



# BLENDING LEARNING MODELS AND PRACTICES: A LITERATURE REVIEW

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**Abstract:** This study reviews the literature in the area of blended learning and attempts to find out how researchers have viewed the characteristics and learning models associated with blended learning. It also reviews the use of blended learning models used in different environments to find out their applicability and effectiveness. The objective of this research was to review the understanding of the concept of blended learning along with its characteristics. The study attempted to review the research conducted on the pedagogical arrangements of blended learning mode and its practice in some countries. The research methodology included a search strategy based upon a criteria to identify relevant research studies. The results showed that the concept of blended learning alongwith the blends that make up blended learning and its characteristics had been studied by many researchers. There were many situations where the pedagogy of blended learning approach was being used in teaching across different subjects. Blended learning has a larger scope for use by both conventional and open distance learning institutions.

**Keywords:** Blended learning, distance learning, instructional methods, pedagogical approach

## I. INTRODUCTION

The term 'blended learning' is being increasingly used in different areas of education, professional development, business and corporate affairs amongst others. Blended learning in the post- covid period has become even more popular as it is recognised that this model combines the positive features of online and in-person instruction. Earlier a traditional face-to-face learning environment was considered essential for a wholesome student-teacher engagement. However, the development of technology in the 21<sup>st</sup> century has brought about many changes in teaching and learning. Internet-based asynchronous technologies such as discussion forums, listservs, blogs, e-portfolios, web folios and others have provided students with more flexible and interactive learning environments. The innovative method of blended learning or blended e-learning has the capability to integrate and increase the benefits of both in-person and online instruction and provide a singular learning experience that is aligned to the setting and the intended educational objective. This has resulted in researchers and scholars undertaking research work on blended learning, its pedagogy and practices.

## II. RESEARCH OBJECTIVES

The major objectives of this literature review were to review the different understandings of the concept of blended learning and to study its characteristics. Another objective was to review the pedagogical arrangements that constitute blended learning. Such a review of blended learning related research studies would help in better understanding of its different features, alongwith usage of blended learning in different countries and its use in the teaching learning process.

### III. RESEARCH METHODOLOGY

A review of research publications in the area of blended learning has been included in this work. A review protocol was created including the search strategy, article selection standards, criteria for judging the applicability of the articles, and data extraction and analysis techniques. A search of electronic databases, including SCOPUS, PUBED, Google Scholar was conducted to identify relevant research papers belonging to the research area. The search strategy included relevant keywords, themes, conflicts, commonalities to increase the scope of inclusion. The literature review examined papers accordingly.

The inclusion criteria were defined to ensure alignment with the research objectives. Full-text assessment was performed on 100 research papers that cleared the initial screening. The research papers which were not aligned with the objectives were excluded from this study. The studies were selected based on their relevance, methodology, and relevance of their findings.

### IV. RESULTS

The focus of the literature review was on the understanding of blended learning as well as the pedagogical arrangements that reflected strategies adopted for it.

#### Blended learning

The review revealed that blended learning has been studied by different scholars. In her study Medina (2018) analysed the origins and development of the word 'blended learning' and found that it had a large range of meanings. Blended learning was referred to as a strategy, delivery method, opportunity and a change in the way that education is delivered, or as a pedagogical approach. This research identified different blends that make up blended learning and also examined its features, as well as its advantages and disadvantages, in higher education with the focus on language instruction.

Setiawan (2019) studied blended learning in the context of Indonesia and found that this mode be used to reformulate PAI learning in the digital era. This study found that the blended learning was able to synergise a balance between face to face and online learning and could be applied to PAI learning to make it more effective and efficient. According to this study, blended learning had a positive effect on the development of students as well as on achievement of learning outcomes. However, there are other studies that show that there is a need for more research on instructional models and support that would result in greater achievement and success.

Listiana & Jaharadak (2019) conducted a literature review of blended learning in which they studied the characteristics of blended learning as instructions of instructional media. The study took into account factors of challenges, interaction, motivation, effectiveness amongst others to see whether such a mixed method would be more effective as a learning process.

Yet another aspect of blended learning was studied by Alammary *et.al* (2019) and it was found that there is not enough research that has been done in this area. The review showed that the nature of programming, the characteristics of the students, and the conventional teaching strategies used by instructors in basic programming courses faced several obstacles. It was suggested that a viable strategy to deal with these issues could be blended learning. Other research showed that using blended learning instead of conventional instruction may increase students' learning outcomes.

Muhammad Azeem Ashraf *et.al* (2022) used PRISMA (Preferred Reporting Items for Systematic studies and Meta-Analyses) principles to perform a systematic review of systematic studies on BL to find trends, gaps, and potential future research areas. The results showed that BL was mostly researched in higher education as well as initially focused on students.

#### Characteristics of blended learning models

This review showed that various models for blended learning were the means for promoting hybrid learning. It is seen that schools and instructors were designing activities as well as opportunities for teaching-learning such that there was a blend in-person and online learning. When blended learning first emerged, it was mainly intended to supplement conventional teaching strategies for students who spent their whole school day in a physical classroom. However, same techniques were also used to facilitate a mix of

face-to-face instruction and distance learning. There are several unique, diverse models, yet they all share a number of crucial characteristics.

In their study, Dziuban, *et al* (2018) referred to blended learning as the 'new normal' and an 'emerging technology'. Scholars have agreed that self-paced learning, teacher-led online modules, as well as in-person teaching are often used in blended learning approaches. Whether online or in person, students may take part in a mix of solo study, small group teaching, and whole-class instruction. The model in which station rotation wherein individuals or small groups moved between different learning setups autonomously or in accordance with a timetable, is often used in schools.

In the study by López-Pérez *et.al* (2011), both the students' opinions of the blended learning activities as well as the actual result of such a mode were studied. The research indicated that integrated learning increases test scores and decreases attrition rates. In addition, the students' perspectives on blended learning were interdependent, and their final grades depended on the activities, as well as the students' ages, origins, and attendance rates.

In an extensive review of different technological models, Alamri *et.al* (2021) found that three technological models helped teachers in personalized learning implementation in higher education. These areas were open digital badges, competency-based learning technology and adaptive learning technology. These platforms could be incorporated into the blended learning environment and could help learners in their learning. The review also discussed the difficulties that arose due to adopting a personalised learning strategy in higher education, as well as its theoretical and practical ramifications.

Binti *et.al* (2014) recommended the use of the Attention, Relevance, Confidence and Satisfaction (ARCS) model alongside blended learning in order to have better results in teaching and learning in higher education institutions. It is seen that an understanding adult learners along with the use of the ARCS model in the teaching-learning process were needed for the use of appropriate blended learning strategies.

Ashleigh *et.al* (2012) analysed the fundamental causes for project management students to prioritise transferrable skills and the use of online learning environments as being essential aspect of their educational experiences. Different methods including focus groups were used for teaching students. It was found that in order to develop certain human conceptual and technical skills, there was a need for a teaching approach that was based upon blending of learning. This blended learning model was based on the principles of andragogy that would help adult learners to choose programmes based upon their individual learning preferences.

In the study by Hafeez *et.al* (2021), a comprehensive assessment of previously published publications concerning blended and conventional learning strategies was conducted. 36 research publications from different databases across a range of disciplines were selected in this study. The analysis of the literature revealed that in a majority of cases, the blended learning method was more successful as compared to conventional lecture style. The published publications that were analysed demonstrated statistically greater significance for the blended learning strategy in terms of academic success and the development of critical and creative thinking across disciplines.

Hashemi *et.al* (2020) studied blended learning and its impact of English language teaching and learning with reference to the four integrated English language skills—reading, writing, speaking, and listening. The results of the literature study showed that employing blended learning methods in English language teaching and learning had better results and were more beneficial to the learning process.

Tobin *et.al* (2021) investigated the 'lived experience' of frontline practitioners in delivering education using EdTech when forced relocation disrupts the educational system. Prior to the COVID pandemic, a small-scale, exploratory, qualitative research was carried out with educators in urban and refugee contexts in Greece, Jordan, Kenya, and Rwanda. It was seen that technology initiatives alone cannot serve as a stand-alone solution but there is a need for blended learning programmes to be given by skilled and supported instructors, which are context-specific, modular, and mobile technology optimised.

## Blended Learning Pedagogy Experiences

Kistow(2011) studied the transition of postgraduate students from blended learning to conventional face-to-face learning at the Graduate School of Business in Trinidad and Tobago, the academic delivery was found to be done in part online in a hybrid style. Due to the flexibility as well as convenience that the online component offers, the majority of students preferred switching to a mixed learning environment. However, students stated that they believed networking opportunities and peer interaction to be essential components of postgraduate management education. As a result, they preferred a programme blend where at least 50% of the programme is delivered in a traditional classroom setting.

Waha *et.al* (2014) studied an Australian university's master's course in library as well as information science which included an investigation on students' perceptions of the ideal ratio of online and face-to-face activities. It was found that for the creation of an acceptable mix in blended learning courses, it was crucial to identify elements that students rate as helpful, challenging, and effective in their learning. Maarop *et.al* (2016) found that there is still some apprehension in teaching in mixed learning environments, despite the fact that many educational settings, particularly higher learning institutions, prefer it over the conventional method and purely online learning. This study also summarised the literature on the difficulties adopting blended learning and presented suggestions that can be drawn from these experiences.

Liyanagunawardena *et.al* (2014) examined how online learning was being implemented in Sri Lanka through online distance education utilising blended learning. The Sri Lankan government's drive to incorporate online components into distance education was motivated by the promise of reducing cost. The study pointed out the difficulty providing infrastructure and other such issues and in the implementation of such blended learning programmes.

Pavla *et.al.* 2015) attempted to study blended learning with a view to finding out global solutions for using blended learning as an alternative in higher education and proposed a strategy for educational managers and decision makers. It was seen that blended learning could be the answer for shifting the traditionally rigid educational system towards more flexible networking structures. Through their research study, the authors designed a prototype of cross-university semi-virtual education. This model combined blended learning and e-learning with traditional face-to-face teaching. The researchers concluded that such structural flexibility would allow such courses be modified for other audiences in other higher education institutions,

Spring & Graham (2017) identified and contrasted the themes of the best blended learning (BL) articles from seven different geographical areas. The most cited blended learning publications from various areas revealed striking parallels in vocabulary, research practises, and concentration. It was seen that were some minor differences between the regions and top articles overall were present, but consistent trends showed that topics encouraged cooperation in addition to regional exchange.

Widjaja *et.al* (2022) found that merely face-to-face interactions would not get the desired results especially when teaching postgraduate courses. There was need for a combination of conventional techniques and technology if significant results were to be achieved in the learning process.

Al-Hunaiyyan *et.al* (2022) studied the perspectives of e-learning acceptability with respect to educational practitioners. In their study of over four thousand educators and students in Kuwaiti educational institutions, the researchers found that while majority were in favour of the use of e-learning, however the need for improvement in the technological competencies was necessary to run the planned e-learning programmes. They advocated a need for distance and blended learning model (DBLM) to be implemented in the Kuwaiti educational system.

The literature on distant education and self-regulation were examined by Lynch *et.al* (2023). In order to promote student self-regulation abilities related to academic achievement in a blended education environment, it was proposed that goal orientation, self-efficacy for learning alongwith performance, and internet self-efficacy be identified as plausible predictors of academic achievement.

## V. CONCLUSION

This literature review study explored the varied terrain of blended learning models and the existing practices in different parts of the world. The review of some blended learning models brought to light the many strategies that educators use to combine technology and conventional pedagogical techniques. We have gotten a clearer comprehension of the structures, advantages, and disadvantages of these models by analysing them.

Effective blended learning implementation strategies have been a major focus of this study. Studies show that blended learning can be effectively used to provide educators a complete tool set for creating and implementing effective learning experiences. The literature highlights the significance of pedagogical arrangements and student involvement in the blended learning paradigm, from setting explicit learning goals to using interactive digital resources. There is scope for greater use of this methodology by both conventional and open distance learning institutions.

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