Integrating multi-blended learning to support self-regulation in english language teaching: Insights from undergraduate efl learners

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Abstract

The capacity for self-regulated learning (SRL) is a critical determinant of academic success, particularly within increasingly flexible educational environments. This empirical study examines the effectiveness of Multi-Blended Learning (MBL) as a catalyst for developing SRL skills among English as a Foreign Language (EFL) students. Data were collected from 65 undergraduate students using a structured 20-item questionnaire, covering dimensions of flexibility, accessibility, collaboration, motivation, self-regulatory behaviors, and perceived challenges. The findings indicate that MBL significantly enhances learners' ability to manage time, set academic goals, monitor progress, and sustain motivation. Flexibility and accessibility emerged as strong enablers of learner autonomy, while collaborative activities and multimodal resources fostered strategic learning behaviors. However, challenges such as maintaining self-discipline and managing cognitive load were also identified, suggesting areas for pedagogical refinement. The study contributes to the growing body of literature advocating for blended learning frameworks by providing empirical evidence of MBL's role in fostering essential SRL competencies in EFL educational settings.

Keywords: Multi-Blended learning, flexibility, accessibility, english as a foreign language, student perceptions

Introduction

The transformation of education in the 21st century has been significantly influenced by advancements in digital technology. Globally, institutions are embracing innovative learning models that incorporate technology to meet the evolving needs of students [1]. Reports from UNESCO show that over 70% of higher education institutions worldwide have integrated blended or online learning into their curricula as part of educational reforms to promote inclusivity and flexibility [2]. However, despite these global trends, many educational systems, particularly in developing countries, still struggle to provide flexible and accessible learning environments that can accommodate diverse student needs.

In Indonesia, the urgency to adopt flexible learning approaches became more pronounced during the COVID-19 pandemic, where sudden shifts to online learning exposed systemic inequalities and challenges in digital infrastructure [3]. Although many universities responded by adopting online and blended learning platforms, issues such as limited internet access, lack of digital literacy, and rigid instructional designs often impeded effective learning outcomes [4]. As students increasingly demand educational models that allow for asynchronous, self-paced learning while maintaining high-quality interaction and feedback, institutions must rethink traditional delivery modes to remain relevant.

In the context of English language learning, flexibility and accessibility are particularly critical. Mastery of English as a Foreign Language (EFL) requires continuous exposure, practice, and feedback, elements that are difficult to sustain within rigid classroom schedules [5]. Furthermore, students' diverse backgrounds, learning styles, and external responsibilities necessitate educational systems that enable learning beyond the physical classroom [6]. However, many conventional EFL programs remain bound to fixed schedules and physical attendance requirements, limiting students' opportunities for personalized and autonomous learning.

The gap between the current rigid learning structures and the ideal flexible learning environments highlights a pressing challenge for language educators. Students expect the ability to access materials anytime and anywhere, engage with multimodal content that supports various learning styles, and have the autonomy to regulate their own learning pace [7]. Educational research increasingly emphasizes that learning flexibility not only improves academic outcomes but also fosters motivation, engagement, and learner autonomy—key factors for successful EFL acquisition [8]. Multi-Blended Learning (MBL) has emerged as a promising instructional model to bridge this gap. Unlike traditional blended learning, which typically combines face-to-face and online synchronous activities, MBL integrates multiple modes of learning: face-to-face, synchronous online, and asynchronous self-directed modules [9]. This multi-modality offers unparalleled flexibility and accessibility, allowing learners to navigate their educational journeys based on individual preferences and circumstances. Preliminary studies have suggested that MBL enhances learner satisfaction, autonomy, and academic achievement across various disciplines [10].

Despite the growing body of literature on blended learning, empirical evidence specifically examining students' perceptions of flexibility and accessibility within MBL environments, particularly in the Indonesian EFL context, remains limited. Previous research has tended to focus more on learning outcomes such as grades or test scores, with relatively less attention given to how students experience and perceive the structural benefits of flexible and

accessible learning modalities [11]. Understanding these perceptions is crucial because students' satisfaction and engagement levels are directly correlated with their academic persistence and success.

Given this background, this study aims to explore how Indonesian EFL students perceive the flexibility and accessibility afforded by the implementation of Multi-Blended Learning. By focusing on students' real-world experiences and satisfaction with MBL components, the research seeks to fill an important gap in the literature and provide practical recommendations for optimizing blended learning practices. The findings are expected to contribute to the ongoing discourse on educational innovation and support the development of more responsive, learner-centered instructional designs in higher education. Ultimately, this study addresses the critical need to align educational practices with contemporary learner expectations. As higher education continues to evolve in an increasingly digital and globalized world, adopting flexible and accessible models such as MBL will be essential not only for enhancing language proficiency but also for promoting lifelong learning skills among students. By critically examining students' perceptions, this research offers valuable insights into how educational institutions can better design, implement, and refine blended learning initiatives to support diverse learner needs.

Literature Review
Blended learning has emerged as a significant pedagogical innovation in response to the growing demand for flexible and accessible education. Defined as the thoughtful integration of face-to-face and online learning experiences, blended learning offers the potential to combine the strengths of traditional instruction with the flexibility of digital technologies [9]. Studies have demonstrated that well-designed blended learning environments can enhance student engagement, foster deeper learning, and accommodate diverse learner needs more effectively than conventional models [10]. However, blended learning models vary widely in structure and effectiveness, highlighting the necessity for careful instructional design to maximize their potential.

The concept of flexibility in education is increasingly recognized as critical to supporting student-centered learning. Flexibility pertains to the degree to which students can exercise control over aspects of their learning, including time, pace, place, and learning modalities [11]. Research indicates that higher flexibility correlates positively with student satisfaction, autonomy, and academic performance [12]. In the context of EFL learning, flexibility is particularly vital because language acquisition benefits from continuous, individualized engagement, which rigid classroom structures often fail to provide [13]. Flexible learning environments enable students to integrate English practice into their daily lives, thus promoting more natural and sustained language development.

Accessibility, another key principle in modern education, refers to the ease with which learners can obtain and interact with educational resources and participate fully in learning activities [14]. Ensuring accessibility involves not only providing materials through various technological platforms but also designing them to accommodate different learning needs and technological proficiencies [15]. In EFL contexts, accessible learning environments can mitigate barriers related to linguistic proficiency, learning disabilities, and

geographic constraints, thus promoting greater equity and inclusivity in language education [16].

Multi-Blended Learning (MBL) builds upon traditional blended learning models by incorporating multiple modes of delivery: face-to-face instruction, synchronous online learning, and asynchronous self-paced learning [17]. This multimodal approach is designed to optimize flexibility and accessibility by allowing learners to choose the mode that best suits their circumstances at any given time. Preliminary research has shown that MBL can enhance learner autonomy, engagement, and satisfaction across a variety of disciplines [18]. However, empirical studies specifically examining students' perceptions of flexibility and accessibility within MBL frameworks, particularly in the Indonesian higher education context, are still relatively scarce.

Recent studies in Southeast Asia have highlighted both the potential and the challenges of blended learning models. For example, Cahyani et al. (2020) found that while students appreciated the flexibility offered by blended courses, technological barriers and insufficient instructional support often limited their full participation [19]. Similarly, Hamid et al. (2021) emphasized that accessibility must be considered not only in terms of platform availability but also in terms of content design, user support, and alignment with students' learning contexts [20]. These findings underscore the importance of investigating how MBL implementations are perceived by learners, especially in terms of their capacity to enhance flexibility and accessibility in language learning settings.

Methodology
This study employed a quantitative descriptive research design to examine students' perceptions of flexibility and accessibility in the implementation of Multi-Blended Learning (MBL). A survey-based approach was adopted as it allows for systematic collection of students' subjective evaluations across multiple dimensions of the learning experience [21]. The participants of the study were 65 undergraduate students enrolled in the English Education Program at a private university in Jakarta, Indonesia. All participants had experienced Multi-Blended Learning as part of their English language courses. Convenience sampling was utilized, with voluntary participation ensured through informed consent procedures. Data were collected using a structured questionnaire consisting of 20 items, each measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was divided into sections measuring flexibility, accessibility, collaboration, motivation, self-regulated learning behaviors, and challenges encountered. The instrument was developed based on previous studies on blended learning frameworks and adapted to the context of EFL learning [22]. The questionnaire was administered online through a secure platform over a two-week period. Participants were provided with clear instructions and assurances of confidentiality and anonymity. Completion of the survey was voluntary, and no incentives were offered. Descriptive statistical analysis was conducted to summarize the data. Mean scores and percentages of students agreeing or strongly agreeing were calculated for each dimension. The analysis focused specifically on the dimensions of flexibility and accessibility to align with the study's research objectives. Microsoft Excel was used to organize and analyze the data efficiently.

Result

This section presents the demographic characteristics of the respondents and the findings related to students' perceptions of flexibility and accessibility within the Multi-Blended Learning (MBL) environment. Descriptive statistics, including mean scores and percentages, were used to analyze the survey responses.

A total of 65 undergraduate students participated in this study. Regarding gender distribution, 36.9% of the respondents were male, while 63.1% were female. In terms of their academic year, 43.1% were second-year students, 32.3% were third-year students, and 24.6% were fourth-year students. This demographic profile reflects a diverse composition, ensuring that perceptions were gathered from students with varying levels of academic experience within the EFL program.

Students' Perceptions of Flexibility in Learning

The first dimension assessed was students' perceptions of the flexibility offered by the MBL environment. Table 1 summarizes the descriptive statistics for this dimension.

Table 1: Summary of Students' Perceptions on Flexibility (n = 65)

Code	Flexibility Aspect	Mean Score	% Agree/Strongly Agree
F1	Ability to set personal study time	4.28	85.0%
F2	Flexibility in learning pace	4.41	87.7%
F3	Ability to manage study-location choices	4.22	84.6%
F4	Flexibility balancing study and other responsibilities	4.37	87.7%

Overall, the mean score for the flexibility dimension was 4.32, with an agreement percentage of 86.2%. These results suggest that students found the MBL approach highly supportive of managing their study schedules independently. The highest-scoring aspect was the ability to control learning pace (F2), highlighting students' appreciation for asynchronous elements within the blended learning structure. Qualitative feedback collected alongside the survey reinforced these quantitative findings. Many students emphasized that the freedom to organize study time enabled them to better balance academic obligations with personal and professional responsibilities. Flexibility in study locations also empowered students who faced transportation barriers or personal constraints to maintain consistent engagement with learning materials.

Students' Perceptions of Accessibility in Learning

The second dimension explored was students' perceptions of the accessibility features of the MBL model. Table 2 presents the descriptive statistics for this dimension.

Table 2: Summary of Students' Perceptions on Accessibility (n = 65)

Code	Accessibility Aspect	Mean Score	% Agree/Strongly Agree
A1	Ease of platform accessibility	4.12	79.0%
A2	Availability of learning materials anytime	4.23	83.1%
A3	Ease of accessing support resources	4.10	80.0%
A4	User-friendliness of platforms	4.14	83.8%

The mean score for accessibility was 4.15, with an overall agreement rate of 81.5%. Students positively perceived the accessibility of the learning platforms, with the highest satisfaction regarding the availability of learning materials at any time (A2). This finding highlights that unrestricted access to resources is crucial for supporting continuous learning in EFL environments.

Students also reported that the user-friendliness of the platforms minimized technological barriers, allowing even those with moderate digital literacy skills to participate effectively. Accessibility of support services further contributed to maintaining students' engagement, as they could seek assistance promptly when encountering difficulties.

Overall Perceptions: Flexibility and Accessibility

To provide a holistic view of students' perceptions, the overall mean scores for the flexibility and accessibility dimensions are illustrated in Figure 1.
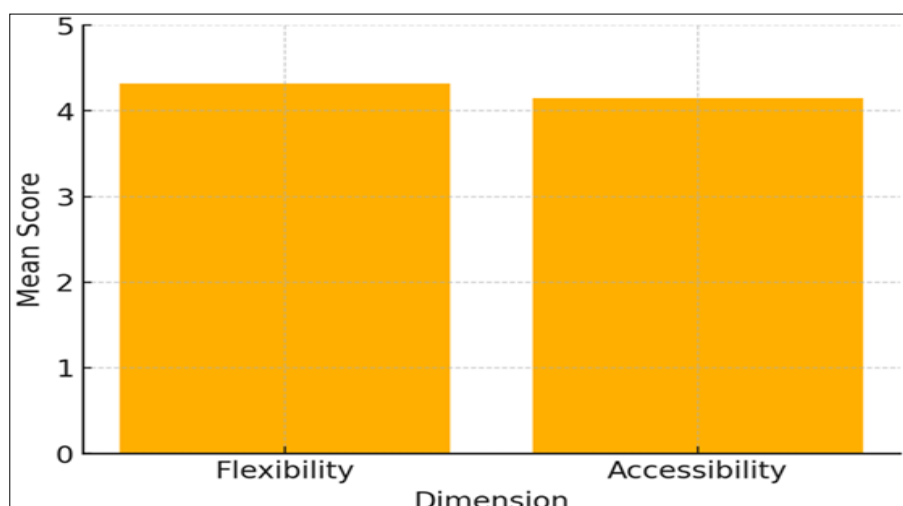
Fig 1: Comparison of Mean Scores for Flexibility and Accessibility Dimensions

This study revealed that students perceived the Multi-Blended Learning (MBL) environment as significantly enhancing both flexibility and accessibility in their English language learning experiences. The descriptive analysis of survey responses highlighted several key observations aligned with the research objectives.

First, with respect to flexibility, the data indicated a high level of agreement among respondents. The overall mean score for flexibility-related indicators was 4.32 out of 5, with approximately 86.2% of students expressing agreement or strong agreement. Students particularly appreciated the ability to set their personal study time (M = 4.28), manage their learning pace independently (M = 4.41), choose their preferred study locations (M = 4.22), and balance academic and non-academic responsibilities effectively (M = 4.37). These results suggest that the MBL structure provided substantial autonomy, enabling students to engage with learning materials at times and in ways that suited their individual needs.

Second, regarding accessibility, students also expressed highly positive perceptions. The mean score for accessibility-related indicators was 4.15, with an overall agreement rate of 81.5%. Students reported that learning platforms were easy to access (M = 4.12), learning materials were consistently available at any time (M = 4.23), support resources were reachable when needed (M = 4.10), and platform interfaces were user-friendly (M = 4.14). These findings indicate that MBL effectively minimized technological barriers, allowing students to interact with course content and support systems with ease.

Overall, both dimensions—flexibility and accessibility—received strong positive evaluations, with flexibility slightly outscoring accessibility. This pattern suggests that while students valued the ability to access learning platforms, they placed even greater importance on the freedom to manage their learning schedules and pace according to their individual preferences. The results are consistent with broader trends in contemporary education, where student-centered learning environments emphasize both flexible structures and accessible resources to foster autonomy, engagement, and academic success.

Discussion

The findings of this study demonstrate that flexibility is a highly valued aspect of the Multi-Blended Learning (MBL) environment among EFL students. This resonates with earlier studies by Sun and Rueda [23], who emphasized that flexibility in learning modalities significantly promotes student autonomy and engagement. The ability to control one's learning schedule, as revealed in the present study, corroborates findings from Alammary [24], who found that time management flexibility was the primary factor influencing students' satisfaction with blended learning formats across various disciplines.

The perception of flexibility in the current study also mirrors the findings of Graham [25], who argued that asynchronous components in blended learning allow learners to accommodate external responsibilities, thus reducing dropout rates. In EFL contexts specifically, where language exposure must be continuous, the opportunity to engage with materials at one's convenience becomes a critical success factor. This supports the assertion of

Ushioda [26] that flexibility empowers students to maintain language input consistently, thereby enhancing acquisition outcomes beyond rigid classroom settings.

Additionally, the study's results regarding accessibility highlight students' strong appreciation for the ease of accessing learning materials and support resources. This aligns with findings from Hwang and Fu [27], who asserted that in digital learning environments, accessibility is not merely about platform availability but about the intuitiveness of content delivery and user experience. Our findings confirm that when platforms are designed to be user-friendly and support structures are in place, student satisfaction with learning environments substantially increases.

Notably, the current study's results differ slightly from the observations of Hamid et al. [28], who reported that despite platform availability, many students in Southeast Asian contexts faced challenges in effectively navigating digital resources due to technological illiteracy. In contrast, the participants in this study reported high satisfaction with the accessibility of platforms and resources, suggesting that targeted digital literacy initiatives at the institutional level may have positively influenced students' experiences.

The comparative emphasis between flexibility and accessibility, where flexibility was rated slightly higher, suggests a shifting priority among modern learners. Kahu and Nelson [29] argued that today's students prioritize learning experiences that accommodate their individual schedules and life commitments, rather than merely valuing technological access. This aligns with the broader movement toward personalized education, where flexibility is considered integral to fostering motivation, persistence, and academic success.

The positive perceptions reported in this study further reinforce findings by Zhang and Zheng [30], who found that flexible blended learning designs significantly enhance self-regulated learning behaviors among EFL students. When learners have the autonomy to decide when, where, and how they engage with content, they are more likely to develop crucial skills such as goal-setting, time management, and self-monitoring—skills that are essential for success in language learning and beyond.

Interestingly, although accessibility was highly valued, it did not reach the same level of perceived importance as flexibility. This finding parallels observations by Adarkwah [31], who noted that while access to digital platforms is necessary, it is the pedagogical structure—particularly the flexibility and personalization of learning paths—that ultimately drives learner engagement and outcomes. Thus, while accessibility enables participation, it is flexibility that sustains meaningful learning engagement.

Moreover, this study's findings align with calls by Boelens et al. [32] for more student-centered blended learning designs that intentionally integrate flexible pathways and accessible support mechanisms. Designing MBL environments that balance both dimensions—flexibility and accessibility—without overburdening students with excessive autonomy remains a critical challenge for instructional designers, particularly in EFL education where structured practice is still important. Finally, the present study contributes to the broader discourse on educational innovation in developing contexts. By empirically demonstrating the positive

perceptions of MBL in terms of flexibility and accessibility, this study supports the view that blended and multi-blended learning approaches are not merely transitional models during crises but should be considered as sustainable long-term strategies for promoting inclusive, learner-centered education in higher education institutions [33].

Conclusion

This study explored the perceptions of undergraduate EFL students regarding the flexibility and accessibility offered by the implementation of a Multi-Blended Learning (MBL) model. The findings indicate that students held highly positive views towards both dimensions, with flexibility receiving slightly higher appreciation than accessibility. Students valued the ability to manage their learning schedules, set their own pace, and balance their academic and personal responsibilities, which are key features of a flexible learning environment. At the same time, the ease of accessing learning materials, user-friendly platforms, and the availability of support services contributed significantly to positive perceptions of accessibility. The alignment between these findings and previous research underscores the importance of designing blended learning environments that not only integrate digital technologies but also prioritize learner-centered features such as flexibility and accessibility. The results emphasize that while providing access to learning platforms is necessary, offering students autonomy and personalized learning pathways is critical to sustaining engagement and improving learning outcomes. Based on these insights, it is recommended that higher education institutions aiming to implement or refine Multi-Blended Learning models should focus on enhancing the flexibility of learning structures by offering more asynchronous learning opportunities, self-paced modules, and adaptable scheduling options. Simultaneously, ensuring that digital platforms are accessible, intuitive, and supported by responsive assistance services will be vital to fostering inclusive and equitable learning environments. Future research could explore longitudinal impacts of MBL on academic performance and investigate the effectiveness of specific support mechanisms in maintaining learner engagement over time.

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