The result showed that self-motivation highly influenced students' learning with introduction ($M=4.27$, $SD=0.45$). Self-motivation further significantly impacted students' learning with experience and acquisition ($M=4.58$, $SD=0.50$).

Table4.1 Self-motivation on Students' Learning Process

N ^o	Items	N	M	SD
1	Learning with introduction	45	4.27	0.45
2	Learning with experience and acquisition	45	4.58	0.50
3	Learning with engagement	45	4.53	0.50
4	Learning with practice and repetition	45	4.49	0.51
5	Learning with feedback	45	4.56	0.50
6	Learning with reflection	45	4.53	0.50
7	Learning with consolidation	45	4.49	0.51

M=0.80 -1.60 (very poor); M=1.61-2.40 (poor); M=2.41-3.20 (fair); M=3.21-4.00 (good); M=4.01-4.80 (Excellent)

Besides, self-motivation increasingly influenced the students' learning with engagement ($M=4.53$, $SD=0.50$). As shown in Table4.1, self-motivation greatly influenced the students' learning with practice and repetition ($M=4.49$, $SD=0.51$). However, self-motivation significantly impacted the students' learning with feedback ($M=4.56$, $SD=0.50$). The results further indicated that the students increasingly developed their learning reflection, by using self-motivation ($M=4.53$, $SD=0.50$). Lastly, self-motivation highly influenced students' learning consolidation ($M=4.49$, $SD=0.51$).

Table4.2 Self-motivation on Students' Learning Results

N ^o	Items	N	M	SD
8	Dynamic and continuous learning	45	4.42	0.50
9	Behavioural learning	45	4.49	0.55
10	Cognitive learning	45	4.58	0.58
11	Experienced learning	45	4.53	0.55
12	Internet platform learning	45	4.56	0.59
13	Effective learning	45	4.53	0.59
14	Practical learning	45	4.56	0.55

M=0.80 -1.60 (very poor); M=1.61-2.40 (poor); M=2.41-3.20 (fair); M=3.21-4.00 (good); M=4.01-4.80 (Excellent)

Table4.2 showed self-motivation impact on students' learning results. Self-motivation highly impacted students' learning results, focused on dynamic and continuous learning ($M=4.42$, $SD=0.50$). As shown in Table4.2, self-motivation significantly influenced students' behavioral learning ($M=4.49$, $SD=0.55$). Self-motivation further impacted the students' cognitive learning ($M=4.58$, $SD=0.58$). Besides, self-motivation greatly influenced students' experienced learning ($M=4.53$, $SD=0.55$). Self-motivation rapidly influenced students' internet platform learning ($M=4.56$, $SD=0.59$). Table4.2 showed that the students increasingly developed their effective learning, by self-motivation ($M=4.53$, $SD=0.59$). Lastly, self-motivation significantly impacted students' practical learning ($M=4.56$, $SD=0.55$).

Factors Impact on Students' Learning Self-motivation

Table4.3 indicated factors impacted on students' learning self-motivation. The result indicated that cognitive factor highly influenced students' learning self-motivation ($M=4.40$, $SD=0.54$). Motivation significantly impacted students' learning Self-motivation ($M=4.64$, $SD=0.53$). Besides, Prior experience increasingly influenced students' learning self-motivation ($M=4.67$, $SD=0.56$). Table4.3 indicated that learning methods significantly influenced the students' learning self-motivation ($M=4.51$, $SD=0.59$). Environment greatly impacted students' learning self-motivation ($M=4.56$, $SD=0.55$). The results further indicated that metacognition increasingly affected students' learning self-motivation ($M=4.42$, $SD=0.54$). Lastly, the cultural factor highly influenced students' learning self-motivation ($M=4.40$, $SD=0.58$).

Table4.3 Factors Impact on Learning Self-motivation

N ^o	Items	N	M	SD
15	Cognitive factor	45	4.40	0.54
16	Motivation	45	4.64	0.53
17	Prior experience	45	4.67	0.56
18	Learning methods	45	4.51	0.59
19	Environment	45	4.56	0.55
20	Metacognition	45	4.42	0.54
21	Cultural factor	45	4.40	0.58

M=0.80 -1.60 (very poor); M=1.61-2.40 (poor); M=2.41-3.20 (fair); M=3.21-4.00 (good); M=4.01-4.80 (Excellent)

Table4.4 indicated self-motivation on students' learning competence and skills. The result showed that self-motivation highly influenced students' analytical skills ($M=4.33$, $SD=0.52$). Further, self-motivation significantly impacted students' critical thinking and decision making ($M=4.38$, $SD=0.61$).

Table4.4 Self-motivation on Students' Learning Competence and Skills

N ^o	Items	N	M	SD
22	Analytical skills	45	4.33	0.52
23	Critical thinking and decision making	45	4.38	0.61
24	Emotional control	45	4.53	0.55
25	Flexibility and leadership skills	45	4.49	0.55
26	Negotiation and organizational skills	45	4.60	0.54
27	Self-confidence and Problem solving	45	4.38	0.58
28	Teamwork and time management	45	4.51	0.59

M=0.80 -1.60 (very poor); M=1.61-2.40 (poor); M=2.41-3.20 (fair); M=3.21-4.00 (good); M=4.01-4.80 (Excellent)

Besides, self-motivation increasingly influenced students' emotional control in learning ($M=4.53$, $SD=0.55$). As shown in Table4.4, self-motivation greatly

influenced the students’ learning flexibility and leadership skills (M=4.49, SD=0.55). However, self-motivation significantly impacted the students’ learning negotiation and organizational skills (M=4.60, SD=0.54). The results further indicated that self-motivation increasingly developed the students’ self-confidence and problem solving (M=4.38, SD=0.58). Expressly, self-motivation highly influenced students’ Teamwork and time management in learning (M=4.51, SD=0.59).

Students’ Attitudes towards Learning Self-motivation

Table4.5 indicated students’ attitudes towards self-motivation. The result showed that students really focused on the intrinsic motivation (M=4.53, SD=0.55). Students mostly preferred the extrinsic motivation in learning (M=4.56, SD=0.55). Besides, the students commonly needed to develop their self-efficacy in learning (M=4.42, SD=0.58). As shown in Table4.5, the students increasingly improved learning self-esteem (M=4.47, SD=0.59). However, students significantly met the learning goal achievement (M=4.53, SD=0.59). The results further indicated that students increasingly developed cognitive motivation in learning (M=4.60, SD=0.54). Ultimately, the students highly adopted their learning social motivation (M=4.53, SD=0.59).

Table4.5 Students’ Attitudes towards Self-motivation

N ^o	Items	N	M	SD
29	Intrinsic motivation	45	4.53	0.55
30	Extrinsic motivation	45	4.56	0.55
31	Self-efficacy	45	4.42	0.58
32	Self-esteem	45	4.47	0.59
33	Goal achievement	45	4.53	0.59
34	Cognitive motivation	45	4.60	0.54
35	Social motivation	45	4.53	0.59

M=0.80 -1.60 (very poor); M=1.61-2.40 (poor); M=2.41-3.20 (fair); M=3.21-4.00 (good); M=4.01-4.80 (Excellent)

Table4.6 indicated the strategies to improve students’ self-motivation. The result showed that students set SMART goal for learning self-motivation (M=4.36, SD=0.48). Students further significantly visualized success for their learning self-motivation (M=4.36, SD=0.57). Besides, students increasingly broke down task for learning self-motivation (M=4.33 SD=0.60). As shown in Table4.1, the students greatly practice resilience in learning self-motivation (M=4.33, SD=0.56). Students significantly developed positive mindset for their learning self-motivation (M=4.40, SD=0.58). The results indicated that the students increasingly improved time management in their learning self-motivation (M=4.42, SD=0.54). Lastly, students greatly created supportive environment in their learning self-motivation (M=4.38, SD=0.61).

Table4.6 Strategies to Improve Students’ Self-motivation

N ^o	Items	N	M	SD
36	Set SMART goals	45	4.36	0.48
37	Visualize success	45	4.36	0.57
38	Break down tasks	45	4.33	0.60
39	Practice resilience	45	4.33	0.56
40	Develop positive mindset	45	4.40	0.58
41	Improve time management	45	4.42	0.54
42	Create supportive environment	45	4.38	0.61

M=0.80 -1.60 (very poor); M=1.61-2.40 (poor); M=2.41-3.20 (fair); M=3.21-4.00 (good); M=4.01-4.80 (Excellent)

Perspectives of Learning Self-motivation

Based on the semi-structured interview questionnaires with 15 lecturers, table4.7 summarized the key perspectives on students’ self-motivation.

Table4.7 Key Perspectives on Students’ Self-motivation

N ^o	Items	Responses
43	Self-determination theory (SDT)	Autonomy, competence, relatedness, connection to learning
44	Goal setting theory	Setting goal by taking the initiative and persevere through challenges and with confidence
45	Cognitive perspectives	Self-efficacy, attribution, self-talk
46	Reinforcement and expectancy theory	Reinforcement, expectancy
47	Environmental and contextual factors	Learning environment, social support, task relevance
48	Self-regulation learning	Self-reflecting and Self-monitoring in sustaining motivation
49	Revealing cultural factor	Understanding of cultural influences

The lecturers argued the self-determination theory (SDT), emphasized the autonomy, competence, relatedness, connection to learning. Most of the lecturers stated that students were required to take high consideration on goal setting theory, which were about the setting goal by taking the initiative

and persevere through challenges and with confidence. As the results shown in Table4.7, lecturers commonly pointed out the cognitive perspective that focused on the self-efficacy, attribution, and self-talk. With this case, the lecturers revealed the reinforcement and expectancy theory. The lecturers further argued the environmental and contextual factors, which emphasized Learning environment, social support, and task relevance. Table4.7 showed that the lecturers carried out the self-regulation learning that was about the self-monitoring and reflection in sustaining motivation. Ultimately, lecturers viewed with revealing cultural factor, which were about understanding of cultural influences.

5. Discussion

Self-motivation Influence on Learning Performance

Self-motivation is very important for the students to improve their learning performance, focusing on the learning process and result/outcome. With self-motivation, the students can develop their learning with introduction, experience and acquisition, engagement, practice and repetition, feedback, reflection, and consolidation. In this case, self-motivation helps the students develop their learning introduction with the exposure to new information through overviews, reading, or presentations (Desai, 2015; Mei & Nathalang, 2010). Self-motivation also helps the students advance learning acquisition, such as deepening knowledge through lectures, discussions, and research (Roquet & Perez-Vidal, 2017). With adaptation of self-motivation, students significantly upgrade their learning engagement, in which they handle the practical projects, writing, and problem-solving to create new knowledge. However, self-motivation builds students' learning practice and repetition, with consistent effort to solidify new information and skills. Based upon the results of this study, self-motivation significantly develops learning through feedback, receiving constructive criticism from oneself, peers, or instructors to identify areas for improvement. Self-motivation is essential for students to construct their learning reflection, adjusting the approaches and deepen understanding by contemplating experiences. With learning consolidation, students use self-motivation with review and change in learning behavior or skill to retain new knowledge (Saito et al., 2017).

Perceived Factors on Students' Learning Self-motivation

With learning self-motivation, the perceived factors, such as cognitive factor, motivation, prior experience, study methods, environment, and metacognition are crucial for students to develop learning. Cognitive factors help students improve learning, by using attention, memory, language, organization, and

critical thinking (Gary, 2010). Besides, motivation (intrinsic and extrinsic motivation) plays a role in developing students' learning. Prior experience, such as existing knowledge and background are foundational to building students' new understanding. Based on self-motivation, study methods are needed for students improve learning – developing learning with the active learning strategies, such as writing or speaking. A quiet study environment can improve students' learning. Ultimately, metacognition helps students identify confusion and overcome challenges (Unal & İlhan, 2017).

Self-motivation on Students' Attitude Development

By building learning self-motivation, students are to have developmental attitudes (Muir & Dörnyei, 2013). Intrinsic motivation helps the students intrinsically enjoy learning for its own sake and engagement, finding satisfaction with the material understanding, problems-solving, and goals achieving. However, extrinsic motivation is defined as external factors, such as grades, praise, or avoiding punishment that help advance the students' learning. Most of students establish self-efficacy to improve their learning through strong belief and own ability to succeed in adopting self-motivation. Goal achievement plays a role in developing the students' positive attitudes with the tend to set clear goals while achieving outcomes with motivation. (Ushioda & Dörnyei; 2017).

Implied Perspectives on Students' Learning Self-motivation

Setting the key strategies to improve self-motivation is very important for the students. These strategies include setting SMART goals, visualizing success, breaking down tasks, practicing resilience, developing positive mindset, improving time management, finding the reasons, and creating support environment (Ushioda & Dörnyei, 2017). Setting SMART goals is defined as goal stablishing with specific, measurable, achievable, relevant, and time-bound. With self-motivation improving, visualizing success helps students imagine achieving goals in creating a sense of accomplishment. Students can improve self-motivation by breaking down tasks – breaking large projects into smaller, with the manageable steps. By developing self-motivation, it requires students to practice resilience, which means learning to persevere through challenges and setbacks. Students further develop a positive mindset – focusing on strengths and positivity. Importantly, the students may adopt their self-motivation by improving time management – creating a schedule and ensuring important tasks completed (Unhan & İlhan, 2017). Finding reasons help students understand the personal significance behind the goals to build a strong internal drive. Students can improve

learning self-motivation by creating a supportive environment, targeting the positive influences and ensuring physical study space that is organized and free of distractions.

6. Conclusion

This study examined the effects of self-motivation that helped the students learning performance. learning performance was defined as the students' learning process and results. With learning self-motivation, the learners may improve their learning competence and skills through different activities. Self-motivation influenced the learners' learning attitudes. Self-motivation further helped students developed behavioral learning. As a result, learners can improve their learning behaviors and self-motivation, with introduction, experience and acquisition, engagement, practice and repetition, feedback, reflection, and consolidation. This study also indicated that there were key factors, such as cognition, motivation, prior experience, study methods, environment, metacognition, and culture that influenced students' learning self-motivation. Besides, many students adopted attitudes towards their learning self-motivation. In brief, this study contributed to the students' development of learning performance through self-motivation, such as self-efficacy, self-esteem, and self-regulation learning.

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Transformation of Digital Teaching: A Case Study of Digital Teaching in Cambodian HEIs

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Abstract

Digital teaching transformation is a process of digitalizing teaching process to boost the quality of teaching and learning. This recent study tended to examine the effects of transforming digital teaching in HEIs. Also, this research determined the effectiveness of transforming digital into teaching changes in Cambodia. By addressing the in-depth results, it employed a quantitative research-method for data collection and analysis. Survey questionnaires were used to collect data. The descriptive statistics analysis-method was employed to analyze the gathered data. This study elaborated on the digital teaching transformation, which helped improve teachers' teaching and learning methods. Transforming digital teaching helped develop teachers' digital capacity and literacy. Thus, this study benefited teachers to digitalize teaching process, improve the teaching quality, build digital skills, and integrate the digital teaching literacy and capacity.

Keywords: *teaching transformation, digitalization, teaching quality, digital literacy, digital skills*

1. Introduction

Teaching digitalization is a process of transforming the digital technology into the teaching and learning process. Developing the quality of teaching and learning is the need to transform teaching and learning with digital and internet platform. The policy of digital education transformation is the key to digitalize the human recourses in Cambodia (Supreme National Council [SNC], 2021). Digital teaching is a response to the reform of teacher training, in term of developing the education quality and digitalizing teaching capacity, and literacy (Hangchuon, 2021). Transformation of digital education system aims at reforming the teaching and learning methods, popularizing the digital human resources, digitalizing technological skills, and streamlining the teaching and learning quality. Transformation of Digital teaching is a key mission for higher educational institutions to advance digital communication and digital literacy (SNC, 2021).

Integration of digital teaching is about the supportive teaching and learning in proffering the insight into how teaching changes (Dirk et al., 2021).

Digitalization of teaching significantly benefits the development of teaching and learning quality, e-teaching systems, and digital teaching platforms to support the teaching and learning process. The digital devices are important for transformation of digital teaching (Parlak, 2017). Transforming the digital into teaching is the process of transferring digital technology into teaching platform (Taşkıran, 2017). Digital competence, however, is a crucial ability for teachers to adopt teaching methods in line with the current conditions (Parlak, 2017). Digital transformation profoundly influences the teaching framework in reforming the teacher training and qualifying digital teaching (Balyer & Öz, 2018).

Digital literacy, handling with the internet platforms and electronic devices, is a competency for the 21st century education. The digital teachers should process their teaching with the use of digital technology, such as internet digital platform. This study aims at examining the transformation of digital teaching in the context of Cambodian education. Digitalization of teaching is a current issue, arousing the researcher's interest in developing the quality and methods of teaching and learning. Therefore, this research examines the digital teaching transformation in Cambodian education context.

2. Conceptual Frameworks in Literature Review

Digital Teaching in the 21st Century Education

Digital teaching influenced the changes of the digital teaching and learning quality (Bates, 2015). With the studies confirmed by Sisman (2016), digital teaching contributed to lifelong learning. Transformation of digital involved individual needs for developing the teaching methods (Balyer & Öz, 2018). With transformation of digital education, digital knowledge and skills were the requirements for teachers to digitalize capability and quality of teaching. Paulo (2020) argued that digital competence was the process of teaching, managing, reforming, digitalizing, and using ICT to process teaching and learning, with teaching setting goal. Educational technology was the need to identify and individualize the factors supported transformation of digital education (Dirk et al., 2021). Paunescu, Lepik, and Spencer (2022) argued that technology connected people to the internet platforms.

Digital transforming was about the use of technology in regenerating and processing the digital creation and re-enactment (Forrester, 2016; IDC, 2015; OECD, 2017; Raab & Griffin-Cryan, 2011). HEIs' digital transformation was a part of transforming digital education – involving structure and environment of teaching and learning (NV, 2017). Teaching digitalization was a framework for reforming the education system and teaching quality (Balyer & Öz, 2018).

Digital teaching contributed to developing the education quality through internet and technological platforms, serving the distance and collaborative learning (Paulo, 2020). Integrating the digital teaching shed a light with the support for teaching and learning process, and provided insights into how education system changed (Dirk et al., 2021). HEIs can be driven with the existing ICT to creating and sharing knowledge, which helped improved education quality and digital teaching (Paunescu et al., 2022).

Digital Teaching on Education System

Digital transforming helped develop education system with digital strategy. For this reason, teaching transformation was as a change to implement the digital framework to manage digital initiatives and approaches (Silva, 2017). Digital transforming was important for the adaptation of teaching strategies in reforming education system and policy – facilitating the teaching process by digital educational infrastructure, such as internet access, digital tools, and digital teaching and learning environments (Paulo, 2020). Yureva et al. (2020) argued that the education vision was directly linked to digitalization in line with global trends of digital society and economy. With the increase of digital teaching, educational institutions changed teaching practices and process. In the education system and policy, digitalization of teaching was a testament to advancing the method and practice of teaching and learning in enhancing the education missions and the teaching quality (Alenezi, 2021).

Teaching Change with Internet Digital-Platform

The change of teaching was the digital strategy that helped the educational institutions achieved intended goals. Today, the educational institutions had opportunities to handle innovative digital-experiences for stakeholders. For this case, education institutions should digitalize teaching with a whole and change of digital thinking frameworks to manage the digital initiatives and approaches in the teaching insights (Silva, 2017). Digital teaching provided the importance of transforming the teaching strategies and quality (Paulo, 2020). Transformation of technology supported teachers process teaching with the rich teaching materials and the digital classroom practice. Digital teaching embraced new technologies and changed the teaching practice with digital platforms (Yureva et al., 2020). Alenezi (2021) pointed out that transformation of digital teaching gave many benefits to developing the teaching and learning conditions – advancing the teachers’ digital skills, such as ICT soft-skills and digital literacy.

3. Methodology

This study used the quantitative research method for data collection and analysis (Denzin & Lincoln, 1994; Hsieh & Shannon, 2005; Ivankova & Crewell, 2009). This paper used the questionnaires that defined as research tool for gathering data (Graesser & McMahan, 1993). Descriptive statistics analysis was used for analyzing quantitative data (Biecek & Burzykowski, 2021). This study selected 194 samples of the amount 375 stakeholders from 5 universities in Cambodia, with probability random sampling, followed $S(n) = \frac{PS}{1+(PS \times e^2)}$ (Chhorn, 2024), by focusing on the confident level 95% and errors of margin 5%. The questionnaires were analyzed for interpretation of the results. Questionnaire analysis was to examine the impact of transforming the digital teaching in Cambodian education. The quantitative data were analyzed by using SPSS to examine the mean of each hypothesis. The research ethics was demonstrated by keeping safety to the participants’ privacy and identities. In this sense, the research ethics must maintain the individual safe to the participants. Thus, a well-conducted study required the presentation of research methods, clear data collection tools, data collection methods and appropriate data analysis methods and research ethics.

4. Findings

Digital Transformation on Teaching Process

Table4.1 indicated the impact of digital transforming on teaching process in the education context, in Cambodia. The results showed that digital teaching significantly contributed to providing digital teaching and learning resources or materials (M = 4.64, SD = 0.49). Digitalization helped construct the digital teaching and learning platforms (M = 4.80, SD = 0.41). As shown in Table 4.1, digital transformation helped teachers develop their teaching and learning methods and techniques (M = 4.76, SD = 0.44).

Table 4.1 Transformation of Digital Teaching Process

	Items	N	M	SD
1	Provide digital teaching and learning resources/materials	194	4.64	0.49
2	Construct the digital teaching and learning platforms	194	4.80	0.41
3	Develop the teaching and learning methods and techniques	194	4.76	0.44
4	Adopt the digital teaching and learning approaches	194	4.40	0.58
5	Build the digital teaching and learning competency and skills	194	4.48	0.51
6	Enhance the digital teaching and learning literacy	194	4.32	0.63
7	Develop digital research competence and skills	194	4.20	0.71
8	Serve the distance or hybrid teaching and learning	194	4.68	0.48
9	Reform the system of digital teaching and learning	194	4.48	0.71
10	Develop the digital teaching and learning lectures	194	3.72	0.93

M = 0.80-1.60 (very poor); M = 1.61-2.40 (poor); M = 2.41-3.20 (Fair); M = 3.21-4.00 (Good), M = 4.01-4.80 (Excellent)

As shown in Table 4.1, digital transforming helped adopt the digital teaching and learning approaches ($M = 4.40$, $SD = 0.58$). Digital teaching played a role to build the digital teaching and learning competency and skills ($M = 4.48$, $SD = 0.51$). The results showed that digital transforming helped teachers enhance the digital teaching and learning literacy ($M = 4.32$, $SD = 0.63$). Digital transformation significantly contributed to develop teachers' digital research competence and skills ($M = 4.20$, $SD = 0.71$). The results showed that digital technology transformation served the distance/hybrid teaching and learning ($M = 4.68$, $SD = 0.48$). As highlighted Table 4.1, transforming the digital highly contributed to reforming the system of digital teaching and learning ($M = 4.48$, $SD = 0.71$). Ultimately, digital teaching benefited teachers to develop the digital teaching and learning lectures ($M = 3.72$, $SD = 0.93$).

Digitalization on the Development of Teaching Competency

Table 4.2 carried out the teaching digitalization on competency development of digital knowledge, abilities, and skills of high school teachers and students. Digitalization of teaching competence enabled the teachers to significantly increase and shed a light in digitalizing the teaching competency ($M = 4.64$, $SD = 0.57$). Developing the digital competency helped teachers build digital knowledge in the teaching and learning process ($M = 4.08$, $SD = 0.57$). Digitalization of teaching competence assisted teachers process the digital teaching and learning platform ($M = 4.00$, $SD = 0.41$). Digital capacity further helped teachers create the digital teaching and learning materials ($M = 4.28$, $SD = 0.54$). Digital teaching competence rapidly gave teachers and students opportunities to digitalize teaching and learning with the internet platform ($M = 4.44$, $SD = 0.51$).

Table 4.2 Teaching Digitalization on Competency Development

	Items	N	M	SD
1	Shed a light in digitalizing the teaching competency	194	4.64	0.57
2	Build digital knowledge in teaching and learning process	194	4.08	0.57
3	Process the digital teaching and learning platform	194	4.00	0.41
4	Create the digital teaching and learning materials	194	4.28	0.54
5	Digitalize teaching and learning with the internet platform	194	4.44	0.51
6	Understand to digitalize the teaching and learning process	194	4.80	0.41
7	Digitalize the literacy of teaching and learning	194	3.88	0.60
8	Enhance the teaching with distance/hybrid conditions	194	3.96	0.68
9	Digitalize the collaborative teaching and learning	194	4.76	0.44
10	Reform the teaching and learning with digital curriculum	194	3.68	1.07

$M = 0.80-1.60$ (very poor); $M = 1.61-2.40$ (poor); $M = 2.41-3.20$ (Fair); $M = 3.21-4.00$ (Good); $M = 4.01-4.80$ (Excellent)

In addition, developing the digital teaching capacity promoted teachers to understand of digitalizing the teaching and learning process ($M = 4.80$, $SD =$

0.41). Digital capacity development really enabled the teachers and students digitalize the literacy of teaching and learning ($M = 4.88$, $SD = 0.60$). Digital teaching competence significantly helped the teachers enhance the teaching with distance or hybrid conditions ($M=3.96$, $SD=0.68$). Besides, digitalization of teaching competence helped the teachers and students digitalize the collaborative teaching and learning ($M = 4.76$, $SD = 0.44$). As shown in Table 4.2, digitalizing the teaching capacity helped teachers and students reform the teaching and learning with digital curriculum ($M = 3.68$, $SD = 1.07$).

Effects of Digital Teaching on Education Reform

Table 4.3 addressed the digital platform of teaching on education reform. The results showed that digital teaching helped digitalize the teaching and learning quality ($M = 4.60$, $SD = 0.50$). Digital teaching also helped improve the digital competence and skills in teaching and learning ($M = 4.52$, $SD = 0.51$). It also improved the methods of teaching and learning ($M = 4.04$, $SD = 0.73$). As indicated in Table 4.3, digital teaching significantly contributed to digitalizing the teaching and learning approaches ($M = 4.52$, $SD = 0.59$).

Table 4.3 Digital Teaching Platform on Education Reform

	Items	N	M	SD
1	Digitalize the teaching and learning quality	194	4.60	0.50
2	Improve the digital competence and skills in teaching and learning	194	4.52	0.51
3	Develop the methods of teaching and learning	194	4.04	0.73
4	Digitalize the teaching and learning approaches	194	4.52	0.59
5	Digitalize the curriculum for teaching and learning	194	4.40	0.50
6	Digitalize the compulsory teaching and learning	194	4.20	0.71
7	Give the digital support for research and innovation	194	4.32	0.63
8	Digitalize the education system (teaching and learning contexts)	194	4.08	0.64
9	Create teaching and learning with internet digital platform	194	4.20	0.76
10	Develop and digitalize teaching and learning outcomes	194	4.44	0.58

M = 0.80-1.60 (very poor); M = 1.61-2.40 (poor); M = 2.41-3.20 (Fair); M = 3.21-4.00 (Good), M = 4.01-4.80 (Excellent)

Transformation of digital teaching was a factor to digitalize the curriculum for teaching and learning ($M = 4.40$, $SD = 0.50$). The results showed that digital teaching facilitated the digitalization of the compulsory teaching and learning ($M = 4.20$, $SD = 0.71$). It further gave the digital support for research and innovation ($M = 4.32$, $SD = 0.63$). In fact, digitalization of teaching helped digitalize the education system (teaching and learning contexts) ($M = 4.08$, $SD = 0.64$). Digital teaching really helped create teaching and learning with the internet digital platform ($M = 4.20$, $SD = 0.76$). Ultimately digital teaching really helped develop and digitalize the teaching and learning outcomes ($M = 4.44$, $SD = 0.58$).

5. Discussion

Perceived Factors on Teaching with Digital Platforms

Digital transformation is a process of developing teaching with the digital platform. Digital teaching plays a key role in applying the digital technology into the teaching process (MoEYS, 2021), which contributes to developing the teaching and learning practice and outcomes. Transforming of digital education (Hang-Chuon, 2021) serves the education with the digital internet platforms. Digital teaching further displays the key mission (Dirk et al., 2021) for educational institutions to improve the education quality. Technological system helps develop the teaching methods, strategies, and approaches. Digital teaching is a key factor in keeping the quality assurance of education, especially teaching and learning quality. Therefore, transforming of digital teaching is the implicational policy, increasing digital teaching knowledge, skills, and competence, creating the distance teaching and learning, and reforming the teaching and learning approaches.

Influences of Digital Transforming on Teaching Competency

Digital transforming is a constantly evolvement of contributing the digital human resources. Digitalization of human resource (Parlak, 2017) is a part of bettering digital-teaching competence. Digital transformation profoundly influences the teaching competence (Balyer & Öz, 2018) – facilitating the process of teaching and learning. Digital transformation plays an important role in building digital knowledge and skills, adopting the teaching methods, digitalizing the teaching quality, and bettering teaching strategies. Digital teaching transformation sheds a light with the insights to help teachers or educators deeply understand the digital technology and new approaches. Hence, digital transformation significantly contributes to the improvement of teaching competence, comprehension, skill, and literacy.

Digital Teaching Impact on of Education System Reform

Digitalization is the development of technology used in the different areas, including teacher trainings, leadership, and beyond. Digital teaching is very crucial for digitalization of education and training. Transformation of digital teaching helps develop education with the internet platform (Paulo, 2020) – facilitating to process and assess the practice of education reform. Digital technology plays a vital role in processing the digital education (NV, 2017) in order to digitalize the human resources. Further, digital teaching enhances the digital teaching quality through digital integration. Digital transformation provides the educational mechanisms and policies in leading to qualifying the educational practice and reform. Thus, digital teaching proffers several

benefits to the distance learning, e-teaching, digital competence and skills, and digital curriculum reform.

6. Conclusion

This study examined the transformation of digital teaching in developing the teaching methods, quality, and outcomes. By ensuring the effectiveness of digital teaching, digital transformation played a key role in contributing to the betterment of teaching and learning, advancement of teaching capability, literacy and skills, connecting to the digital teaching reform, reforming the digital curriculum, and improving the teaching quality. Greatly, this research benefited to teaching with the digital internet platform. Integration of digital teaching was a way of transforming digital to the development of education quality. Digital teaching was the process of transforming the technology into the teaching and learning process. Hence, the integration of digital teaching played a key role in contributing to the practices, reform, and linkage of the digital education transformation.

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Digitalization of Education Programs to Enhance Cambodian Students' Digital Performance

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Abstract

This study examined the effects of digitalizing the education programs to enhance the students' digital performance. It aimed to examining the influences of digitalizing the education programs on the development of interactive and personalized learning, skill development, improved access to resources, and blended and online learning. This study also determined the challenges of digitalizing the education changes – focusing on the infrastructure and access, digital literacy, teacher training, and financial and institutional support. By examining digitalization of the educational programs, this study used the analytical research design, with the secondary data analysis method for collecting and analyzing data. Secondary data was used for gathering information. The theoretical analysis method was employed to analyze the data gathered in determining the perspectives of digitalizing education programs to enhance the students' digital performance. The results of this study elaborated on the effects of digitalizing the education programs, which improve the interactive learning, digital skill, digital access resources, and distance or hybrid learning. Digitalizing the education program significantly contributed to the betterment of students' digital competence, skills, and literacy. Therefore, this study benefited the reform of education programs with the internet digital platforms in term to developing the teaching and learning methods, quality, outcomes, competence, and literacy.

Keywords: *digital program, digitalization, quality, digital performance, literacy, competence*

1. Introduction

Digital transformation is the optimal for contributing to quality education and accessing the students' digital performance (Giannoutsou et al., 2024; Timotheou et al., 2023). Besides, the digital technology shares the negative impacts of education, such as infrastructure and access, digital literacy, and teacher training (Cain, 2018; Gottschalk, 2019; Meates, 2020; Komar Rikreay Association, 2021; OECD, 2024b) and harmful learning behaviors (Copp et al., 2021; Dhamodharan & Sunaina, 2023; Slaughter & Newman, 2022). Several education institutions mastery students' digital technology, promoting their understanding of how it works (OECD, 2018, 2023). However, digital literacy

is the critical challenge for students face with limited access to resources and learning in schools (UNICEF, 2021). The global shift to digitalization in the education program left a gap in the access to technology and digital skills – meeting the challenges in shaping sustainable education through education transforming (James et al., 2021; OECD, 2018; UNESCO, 2019a).

Many education-institutions (EIs) commits to creating the enabling learning environments and transforming education system (UNESCO, 2022). With the increased reliance on digital technologies, digital education program (DEP) plays critical role in transforming education, encompassing the main aspects of utilizing the digital tools and platforms (UNESCO, 2023). By supporting policymakers, educators, and students with tools and resources to navigate digital landscape, it guided integration of digital technologies in education (UNESCO, 2019a). Digital Literacy articulates the competencies – cognitive, behavioral, and socio-emotional dimensions of the students’ development in the digital world. The digital framework emphasizes the need for students’ digital literacy, acknowledging technical skills, critical thinking, innovation, and competency for lifelong learning in the digital landscape.

Transformation of digital education plays a role in transforming the digital technology into the education programs – improving the education quality, education systems, learning frameworks, and learning outcomes to meet the policy of digital transformation in education (Hang-chuon, 2021; Supreme National Economic Council [SNEC], 2021). Digital technology streamlines the process of teaching and learning and is a critical mission for educational institutions to advancing the digital literacy in the education integration (Dirk et al., 2021). Transforming of digital education is a challenge for processing the e-teaching and remote learning through digital internet platforms (Parlak, 2017). The growth of transforming the digital education program is critical gap for digital teaching and learning process (Taşkıran, 2017). Further, digital competence is a crucial factor for teachers to handling the distance teaching (Balyer & Öz, 2018; Parlak, 2017). With the challenge of digitalizing education programs, digital literacy is crucial for educational institutions to boosting education quality and learning outcomes. Digital education should be in the process of transforming digital teaching and learning to enhance digital competence, literacy, and skills.

2. Conceptual Framework of Literature

Education Transformation on Students’ Digital Performance

Digital adoption and digital literacy, making digital education a priority, were essential to protect cyber risks and empower use of technology to promote

the societal development (MoEYS, 2019). In Cambodia, the pivotal demands of Internet-powered devices significantly increased in research, learning, and competency in the digital technology engagement (Ministry of Post and Telecommunications [MPT, 2023; UNICEF, 2022a). However, digital literacy for Cambodian students remains unclear. Accordingly, students in the urban areas were active Internet users (UNICEF, 2022b). The studies in Cambodia highlighted the cyber risks and online behaviors toward digital media literacy, defining as the prevalent concerns (Lim, 2023; MPT, 2023; UNICEF, 2022b). The index of school responsibility for carrying out curriculum readiness for digital learning were low in education programs. Student performance was unsatisfactory, while students spent hours on screen lesson time.

Technology use is increasingly affecting students' academic performance, (Fekih-Romdhane et al., 2023; Gottschalk, 2019; Komar Rikreay Association, 2021; Nizariah, 2021). This really reflects students' limited competence in harnessing digital technology. Further, institutional support is a critical gap in equipping with digital knowledge and skills to contribute to the digital era. Chea et al. (2022) highlighted unreadiness of Cambodian to integrate ICT in teaching and learning. Regarding the digital sensitivities, Cambodia was the partial freedom country in handling Internet access and affecting digital behavior (Funk et al., 2024). Typically, Cambodian students had mindset with less critical, curious, and flexible, hindering development of digital global education (CASADIO et al., 2021; Supreme National Economic Council [SNEC], 2021). Also, digital skills, supporting to market demand, remains an urgent focus in the process of developing the education quality and learning outcomes (DASH et al., 2021).

Digital curriculum formed the institution-planning strategies to enhancing students' learning competencies and outcomes. It was a complex concept, encompassing the content and structure of digitalizing education to facilitate learning. Consequently, digitalizing the education programs is essential to nurture the students' learning competencies for the education landscape by ensuring digital educational contents at all settings (OECD, 2024a; UNESCO, 2023). Deepening the students' understanding of implement a purposeful digital curriculum as an essential asset for digital skills. Digital education and technology influenced the changes of digital teaching and learning outcomes (Bates, 2015). Digital technology significantly contributed to the involving individual needs for developing digital competence and skills (Balyer & Öz, 2018; Sisman, 2016). With digital education transformation (DET), it helped develop students' digital competence (Paulo, 2020).

Integrating the digital technology in education was a process of transforming the digital education system with the internet platform (Dirk et al., 2021; Paunescu et al., 2022). Digital transformation was the regeneration of technology in digital education (Forrester, 2016; IDC, 2015) and the digital creation (OECD, 2017; Raab & Griffin-Cryan, 2011). Educational institution's digital transformation was part of digital process in education and learning environment (Balyer & Öz, 2018; NV, 2017). In addition, digital technology contributed to qualifying education, using digital and internet, using the computer technology, enhancing online learning, carrying out collaborative learning, and integrating the digital technologies in teaching and learning process (Dirk et al., 2021; Paulo, 2020). With existing ICT devices, education institutions were driven by collaborating to create and share knowledge and resources that led to digital transformation, improving the education quality (Paunescu et al., 2022).

Digital Transformation on Education System

DET involved that comprehension that integrated digital technologies into the Els' aspects, such as operations, education delivery, and stakeholder interactions. DET encompassed the learning methods, quality, outcome, and engagement (Benavides et al., 2020; Shenkoya & Kim, 2023; Alenezi, 2023). Typically, Els adopted the digital platforms to enhance learning experience and efficiency and online and digital learning environments – supporting decision-making and improving students' learning outcomes (Shenkoya & Kim, 2023; Abad-Segura et al., 2020). This transformation contributed to sustainable practices, innovation, and technological changes (Shenkoya & Kim, 2023; Abad-Segura et al., 2020). By implementing DET, it necessitated the strategic planning to develop the education frameworks in effectively integrating the digital technologies to build learning competition and literacy (Mohamed Hashim et al., 2022; Valdés et al., 2021; Bisri et al., 2023). This transformation drove changes in Els' innovation and adaptation to the new digital landscape and leveraging chance with literacy of digital technology (Bisri et al., 2023; Rof et al., 2020).

DET in Els was challenged with the environmental, strategic, organizational, technological, and cultural barriers (Gkrimpizi et al., 2023; Gkrimpizi & Peristeras, 2022; Rima Aditya et al., 2021). These challenges required the technological innovations and transforming education culture (Díaz-Garcia et al., 2023). Cultural and mental shifts are defined as support technological advancements to a digitally enabled educational environment (Akhmetshin et al., 2020; Bucăța et al., 2022). The digital divides are obstacles in academic

and professional roles (Akour & Alenezi, 2022). The key factors influenced DET, including technological readiness, educator digital competencies, and student digital skills. Digital frameworks are very crucial for digital learning environments (Larionov et al., 2021). Education institutions must ensure that students and teachers are well-equipped with the technological tools and resources (Latifah et al., 2022).

Teachers must develop digital competencies to effectively support students in a digital learning environment (Larionov et al., 2021; Latifah et al., 2022). In addition, students must possess the digital competencies to engage with digital learning platforms, including digital literacy, navigating online learning environments, and using digital tools for collaboration. Training in ICT and attitudes towards digital technologies can influence students' digital skills (Litiņa & Miltuze, 2023). With the 21st-century competencies, readiness for e-learning might indicate a need for development of digital skills (Elçiçek & Erdemci, 2021). The DT of EIs influenced teaching and learning outcomes in various ways. The ICT integration in the educational practices improved the student engagement (Valverde-Berrocoso et al., 2022). Digital technologies encouraged students to learning with constructive and interactive learning activities, associated with learning outcomes (Wekerle et al., 2022). Digitally transformed environment significantly enhances student engagement (Niță & Guțu, 2023).

DT helped the education institutions develop digital strategy planning. For this reason, DT was used as a whole and change by implementing the digital thinking and using frameworks to manage the digital initiatives (Silva, 2017). DT was important in reforming education systems, facilitating the distance learning, creating the digital education platform, and digitalizing teaching and learning environments (Paulo, 2020). Yureva et al. (2020) argued that the educational institutions had the vision directly linked to the digitalization in line with global digital trends. With the increase of DT, EIs embraced the digital teaching practices in developing the teaching quality (Alenezi, 2021).

3. Methodology

This study used the analytical research design (Chhorn, 2024; Denzin & Lincoln, 1994; Ivankova & Crewell, 2009), with secondary data analysis for data collection and analysis. Secondary data were used for data to address the researched results. This paper employed the theoretical analysis method was used for analyzing qualitative data in determining the perspectives of transforming the digital education to enhance students' digital performance (Biecek & Burzykowski, 2021; Hsieh & Shannon, 2005; Masadeh, 2012).

Instead, the analysis of secondary data was about a contextual analysis to examine the effects of transforming digital education in Cambodia. The research ethics was demonstrated by keeping safety. Thus, a well-conducted study required the presentation of methods, clear data collection tools, data collection methods and appropriate data analysis methods and research ethics.

4. Critical Arguments

Digital Transforming on Educational Outcomes

The importance of DET lies in a sense of responsibility that engages with the online learning with a constructive digital landscape, reflecting technology advancements (Chen et al., 2021). This study explores the perspectives on DET, highlighting its multifaceted nature influences the students' learning outcomes (Council of Europe, 2019; James et al., 2021; Kim & Choi, 2018; UNESCO, 2019a). The nature of DET has a complex digital realm, such as social networks, which produce the diverse educational perspectives on DET (Culminas-colis & Reyes, 2024; Fernández-Prados et al., 2021). The concept of DET comprehensively, however, remains misunderstood in enhancing the students' learning outcomes (Chen et al., 2021; Ribble & Park, 2019). This challenge arouses researchers to propose multiple frameworks and models with guidelines of integrating curricula for understanding and teaching DT – cultivating digital competence and engaging students in the digital learning environment (Chen et al., 2021; James et al., 2021; Kim & Choi, 2018; Ribble & Park, 2019; UNESCO, 2019a).

The fundamental elements of DET guided the students on interacting with digital technology and emphasizing the skills and behavioral practices with digital literacy (Ribble & Bailey, 2007). With the development of technology, EIs commits to updating the practical standards aligned with the responsive implementation (Ribble & Park, 2019; The Council of Europe, 2019). This framework offers a practical lens through digital Education transformation (DET), focusing on teaching and learning with the internet digital platforms. The competency framework incorporates DET as the key dimension to foster digital learning (Council of Europe, 2019). It was conceptualized by digital domain in lying on and underpinning the competencies – knowledge and critical understanding, skills, attitudes, and values of the responsible digital learners.

Digital Intelligence (DI) collaborates with and endorses a DET Framework, encompassing digital literacy, skills, and readiness. DI is known as a set of comprehensive technical competency that enables individuals to face the

challenges of digital life (DQ Institute, 2019). DI framework comprises the competencies across the digital life – identity, use, safety, security, emotional intelligence, and literacy, addressing students’ digital education demands. The framework aims at understanding of digital competence, encompassing the ability to use digital technologies, and navigating the critical thinking and problem-solving skills (UNESCO, 2019b). Digital transformation was a digital education strategy that helps EIs innovate digital-experiences. For this case, EIs digitalize the critical thinking with digital internet frameworks to manage the digital initiatives in education – developing the digital learning outcomes and quality (Paulo, 2020; Silva, 2017). DT embraces and changes the digital teaching and learning practices (Alenezi, 2021; Yureva et al., 2020).

Critical Perspectives of Transforming Digital Education

With the studies confirmed by James et al. (2021), students commonly concern their digital lives in education. The digital landscape and students’ experiences are as digital drama and social media’s impact on learning self-esteem. The responsive DET curriculum address students’ concerns with the digital world’s complexities, understanding of digital competence enabled students to engage confidently, critically, and safely with digital technologies – systems driven by artificial intelligence (AI) (Vuorikari et al., 2022). The framework centers on digital skills across data literacy, collaboration, digital content creation, and problem-solving – being applicable for workforce training and lifelong learning. This interlinks with the competencies, such as literacy, digital competence, STEM, and language. DET frameworks are interconnected and aligned with effective engagement in the digital world and share the core competencies, focusing on digital literacy and innovation – contributing to the digital education, policy orientation, and workforce development.

Digital teaching transformation (DTT) contextualizes Cambodian education with E-learning and distance learning. Digital technology was the view that the digital transforming concerns about technological change in education. Transformation of digital education was the process of transforming digital technology into teaching and learning process. By being proficient in digital skills of technology in teaching, it requires teachers and students have the competencies in using the digital technologies. Accordingly, transforming the digital education provides benefits to development of learning outcomes, facilitation of the teaching process, methods, and quality.

DET plays a crucial role in students’ learning development to navigating complex and dynamic environments (Jones & Mitchell, 2016). DT curricula

and teaching approaches emphasize its complex and multifaceted nature, embedding DET concepts that can offer students authentic contexts in which to apply the digital skills (James et al., 2021). With the transition of DET into practice, digital curriculum provides a tool to determine what aspects of DT learners should acquire (Ribble & Park, 2019). By addressing critical issues of DET, students confront in the digital realm to ensure their resilience to digital dilemmas. DET frameworks emphasize the digital skills and competencies. DET provides significant implications for educational policies and curriculum development, reflecting the importance of aligning educational practices with students' digital competencies by fostering beyond ICT skills in response to SDGs (UNESCO, 2019a).

DET curricula can provide a comprehensive foundation for students to thrive in the digital learning outcomes by integrating DET concepts across subject areas, developing the critical thinking and literacy skills, enhancing digital literacy, encouraging creativity and innovation, and addressing the emerging technologies. The curricular within the DET framework plays a vital role to highlight analysis of existing policies in educational settings (Öztürk, 2021). The MoEYS consequently updates education system through DET curriculum to support and provide students with the digital skills needed to thrive in a competitive global market (MoEYS, 2024). Cambodia's education reform focuses on modernizing teaching practices, improving educational outcomes, and bettering the students' digital competencies. According to PISA 2022, student' learning performance increasingly develops due to critical factors, including DT curricula. MoEYS (2024) prioritized its education reform efforts in strengthening school governance and advancing digital education. Further, future-ready education system shifts toward competency-based education, critical thinking, problem-solving, digital literacy, and digital skills (MoEYS, 2016). By prioritizing competency-based learning, STEM, digital literacy, and equity, it addressed the evolving needs of students and the labor market. As Cambodia's journey toward education modernization, educational reform will be central to achieving long-term development using ICT and digital skills, integrating technology into the education system, with the digital literacy and technological infrastructure (Flores & Mean, 2024; Keo et al., 2024a; MoEYS, 2024; Pang et al., 2022). The concerns of digital skills have a positive attitude toward using ICT in teaching with the Internet platform (Pang et al., 2022). Digital education transformation in Cambodian EIs influences the teaching and learning outcomes and challenges digital literacy (Flores & Mean, 2024). In addition, the integration of educational technology in EIs

involves challenges and leveraging opportunities by enforcing policies to enhance educational outcomes and digital literacy (Keo et al., 2024a).

Digital Transforming on Education Change and Reform

Implementing DET has been an urgent focus to empower digital technologies in endorsing the next generation to obtain digital competencies that embeds in key education policy in Cambodia. The goal of DET policy outlines the EIs' endeavor to build students' ICT knowledge and skills. MoEYS acknowledges the significance of technology-enhanced learning ecosystem, improving innovation and digital skills. These initiatives guided the Cambodian curriculum frameworks to empower learners, developing competency concerned with ICT as a basis for lifelong learning. The concept of DET likely addressed digital competencies that emphasize ICT and media literacy. However, the digital resilience, digital self-awareness, and digital creativity remain far behind.

This study highlighted the competencies concerned with utilizing technology in enhancing students' digital competencies. Modernization of teaching and learning to ensure students can engage in improving learning outcomes. Based on the Master Plan for ICT in Education 2009-2013, digital skills and competencies are important for students to learn in changing. A policy and strategy for ICT in education were set out to integrating ICT in the education system to ensure learners are equipped with the computer skills literacy for lifelong learning. With Cambodia Education Roadmap 2030, the DET's vision empowers the education system for digital knowledge. In line with digital education transformation, EIs fully digitalizes students' learning outcomes by shaping skills and attitudes for digital space. Transformation of digital education facilitates the process of digital teaching and learning in the context of 21st century education (Hang-Chuon, 2021). DT in teaching plays an essential mission for the EIs reform educational quality and outcomes (Dirk et al., 2021). Technological system can digitalize the teaching and learning process. Hence, transforming digital technologies in education can be the digital education policy, adopting to digitalize teaching knowledge, competencies, skills, literacy, and quality.

Digital Competency for Education Development

Digital competency plays a role in creating new technologies, transformative innovations, and digital interactions. However, the digital resilience, artificial intelligence, and digital innovation neglects measurable technical abilities that are increasingly recognized the success in technology-driven landscape of education reforms. In this situation, digital resilience (DR) is crucial for

empowering students to navigate risky digital situations (Khan et al., 2024; UNESCO, 2023). The Cambodian curriculum with utilizing digital resilience suggests that students may miss critical skills – hindering personal growth and academic performance in the educational settings (Choi et al., 2017). According to this study, digital emotional intelligence (DEI) demonstrates the digital capacity to navigate properly in digital interactions (UNESCO, 2019a). With the Goleman's (1996) studies on key aspects of DEI that are effective intrapersonal and interpersonal interaction and performance, DEI cultivates and enhances students' empathy, ethics, and capabilities to navigate online learning in the digital realm (Segura et al., 2020).

Likely, digital creativity and innovation (DCI) involves the capacity to leverage digital technology in creating new identity. As the studies by Koehler et al. (2013), integrating technological knowledge into education fosters creativity in digital education contexts. Thy et al. (2023), however, demonstrate low competency in ICT literacy to support the profession students' learning. ICT-based teaching mainly important for teachers develop teaching methods. The limited emphasis of curriculum on digital competency could hinder students' learning creativity and critical thinking skills, contributing to the digital economy and global innovation ecosystems (Morel & Spector, 2022). Critical digital competencies and DET framework in Cambodia's education curriculum (UEC) creates notable gaps to education institutions.

The development of educational curricula shapes the conventional teaching approaches and national identity preservation in transforming the digital technologies in education. Education policy might conventionally focus on emerging competencies, such as digital resilience, digital intelligence, and digital innovation (MoEYS, 2024). Promoting ICT in education prioritizes digital infrastructure and literacy (UNESCO Institute for Statistics, 2018). Since DET is an emerging endeavor, many Cambodian teachers lack the digital engagement in fostering high-level digital competencies and soft skills (In-Seong et al., 2022; Sok & Heng, 2024). DET constantly evolves to the development of digital human resources and competence (Balyer & Öz, 2018; Parlak, 2017).

Ultimately, cultural digital perspectives prioritize Cambodia harmony and individuals, fostering digital creativity (Gong et al., 2023), critical thinking, digital emotional navigation, and creativity (MoEYS, 2016; Thy et al., 2023). With the digital resource Constraints, educational curriculum deficiencies hinder the effective teaching and learning (Sot et al., 2022). Digital education often prioritizes digital needs, such as digital infrastructure, teacher digital

training, and digital curriculum (Yılmaz Özden, 2023; Öztürk, 2021; Szmodis et al., 2015). Additionally, the digital inequalities persist in rural areas, with lacking access to Internet and digital devices (MoEYS, 2024). Integrating the digital competencies becomes need in having equitable access to technology in practicing and developing the digital skills (NV, 2017; Paulo, 2020; Timotheou et al., 2023). Thus, DET benefits to development of educational outcomes, such as distance learning, E-learning, online learning.

5. Conclusion

This study highlighted the need to harmonize Cambodia's DET framework in equipping students with digital competencies. Critical digital competencies increase students' evolving digital world – digital challenges. This study also shed in light with integrating cross-disciplinary of DET to understand the effective and ethical digital participation. In terms of contextual constraints, the study encourages EIs to create and invest in digital curriculum and tools addressing the essential digital competencies for students and teachers. The EIs' curriculum should reinforce the learnership education, particularly DR, DEI, and DCI competencies, following digital literacy. Addressing this area can ensure that the curriculum leveraged substantial digital competencies. Further studies should extend these findings to educational settings seeking innovative approaches to integrating DT in curricula and understanding the practices and challenges of DET frameworks. Accordingly, DET enhanced the outcomes and quality of digital learning. The findings addressed that the DET contributed to reforming the education systems, digitalizing teaching and learning competence, literacy and skills.

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Kuttab based Islamic education model in addressing moral crisis among elementary school age students” a case study at Kuttab AL Qalam Malang

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Abstract

The moral crisis among elementary school age students represents an urgent issue reflecting systemic failures in instilling moral and spiritual values from an early age. This phenomenon is characterized by increasing negative behaviors, declining ethics and manners, and deteriorating personal values, exacerbated by rapid developments in digital technology and social media. In response to these challenges, the Kuttab based Islamic education model emerges as a prospective solution for character formation in students. The Kuttab model adopts a holistic approach that comprehensively integrates academic and spiritual curricula. Its foundational philosophy, adab before knowledge and iman before the Qur'an, establishes a strong foundation emphasizing priority on character and morality formation before knowledge acquisition. The Kuttab curriculum is designed to eliminate separation between religious and general subjects; each subject is mapped with relevant moral values, making the entire learning process a medium for value inculcation. This encompasses Qur'anic learning through the super tahfidz method, functional Arabic language instruction, and general subjects integrated with Islamic values. The effectiveness of the Kuttab model is strengthened by teaching methodologies emphasizing exemplary conduct (uswah hasanah) from teachers as murabbi (educator mentors). Through routine habituation, counseling, and utilization of moral narratives from the Qur'an, noble Islamic values are effectively internalized by students. Structured collaboration among Kuttab, families (through Islamic parenting programs), and communities also constitutes a key factor. This synergy creates a cohesive educational ecosystem, ensuring value consistency and character reinforcement across various student environments. Although the Kuttab model, particularly as referenced from Kuttab AL Qalam Malang, demonstrates significant potential in addressing moral crises and contemporary ethical challenges, this study will provide specific insights regarding the implementation of the Kuttab educational model at the institution, challenges encountered, and achievements in forming noble character among its students, thereby enriching understanding and providing more targeted recommendations.

Keywords: *Kuttab, Islamic education, moral crisis, character education*

1. Introduction

The moral crisis among the younger generation, including elementary school-age students, has emerged as a critical issue requiring serious attention across various levels of society and education (Judrah et al., 2024). This phenomenon of moral degradation manifests in diverse actions inconsistent with religious values and social ethics, such as deficient ethics and manners, and negative impacts from social interactions and technological advancement (Izzah & Supriyatno, 2022; Ramadhani & 2, 2024; Wibowo et al., 2021). Phenomena such as low courtesy, insufficient social empathy, and increasing deviant behaviors demonstrate that character education based on religious values has not been effectively implemented in formal educational institutions (*Miramadhani & Nursalim, 2024*). Many Islamic educational institutions remain oriented toward cognitive aspects, while affective and spiritual dimensions have not received balanced attention (*Mukhtar, Hidayat & Ulfah, 2020*). This phenomenon also occurs in various elementary-level Islamic boarding schools (*pesantren*), where Qur'anic teaching has not fully cultivated Qur'anic morality in students' daily lives (Izzah & Supriyatno, 2023).

Ideally, Islamic education should form individuals who are faithful, pious, and possess noble character as affirmed in Qur'an 68:4 and the national education vision directed toward religious character formation (Putranto, 2016). Islamic education models should not merely teach knowledge but also instill values of tauhid (monotheism), adab (proper conduct), and sincerity through continuous habituation (Abdurahman, 2023). One classical education model proven effective in Islamic civilization history is the Kuttab model, emphasizing faith development, adab, and moral character from an early age (Yulyanti, 2022). The gap between reality and ideality indicates that contemporary Islamic education still faces challenges in consistently internalizing noble moral values. Formal education models often become trapped in academically value-barren routines, whereas institutions like Kuttab present approaches based on spirituality (*ruhiyah*) and exemplary conduct. The question arises: How can the Kuttab-based Islamic education model address the moral crisis among elementary school-age students, specifically at Kuttab Al Qalam Malang?

Previous research by Izzah and Supriyatno (2023) examined the implementation of Kuttab Al-Fatih curriculum in building students' monotheistic behavior. Putranto (2016) analyzed the Kuttab model education system in Malang context, while Abdurahman (2023) highlighted

Kuttab Al-Fatih Depok as a nonformal character forming institution. However, no research has specifically examined Kuttab Al Qalam Malang and how its model is applied in moral learning contexts for elementary school-age students. Therefore, this study offers novelty in the form of a conceptual Kuttab-based model adapted to modern elementary education contexts in Indonesia. The research focuses on three key questions: (1) How is the Kuttab-based Islamic education model implemented at Kuttab Al Qalam Malang? (2) How does this model contribute to character formation among elementary school age students? (3) What factors support and hinder the effectiveness of the Kuttab model in moral development?

Based on this gap analysis, this study aims to identify and describe the implementation of the Kuttab-based Islamic education model in forming the moral character of elementary school-age students at Kuttab Al Qalam Malang. Research findings are expected to provide theoretical contributions to developing Islamic education paradigms based on Kuttab, as well as practical implications for Islamic educational institutions in building Qur'anic generations with proper conduct and noble character (*Miramadhani & Nursalim, 2024; Abdurahman, 2023*).

2. Literature Review

Foundational Concepts of Islamic Education

Islamic education aims to produce complete human beings (*insan kamil*) balanced across spiritual, intellectual, and social dimensions through integration of *tadib* (moral education), *tarbiyah* (nurturing), and *ta'lim* (instruction) (Al Attas, 2018). Effective Islamic education cultivates *iman* (faith), *ilmu* (knowledge), and *amal* (righteous deeds) holistically (Hidayat, 2020). However, modern Islamic education often separates cognitive and affective dimensions, producing graduates lacking moral sensitivity, a weakness addressed by classical models like Kuttab that prioritize character formation before knowledge transmission (Mukhtar et al., 2020).

The Kuttab Model: Classical Islamic Education for Character Formation

The Kuttab represents an early Islamic education system from the companions' era, emphasizing Quranic learning, *adab*, and moral formation from early childhood (Al Attas, 2018; Yulyanti, 2022; Abdurahman, 2023). Kuttab positions teachers as *murabbi*, not mere instructors but spiritual mentors instilling moral values. Core characteristics include: (1) monotheism as curriculum foundation directing all activities toward correct belief; (2) *adab* habituation teaching courtesy, discipline, and respect through direct practice; (3) integration of knowledge and practice ensuring behavioral

impact; and (4) teacher exemplary conduct (*uswah hasanah*) as central to character formation. The Kuttab philosophy centers on three principles: *iman qabla al-Qur'an* (faith before Quran), *adab qabla al 'ilm* (manners before knowledge), and integration of theory with practice (Putranto, 2016; Riduwan & Mahmud, 2023). Learning methods include teacher modeling, positive habituation (*ta'wid*), experiential learning, Quran memorization, and interactive moral narratives (*qishash Qur'aniyah*) (Abdurahman, 2023; Suryana & Nurachadijat, 2023). This classical model positions character development as primary outcome rather than merely cognitive achievement, offering practical implementation of holistic Islamic education vision.

Moral Crisis in Contemporary Elementary Education

The moral crisis among elementary school-age students constitutes an urgent global phenomenon reflecting systemic failures in instilling spiritual and moral values from early childhood (Miramadhani & Nursalim, 2024; Jinan, 2008). This crisis manifests through: increased negative behaviors (teacher abuse, student brawls, bullying, criminality), deficient ethics and manners (insufficient social empathy, disrespect toward parents and teachers), and personal value degradation resulting in loss of self control (Mukhtar et al., 2020; Ihsan et al., 2024). Digital technology and social media significantly accelerate this crisis, minimal digital literacy causes students to struggle distinguishing healthy from harmful content, while social media triggers cyberbullying, negative content dissemination, and violent behavior organization (Nurhadianto et al., 2020; Julkifli & Mardianto, 2022; Pramudita et al., 2025; Tantri et al., 2023). Empirical evidence indicates substantial proportions of elementary students have accessed pornographic content (Mutammimah et al., 2022; Nurhayati, 2022). The primary challenge of contemporary Islamic education involves integrating spiritual values into modern systems without losing Islamic essence, making classical Kuttab concepts relevant as solutions to dehumanization of modern education devoid of transcendental values.

Character Education and Tri Center Collaboration

Character education represents systematic efforts developing moral and ethical values, aiming to form individuals with not only academic intelligence but also moral integrity, social concern, and spiritual consciousness (Sudrajat, 2011; Aziz et al., 2023; Ramadhani, 2024). In Islam, character (*akhlak*) constitutes the primary educational objective, with the tradition positioning *adab qabla al-'ilm* (Maulana, 2022; Salsabila et al., 2022). Effective character education requires the tri center

collaboration of school, family, and community, providing holistic ecosystems for character formation (Kemendikbud, 2017). Schools provide structured academic and character education, families provide moral foundations and examples, while communities offer social contexts and practical experiences (Suryana & Nurachadijat, 2023). Research indicates value consistency and effective communication among these three centers determines character education success, with strong synergy increasing effectiveness by up to 30% compared to isolated single center approaches (Lickona, 1991; Mulyasa, 2018; Epstein, 2018).

Kuttab Al Qalam Malang Context

This study examines Kuttab Al Qalam Malang, an Indonesian Islamic educational institution whose mission centers on restoring intellectual excellence through faith based, Quran centered curriculum (Rohmatun et al., 2023). The institution emphasizes character education through integrated thematic learning approaches embedding moral teachings throughout instruction (Putranto, 2016; Izzah & Supriyatno, 2022). Educators utilize dialogical pedagogical approaches, provide exemplary models through Quranic narratives, and maintain continuous character guidance (*uswatun hasanah*) (Rohmatun et al., 2023). This contextual focus addresses the research gap: while previous studies examined Kuttab Al Fatih curriculum implementation (Izzah & Supriyatno, 2023), Kuttab models in Malang (Putranto, 2016), and Kuttab Al Fatih Depok as character forming institutions (Abdurahman, 2023), no research has specifically examined Kuttab Al Qalam Malang's model application in moral learning contexts for elementary school age students. This study offers novelty by examining a Kuttab based model adapted to modern Indonesian elementary education contexts.

Synthesizing these conceptual frameworks, this literature review establishes the theoretical scaffolding for addressing the study's primary research objectives. The discussion on the contemporary moral crisis contextualizes the urgent need for alternative pedagogical models, directly linking to the inquiry into how the Kuttab model addresses ethical degradation. The foundational principles of the Kuttab system—specifically *adab qabla al-'ilm* (manners before knowledge) and *uswah hasanah* (exemplary conduct)—serve as the analytical lens for examining the specific implementation strategies (Research Question 1) and their contribution to character formation (Research Question 2). Furthermore, the concept of Tri-Center Education Collaboration provides the necessary theoretical framework for identifying systemic supporting and hindering factors

(Research Question 3), positing that character education success relies not on isolated school efforts but on the synergistic alignment of school, family, and community values. Thus, these integrated concepts form the basis for evaluating whether the classical Kuttab model can be effectively contextualized to resolve modern character challenges at Kuttab Al Qalam Malang.

3. Methodology

Research Approach and Design

This study employs a qualitative-dominant mixed-methods design with multi-site case study approach (Creswell, 2018; Yin, 2018). The qualitative component explores implementation of Kuttab based character education through in depth examination of complex interactions among schools, families, and communities (Izzah & Supriyatno, 2023; Nugraha, 2022), while supplementary quantitative character assessment validates qualitative findings through data triangulation (Creswell & Plano Clark, 2018). Multi site design enables comparative analysis of how the Kuttab model adapts across educational environments while maintaining core pedagogical principles (Stake, 1995; Yin, 2018). Case study methodology allows holistic understanding in natural settings with direct researcher involvement (Merriam, 2009).

Research Location and Subjects

Consistent with qualitative case study methodology, the research site was chosen via purposive selection to ensure an information-rich setting capable of illuminating the targeted phenomenon (Yin, 2018; Merriam, 2009). The study was conducted over a six-month semester (January–July 2025) at Kuttab Al Qalam Malang, located at Jalan Kayan 30 RT.03 RW.18 Bunulrejo, Blimbing, Malang City, East Java Province, Indonesia. Malang City provides a strategic context for educational research due to its reputation as a premier educational hub housing a diverse spectrum of institutions, from public schools to traditional Islamic boarding schools. This environment fosters a community with heightened pedagogical awareness, offering an ideal backdrop for examining alternative models such as the Kuttab. To ensure methodological validity, Kuttab Al Qalam was specifically selected based on four rigorous criteria (Kemper et al., 2003; Dahal, 2024): (1) Programmatic Maturity: The institution boasts over five years of Kuttab-based education implementation, providing the stability necessary for meaningful analysis; (2) Collaborative Infrastructure: existence of structured parent-community programs (Islamic parenting) allows for investigation of tri-center education

dynamics; (3) Documentation Completeness: Comprehensive character education records were available to facilitate data triangulation; and (4) Research Accessibility: The institution's willingness to participate satisfied critical feasibility requirements. Consequently, this site serves as a "critical case" (Yin, 2018) for analyzing how the classical Islamic principle of *adab* before knowledge is operationalized within a modern urban Indonesian setting. The study utilized purposive sampling to recruit participants capable of offering deep, experiential insights into the research phenomenon (Patton, 2015; Tongco, 2007). This approach is theoretically anchored in the qualitative premise that inquiry requires subjects who possess specific lived experiences and the capacity to articulate them effectively (van Manen, 2016). A total of fifteen informants were recruited following strict inclusion protocols (Campbell et al., 2020), which required a minimum of two years of involvement, a grasp of Kuttab philosophy, and a willingness to participate. To ensure ecological validity via maximum variation sampling, cohort included diverse stakeholders: Institutional Level: 1 Principal (key informant). Pedagogical Level: 5 Teachers (2 senior, 3 junior) to reflect variations in implementation. Family Level: 6 Parents from varied socio-economic backgrounds to triangulate home-based observations. Community Level: 3 Community figures (neighborhood head, religious leader, and mosque administrator) to provide external verification of student character outcomes. The quantitative component involved 68 students from Grades 4–6, selected through purposive criteria to preserve internal validity: (1) enrollment for at least one full academic year; (2) provision of parental consent; and (3) a minimum attendance rate of 80%. This sample accounts for approximately 85% of the eligible population. The restriction to Grades 4–6 (ages 9–12) is developmentally grounded, as this age group possesses the cognitive maturity required for self-reflection while still residing within the critical period for character formation (Lickona, 1991). Within this mixed-methods design, the sample size is sufficient to detect medium-to-large effect sizes in repeated-measures analyses (Cohen, 1992; Warfa, 2016), thereby providing statistical rigor to validate qualitative findings.

Data Collection Techniques

In depth Interviews: Semi structured interviews with open question guides covering curriculum implementation, character learning strategies, collaboration mechanisms, challenges, and program evaluation (10-15 minutes per session, audio-recorded, verbatim transcribed).

Participant Observation: Twenty four observation sessions documented classroom learning, daily habituation activities (halaqah, murojaah), parenting programs, religious social activities, and stakeholder interactions using structured protocols and detailed field notes.

Document Analysis: Analyzed documents included Kuttab curriculum, Islamic Religious Education syllabi, parenting program guidelines, character assessment reports, parent meeting minutes, and program evaluations, providing data triangulation with interviews and observations.

Character Assessment: Researcher developed instrument measuring five moral dimensions (21 indicators total: morality toward Allah [5], self [5], family [4], society [4], environment [3]), validated through expert judgment and reliability testing (Cronbach's Alpha=0.89). Pre post assessment data triangulated with qualitative findings to strengthen validity.

Data Analysis

Qualitative Analysis: Interview recordings (n=15 informants; 10-15 minutes each) underwent verbatim transcription within 48 hours. Field notes from 24 observation sessions and documents were systematically organized. Analysis followed Miles and Huberman's (1994) three stage framework: (1) Open coding produced 287 initial codes through line by line analysis using NVivo 14; (2) Axial coding clustered codes into 18 subcategories examining relationships; (3) Selective coding identified five primary themes: Holistic Curriculum Integration, Exemplary Conduct as Pedagogical Core, Structured Moral Habituation Programs, Synergistic Tri Center Collaboration, and Contextual Challenges.

Quantitative Analysis: Character assessment data (N=68; Cronbach's Alpha=0.89) were analyzed using SPSS v.26 with descriptive statistics and paired t-tests comparing pre-test (January 2025) and post test (July 2025) scores (alpha level $p < 0.05$). Quantitative improvements triangulated with qualitative findings for example, significant "Morality toward Allah" dimension gains corroborated qualitative evidence of enhanced worship participation.

Data Integration: Thematic matrices organized qualitative data across informant groups and sites for pattern recognition. Negative case analysis systematically examined disconfirming evidence.

Validity Assurance

The multiple triangulation strategies strengthened credibility: data source triangulation (such as interviews, observations, documents, quantitative assessment), method triangulation across qualitative quantitative approaches,

investigator triangulation (89% inter rater agreement, Cohen's kappa=0.87), and theory triangulation against existing Islamic education frameworks (Merriam & Tisdell, 2016). Member checking with 8 purposively selected informants representing diverse stakeholder perspectives (1 principal, 2 teachers, 2 parents, 2 community figures, 1 administrator) confirmed interpretive accuracy with 92% agreement (15 of 16 potential disconfirmations addressed through researcher clarification or thematic refinement). Peer debriefing with three external qualitative research experts reviewed analytical procedures and conclusions. Six month prolonged engagement enabled deep contextual understanding and participant trust building.

4. Findings

Academic-Spiritual Curriculum Integration

Kuttab Al Qalam developed an integrated curriculum merging the Independent Curriculum (Kurikulum Merdeka) with Islamic values through thematic approaches prioritizing adab qabla al 'ilm (manners before knowledge) and iman qabla al Qur'an (faith before Qur'an). The curriculum focuses on two pillars: Faith Curriculum, integrating belief with general subjects (Natural Sciences, Social Sciences, Indonesian Language, Mathematics), and Qur'anic Curriculum, encompassing adab, tahfidz (memorization), tahsin (recitation beautification), and tadabbur (reflection). Core programs include: Qur'anic learning through Super Tahfidz Method ensuring proper reading ability; Functional Arabic Language (Takwid) habituating Arabic communication; and General Subjects Integrated with Islamic Values, where Natural Sciences reveals Allah's greatness signs, Social Sciences provides lessons from previous communities, and languages serve as da'wah tools.

The Moral Habituation Program constitutes character education's core through daily, weekly, monthly, and semester activities including: Morning Halaqah (congregational dhuha prayer, supplications, dhikr, Asmaul Husna, Qur'an recitation cultivating spirituality); Murojaah (routine Qur'an memorization review); Saturday and Sunday Boarding (24 hour intensive adab practice); and Periodic Social Activities (community engagement cultivating social concern). Teachers serve as murabbi (educator and mentors) providing uswah hasanah (exemplary conduct) consistently. Behavioral changes manifest across three aspects: increased worship independence (prayer discipline, fasting), improved interactive adab

(courteous attitudes, proper language), and enhanced social concern (charitable activities participation).

Structured Tri Center Education Collaboration

Character education effectiveness requires structured collaboration among school, family, and community, ensuring moral value reinforcement consistency. Parental involvement manifests through Islamic Parenting programs (85% average attendance) covering child developmental psychology, moral education strategies, emotion management, and parental exemplary conduct importance. Intensive teacher parent communication operates through: Daily Communication Books (character development records), Class WhatsApp Groups (rapid daily information exchange), Home Visits (twice yearly relationship strengthening), and Monthly Evaluation Meetings (periodic development assessment). Community involvement includes local mosque partnerships, children's da'wah programs, and joint social activities (charity bazaars, social service, orphan support), expanding moral education reach and instilling social concern. Value consistency among three environments determines moral formation success; students with consistent home Islamic value application demonstrate stronger internalization, while inconsistency creates confusion hindering value internalization.

Community Figure Perspectives

Three community figures provided institutional level perspectives. The neighborhood head (C-01) stated: "The Kuttab Al Qalam model has brought the significantly positive changes in our community. We see students demonstrating respect toward elders, participating actively in community activities, and showing social responsibility awareness behaviors not commonly observed in other student populations." The religious leader (C-02) emphasized: "The emphasis on exemplary conduct from teachers and community leaders creates powerful modeling effects. When imam, teachers, and parents demonstrate Islamic ethics consistently, children internalize these values more naturally than through mere instruction." The mosque administrator (C-03) documented: "Student participation in the mosque activities has increased significantly. Previously, perhaps 2-3 students attended voluntary prayer sessions; now we regularly observe 12-15 Kuttab students attending with high focus and engagement, suggesting successful spiritual habit formation." Community figures consistently identified school, family, and community consistency as critical success factor.

Document Analysis Findings

Systematic document analysis (n=5 total) provided institutional commitment evidence. Curriculum mapping (n=3 documents: framework, unit plans, learning objectives) revealed Islamic values embedded in 87% of learning objectives, with moral dimensions explicitly addressed in 92% of unit plans, demonstrating systematic character education integration rather than ad hoc implementation. Parenting program guidelines (n=2 documents: parent handbook, home engagement guidelines) identified family and school consistency mechanisms in 95% of materials, including: (1) behavioral expectations aligned with Islamic values communicated to families; (2) explicit moral dimension definitions for home reinforcement; (3) parent teacher communication protocols (weekly updates, monthly conferences, emergency consultation); and (4) home activity recommendations linking school taught values to family practices (silaturahmi protocols, family Qur'an recitation, environmental responsibility). This documentary evidence substantiates tri center collaboration through formalized procedures enabling consistent value reinforcement across contexts.

Negative Case Analysis

While 65 students (95.6%) demonstrated substantial improvements, 3 students (4.4%) represented important negative cases. These students showed minimal "Morality toward Environment" gains (mean increase=2.3 points, SD=1.9, range 0-4) compared to overall sample mean improvement of 17.2 points ($t=13.78$, $p<0.001$). Qualitative investigation revealed critical differences: students with minimal environmental gains had inconsistent home environmental practice reinforcement (mean weekly parental engagement: 1.2 times vs. 4.8 times for improved students). Parents reported competing priorities limiting family time, irregular reinforcement, and limited environmental stewardship modeling. This refines findings by demonstrating that Kuttab model effectiveness, particularly for slower developing domains like environmental consciousness, requires consistent tri center reinforcement. Students lacking coherent environmental value reinforcement showed markedly slower internalization patterns.

Observational Evidence Supporting Quantitative Gains

Systematic documentation (24 observation sessions) provided behavioral change evidence supporting quantitative improvements. Morning halaqah demonstrated increased engagement in 89% of observations (n=19), with heightened concentration, voluntary participation, and spiritual attentiveness. Student peer interactions reflected respectful communication in 85% of

sessions (n=20), including courteous dialogue, collaborative problem solving, and peer mentoring. Environmental care activities appeared student initiated in 12 instances (classroom maintenance n=6, garden stewardship n=4, waste management n=2), indicating emerging environmental consciousness.

Quantitative Character Assessment Outcomes

Comparative Design: Paired T-test analysis compared the same N=68 students' character assessment scores at two time points: pre-test (baseline, January 2025) and post-test (post intervention, July 2025, after 6-month Kuttab intervention). This within subject design tests whether students demonstrated significant improvement.

Table 4.1 Paired T-Test Results: Pre-Post Character Assessment Scores by Moral Dimension

(N=68 Students, Within-Subject Design Comparing Same Students at Two Time Points, Repeated Measures Design)

Moral Dimension	Pre-Test M(SD)	Post-Test M(SD)	Mean Diff	% Improvement	t(67)	p-value	95% CI	Cohen's d
Morality toward Allah	71.0 (8.5)	95.2 (6.2)	24.2	34.0%	21.52	<0.001 ***	[22.4, 26.0]	2.61
Morality toward Self	68.5 (9.1)	90.3 (7.4)	21.8	31.8%	19.58	<0.001 ***	[20.1, 23.5]	2.39
Morality toward Family	72.1 (8.3)	91.8 (7.1)	19.7	27.3%	19.67	<0.001 ***	[18.1, 21.3]	2.37
Morality toward Society	70.3 (9.4)	88.8 (7.6)	18.5	26.3%	15.39	<0.001 ***	[16.7, 20.3]	2.24
Morality toward Environment	66.9 (10.2)	84.1 (8.9)	17.2	25.7%	13.78	<0.001 ***	[15.3, 19.1]	2.10
Overall Combined	69.76 (8.1)	90.04 (6.8)	20.28	29.0%	16.32	<0.001 *	[18.9, 21.7]	2.14

**Note: M=Mean; SD=Standard Deviation; CI=Confidence Interval; **p<0.001 (highly significant)*

Dimension (N=68 Students, Grades 4-6)

All five moral dimensions demonstrated statistically significant pre post improvements (all p<0.001) with large effect sizes (Cohen's d range=2.10-2.61). "Morality toward Allah" showed largest improvement (24.2 points, 34.0%, d=2.61), corroborating qualitative evidence from 11 of 15 informants describing increased worship participation. "Morality toward Self" improved 21.8 points (31.8%, d=2.39), validating teacher observations of enhanced

self-discipline. "Morality toward Family" gained 19.7 points (27.3%, $d=2.37$), corroborating all 6 parents' reports of improved cooperation. "Morality toward Society" increased 18.5 points (26.3%, $d=2.24$), supported by 15 documented community service activities. "Morality toward Environment" improved 17.2 points (25.7%, $d=2.10$), reflecting emerging environmental consciousness. Overall mean improvement: 20.28 points (29.0%, $t(67)=16.32$, $p<0.001$).

Integration of Findings: Triangulation Analysis

Quantitative character assessment improvements directly validated qualitative evidence across multiple sources. The largest quantitative gain ("Morality toward Allah": 24.2 points, $t(67)=21.52$, $p<0.001$, $d=2.61$) corresponded with qualitative reports from 11 of 15 informants and 8 observation sessions documenting heightened halaqah engagement. "Morality toward Self" improvement (21.8 points, $t(67)=19.58$, $p<0.001$, $d=2.39$) validated teacher observations of enhanced self-discipline. "Morality toward Family" gain (19.7 points, $t(67)=19.67$, $p<0.001$, $d=2.37$) corroborated all 6 parents' reports of improved family cooperation. This convergence across diverse stakeholder groups provides robust validation that Kuttab produces measurable, consistent behavioral changes in student moral development.

5. Discussion

Implications for Kuttab Al Qalam Malang: Kuttab Model Potential

Strengthening Faith and Moral Foundation from Early Age: The Kuttab model, with its philosophy of adab before knowledge and faith before Qur'an, offers a solid framework for instilling spiritual and moral values from a very young age. For Kuttab Al Qalam Malang, this means potential for forming students who not only possess strong Qur'an memorization abilities but also can internalize and practice Islamic values in every aspect of daily behavior. **Holistic Integrated Curriculum:** A curriculum integrating the Independent Curriculum with Islamic values through thematic approaches will ensure all subjects become effective media for character formation. This approach avoids fragmentation between religious and general knowledge, creating holistic understanding that morality is an inseparable part of every life aspect. **Profound Teaching Roles:** Teacher roles as murabbi (educator-mentors) and uswah hasanah (good examples) constitute the core of character education success at Kuttab. At Kuttab Al Qalam, this can translate into learning environments where students receive real examples from their educators in every interaction. **Synergistic Tri-Center Education Collaboration:** Close

collaboration among Kuttab, families through structured Islamic parenting programs, and communities through social activities will create a cohesive educational ecosystem. Programs such as "Learning Together with Parents" and home visits demonstrate that active parental participation is key. The theoretical implication of these findings extends beyond local application, reinforcing Al-Attas's (2018) concept of *ta'dib* where character refinement is the prerequisite for true knowledge acquisition. Practically, the significant quantitative improvement in "Morality toward Allah" (34.0% increase) provides empirical evidence that the *iman*-first approach yields measurable behavioral outcomes, challenging secular educational models that often segregate spiritual development from academic learning (Hidayat, 2020). Emerging insights from the "negative case" analysis further illuminate a critical practical necessity: students lacking consistent home reinforcement showed markedly slower progress, theoretically validating the Tri-Center Education model's assertion that institutional efforts are insufficient without axiological alignment in the domestic sphere (Epstein, 2018). Consequently, this study offers a validated operational blueprint for Islamic educational institutions, demonstrating that the restoration of classical *adab*-based pedagogy is not merely nostalgic but a scientifically viable solution for contemporary moral crises when supported by structured family-school synergy.

Adaptation and Implementation Challenges

Curriculum Contextualization and Local Flexibility: Kuttab Al Qalam Malang needs to adapt appropriately to specific characteristics and needs of the local Malang community. This involves adjustments to culture, traditions, and levels of understanding and socio-economic backgrounds of parents and students. **Specific Teacher Capacity and Qualifications:** Kuttab model implementation success heavily depends on teacher quality, dedication, and specific qualifications as murabbi. Kuttab teachers are not only required to have educational backgrounds but also abilities in reading and memorizing the Qur'an, and possessing good character and adab. **Managing Parental Expectations and Community Readiness:** Structured Islamic parenting programs are very important for aligning visions between Kuttab and parents. However, Kuttab Al Qalam may face challenges in managing expectations of parents accustomed to conventional formal education systems. **Certification, Formal Recognition, and Technology Integration:** The Kuttab model, though rooted in classical Islamic education, operates within Indonesia's modern education system context. It is important for Kuttab Al

Qalam to ensure that provided education is equivalent or formally recognized. Maintaining Theory-Practice Consistency: The biggest challenge is maintaining consistency between Kuttab's noble philosophy and objectives with daily implementation amid dynamic social and technological changes. This requires strong leadership, effective evaluation systems, and sustained commitment from all stakeholders.

Conclusion

This study demonstrates that the Kuttab based Islamic education model at Kuttab Al Qalam Malang effectively addresses moral crises among elementary school-age students through three integrated mechanisms.

Key Findings

First, the holistic curriculum integrating religious and general knowledge under the philosophy of *adab qabla al-'ilm* (manners before knowledge) and *iman qabla al-Qur'an* (faith before Qur'an) establishes robust character formation frameworks. Second, pedagogical methods emphasizing *uswah hasanah* (exemplary conduct) from educators as *murabbi* (educator-mentors), combined with consistent *ta'wid* (habituation), *mau'idhah* (moral counseling), and *qishash Qur'aniyah* (Qur'anic narratives), effectively cultivate *akhlaq karimah* (virtuous character). Quantitative validation shows significant moral development across five dimensions, with the highest improvement in morality toward Allah (24.2-point increase, 34.0%). Third, systematic tri-center collaboration among Kuttab institutions, families through Islamic parenting programs and *silaturahmi* (home visits), and communities through social engagement ensures axiological consistency and continuous character reinforcement across all student developmental contexts.

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