

THE EFFECTIVENESS OF THE BLENDED LEARNING MODEL IN ENHANCING LEARNING

Umi Rizki^{1*}, Eka Putri², Ahmad Amin³, Dania Citra⁴, Eka Putri Andini⁵,
Wismanto Abu⁶

Universitas Muhammadiyah Riau, Indonesia¹

Corresponding author: umir3761@gmail.com

ABSTRACT

In the 21st century, learning has entered the digital era, where educational practitioners have developed many digital-based learning methods, such as online learning. However, online learning still requires face-to-face learning. So, education experts combined the two into a new learning theory called Blended Learning. Blended learning includes face-to-face, online, and offline learning, allowing students to access it through application programs. Research shows that blended learning is more effective than separate online or face-to-face learning. Blended learning applications can use a variety of combinations, such as 50/50, 75/25, or 25/75, depending on the allocation of learning time and student characteristics. When designing blended learning, it is important to make the learning interesting and appropriate to students' learning styles.

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INTRODUCTION

Education provided across various institutional settings predominantly utilises traditional pedagogical methods, which place heavy emphasis on direct teacher-student interaction within structured contexts. These traditional frameworks are increasingly being augmented by Information and Communication Technology (ICT) to facilitate diverse learning conditions. Within the classroom, knowledge transmission relies on multiple media formats, simplifying how students process complex domain information.

However, a fundamental challenge persists: many students and educators have not yet fully mastered digital technologies, causing numerous educational

institutions in Indonesia to remain anchored to conventional teaching methods. Moreover, recent studies highlight that disparities in digital infrastructure continue to hinder seamless technology adoption among rural educators (Prasetyo & Yuliana, 2021). This challenge is further multiplied by the readiness of educational facilities; as emphasised by Hermawan (2021), adaptive planning for educational facilities and infrastructure (*perencanaan sarana dan prasarana pendidikan yang adaptif*) is essential to support the dynamic requirements of digital-based learning environments. This technology proficiency gap creates an urgent need for an instructional revolution—transitioning from rote, passive learning to dynamic digital modalities.

In modern educational discourse, the instructional communication process relies heavily on media platforms and digital integration. Theoretical foundations established by scholars such as Hovland, Lasswell, Dewey, Littlejohn, and Uchayana underline communication as the core driver of educational success. While traditional face-to-face models provided the baseline for instructional delivery, ICT integration has accelerated educational transformation across online and offline spheres. Online environments utilise internet connectivity and digital media to render instructional materials visually engaging, directly driving student motivation. Furthermore, integrating ICT and multimedia platforms in Indonesian classrooms creates interactive communication channels that significantly boost student participation in learning (Suwarto & Budi, 2022).

Distance and online learning trace back to the 1960s across American and British universities, evolving from broadcast videotapes to internet-based video calls, interactive software, and multimedia repositories. Despite these advances, fully online instruction often lacks crucial human elements. Thus, the Blended Learning framework combining digital environments with direct face-to-face interaction serves as an imperative bridge. Empirical findings by Dziuban, Hartman, and Moskal demonstrate that blended learning yields higher academic achievement and student engagement than purely online or purely traditional setups. This aligns with recent empirical data showing that hybrid instruction deepens cognitive engagement and academic mindfulness among university students (Essa, 2023).

METHOD

This study employs a qualitative research methodology using a library research design. Qualitative library research gathers data through academic literature sources, including books, peer-reviewed journals, periodicals, and official policy documents. As a descriptive qualitative study, it systematically collects relevant data points on a specified topic, analysing and synthesising them into integrated findings. The analysis evaluates existing theoretical frameworks

focused on environmental impacts on learning dynamics, drawing from open-access academic journals and foundational reference texts.

RESULTS AND DISCUSSION

1. Blended Learning

The integration of ICT in education has systematically transformed instruction from traditional face-to-face approaches to flexible digital paradigms. Modern digital media enables self-directed learning across both online and offline channels.

However, as Noer (in Husamah) highlights, fully online learning presents clear constraints—primarily the absence of real-time, non-verbal feedback between educators and students. Despite the availability of rich digital resources, learners consistently require direct instructional guidance. While video conferencing and web chats mitigate some separation, direct physical interaction remains irreplaceable.

Blended learning addresses these limitations by uniting online, offline, and face-to-face modalities. Online learning utilises network connectivity and interactive software, while offline learning relies on pre-packaged, un-networked resources such as offline educational applications or standalone multimedia files. Research cited by Jeffrey, Mayes, and Marison demonstrates strong faculty interest in web-based components; however, as Bates and Sangra note, direct face-to-face instruction remains essential for real-time pedagogical feedback. Combining digital formats with synchronous physical interactions fosters highly efficient and adaptable learning environments. Comparative investigations further confirm that combining digital tools with in-person sessions produces higher academic motivation than conventional standalone methods (Shoukat et al., 2024).

2. Concepts of Blended Learning

Historically termed "hybrid learning," the model is now universally designated as "blended learning". According to Graham, blended learning represents the formal integration of traditional face-to-face instructional methods with technology-mediated online and offline environments.

Musa conceptualises blended learning as a synergy between e-learning and classroom instruction. It incorporates web technologies, CD-ROMs, streaming media, and digital communication alongside physical classroom discussions where students can directly clarify complex problems. By leveraging ICT features like virtual classrooms, student blogs, e-libraries, and group discussion forums, blended learning enhances collaborative knowledge

construction. Recent research shows that structured online forums and peer interaction facilitate active self-directed learning in hybrid environments (Suwardika et al., 2024).

Driscoll (2002) categorised blended learning into four primary dimensions:

1. Combining web-based technologies (e.g., virtual classrooms, streaming media, collaborative software) to fulfil educational objectives.
2. Blending pedagogical theories (e.g., cognitivism, constructivism, behaviourism) to produce optimal learning outcomes with or without instructional technology. Modern frameworks validate that balancing teacher presence with cognitive presence strengthens student learning outcomes in constructivist environments (Adinda & Mohib, 2020).
3. Integrating diverse learning technologies (e.g., video, web-based modules) with live, instructor-led training.
4. Mixing formal technology tools with real-world tasks to create a balanced work-learning effect.

Commonly used blended learning compositions involve distinct time allocations, such as 50/50, 75/25, and 25/75, depending on competency analysis, learning objectives, student characteristics, and available resources. The primary consideration in designing a blended learning composition is providing learning resources that align with diverse student characteristics to ensure the learning process remains effective and efficient.

The principles of blended learning involve communication between face-to-face meetings and online written communication. Although this learning concept appears straightforward, implementing it is inherently complex and requires dedicated effort from educators to improve instructional quality. According to Garrison and Vaughan (as cited in Husamah), the principles underlying the application of blended learning include:

1. Integrating online and face-to-face learning.
2. Designing instruction to engage students actively. Specifically, leveraging interactive digital applications promotes self-regulated learning habits among modern students (Govindan et al., 2023).
3. Restructuring traditional learning frameworks.

Blended learning, which merges online and face-to-face instruction, differs from other instructional models. Blended learning is characterised by several distinct features, including:

1. The integration of various technology-based learning models, styles, and media,

2. A combination of online independent learning and direct interaction between teachers and students, as well as the integration of self-directed learning,
3. Support for effective learning through diverse delivery methods and the accommodation of different learning styles,
4. The crucial role of the teacher as a facilitator and parents as motivators in children's learning processes.

According to Egbert and Hanson-Smith, the characteristics of blended learning also encompass students' ability to socialise, temporal flexibility, responsiveness to feedback, and the capacity to learn within ideal environments.

The components of blended learning, which bridge the physical and virtual learning environments, comprise: (a) face-to-face instruction, (b) self-directed learning, (c) application-based (web) learning, (d) tutorials, (e) collaboration, and (f) evaluation. In managing these elements, the teacher acts as a facilitator and mediator. Teachers provide explanations and instructions on how to utilise applications in learning. This pedagogical approach mirrors face-to-face instruction; however, educators leverage digital media to deliver supplementary materials or assign structured tasks to students.

3. Implementation of Blended Learning

The blended learning model aims to facilitate the instructional process by providing diverse learning media tailored to student characteristics. This approach encourages learners to leverage face-to-face interactions to advance their knowledge acquisition. Follow-up learning activities can then be conducted through both offline and online channels. Fully online instructional programs are less suitable for subjects requiring direct physical interaction between students and teachers, such as physical education and practical skill-based coursework. However, online learning is effective when students cannot attend in person, ensuring they maintain continuous engagement with the curriculum.

Blended learning constitutes a highly effective and efficient instructional method for enhancing student capabilities, increasing learning motivation, and creating a dynamic learning environment. Blended learning provides an optimised pedagogical framework that supports both individual and collaborative learning while offering substantial flexibility in time management.

A study conducted by Karen Precel, Yoran Eshet-Alkalai, and Yael demonstrated that the blended learning components contributing most significantly to student learning are assignments (mean = 4.72), printed textbooks (mean = 4.54), meeting presentations (mean = 4.42), and face-to-face sessions with instructors (mean = 4.14). Meanwhile, online learning components contributed a

mean of 3.83, and online textbooks yielded a mean contribution of 3.32. Despite the relatively lower measured contribution of online textbooks, nearly half of the participants (46.5%) reported using them frequently.

In addition to the aforementioned empirical findings, Osguthorpe and Graham outlined key rationales for adopting blended learning. According to their framework, teachers, lecturers, and educational instructors utilise blended learning for six primary reasons, namely:

1. Pedagogical richness,
2. Access to knowledge,
3. Social interaction,
4. Personal agency,
5. Cost-effectiveness, and Ease of revision.

CONCLUSION

Empirical and theoretical literature demonstrates that blended learning delivers superior outcomes compared to isolated traditional or fully online models. By integrating physical classroom dynamics with adaptive digital technology, blended learning mitigates the operational constraints of single-mode instruction.

To ensure successful implementation across diverse regions like Indonesia where digital infrastructure remains uneven institutional support is vital. Local and national authorities must invest in ICT infrastructure and provide comprehensive digital literacy training for both teachers and students. Establishing ethical guidelines and data security measures is equally crucial to build trust and safety in digital learning platforms (Rahmawati & Hidayat, 2023). Expanding teacher competence ensures that blended learning can be scaled effectively to improve education nationwide.

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