

## Decoding Blended Learning: Historical Development, Definitions and Components

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### Abstract

This review of literature article looks at the background and historical development of blended learning as a concept. Using research questions-based systematic review of literature approach, it critically evaluates different definitions of blended learning proposed by different researchers, and examines how they evolved over the years. Based on the earlier definitions and the current context, the article comes up with a new one. It also views the role and importance of blended learning during Covid-19. Furthermore, it examines different types of blended learning. Finally, it looks at its different components and how they may be used in the teaching-learning process.

**Keywords:** *blended learning, online education, historical background, review of literature, Covid-19*

### 1. Introduction

Human beings are one of the most extraordinary creatures of nature. The psychological approach and needs of every human being vary from person to person. Every person has his/her own perceptions and views to observe, analyze and absorb different things. Thus, the learning behavior of every individual also varies. Some feel more comfortable in traditional ways of teaching while others are more excited at the prospect of online and digital learning. As a result, a pedagogical technique that combined the two is considered most suitable for education. This technique is called blended learning.

There are many questions regarding blended learning i.e. what is it, how is it different from traditional and e-learning, how did it evolve, what are different definitions of blended learning, and what are different types of blended learning? This article decodes blended learning by answering the above-mentioned questions. It looks into the concept of blended learning, its historical development, how it has been defined over the years, and its types.

#### 1.1. Research questions

The study is based on the following questions.

1. What are the main concepts, roles, and importance of blended learning?

2. How has the term blended learning been defined over the years?
3. What should be the definition of blended learning in the current context and time?

## **2. Research Methodology**

Snyder (2019) compiled a list of approaches and strategies to conduct the review of literature studies. This article employs a systematic research questions-based approach (Snyder, 2019, p. 334). Based on the research questions, relevant pieces of literature were gathered and systematically reviewed. Relevant parts were highlighted, and again critically reviewed and analyzed for this study. In total thirty-four studies were reviewed and analyzed for blended learning, and one for methodology.

## **3. Blended Learning, its Roles and Importance**

In the olden days, education was provided through traditional methods and ways using written materials, writing boards and notebooks, and mostly using face-to-face, oral and written communication techniques. The sleek lean of technology into the teaching-learning process opened up a gateway for new learning theories and pedagogical techniques. Initially, audio and video devices entered the teaching-learning process as new and modern technologies (Mossaab & Rime, 2013)). Within a few decades, computers started to infiltrate the education system with unimaginable impact (Molnar, 1997). Soon they were followed by online and digital technologies (Noreen & Malik, 2020; Malik & Akkaya, 2021). Initially, traditional pedagogies, and technology-based pedagogies as two dimensions of the teaching-learning environment, were always placed in opposite directions. The traditional approach which involved face-to-face interaction between the teacher and student, was considered more suitable for formal teaching; and online learning was thought to be appropriate only for distance learning. However, with the ticking clock, the educationists realized that the two were not opposed to each other, but would supplement each other to exponentially improve the efficiency of the teaching-learning process. This new trend of combining traditional and technology-based pedagogy was called blended learning.

The structured classrooms with instructor-led, face-to-face learning are considered a classic technique. It usually involves more interaction between the teacher and the students. The physical presence of the teachers also makes it more regulated than online ones. The boards, teaching models and different types of graphs, diagrams and charts were the charms added to a classic classroom setting by a teacher which improve its efficiency (Duplass, 1996). In traditional teaching, teachers and students develop closer bonding and ties which can further motivate the students (Malik & Akkaya, 2021). It also improves students' social skills as they have to live and study with their fellows and work in groups.

Despite certain advantages and benefits, traditional pedagogy has many limitations and challenges. A large number of students, limited resources, limited teaching tools, and individual learning differences are some of the main challenges that affect academic performance in traditional learning (Malik & Akkaya, 2021). Time constraints in traditional classrooms make the learning environment stressful. The teacher is to teach the planned content in a restricted time. All types of students are supposed to absorb the content taught within the confined time. Face-to-face interactions are considered ideal in

some situations, but time constrain appear to be a challenge for both teachers and students. This forced the educationists to think about different ways to improve the teaching-learning process.

The introduction of computer-assisted teaching-learning techniques provided solutions to the issues and challenges in traditional teaching-learning methods. Use of video recordings, CDs, and later USBs proved to have many pedagogical, psychological and academic advantages (Caspi, Gorsky, & Privman, 2005). Those comparatively modern techniques solved some of the problems associated with traditional teaching like time, space and pace. Teachers learned new technologies like projectors and different computer-assisted devices to further enhance the teaching-learning process.

Online and digital technologies are evolving around the world rapidly. In the current era of globalization, online and digital technologies have been able to play a vital role in every field of life including the teaching-learning process (Malik, Azmat, & Bashir, 2020; Warner, Malik, & Mohammed, 2021). The distance learning paradigm opened up doors for even more technologies. Learners of all ages, areas and fields benefited from modern teaching technologies and techniques. With the passage of time, ICT and digital technologies became a very important component of the education system (Malik & Noreen, 2020; Malik & Akkaya, 2021).

Blended learning which combines both traditional and online learning, has been recognized as a new pedagogical trend in the teaching-learning process (Osguthorpe et al., 2003). Kintu et al., (2017) said that learner characteristics, design features and learning outcomes are some of the indicators for effective blended learning. Researchers argue that institutions adopting blended learning can keep in mind these indicators to make blended learning more effective and successful. Blended learning has been equally effective in both social and natural sciences. However, disciplines employing blended learning often show homogeneity (Pektas & Gürel, 2014). Technology plays a major role in blended learning, consequently, learning new technologies and techniques is imperative for good and effective blended learning teachers and students.

Different Individuals have different learning styles and needs (Khan, Jahan, & Asif, 2017). Teaching-learning methods that involve multiple technologies, techniques and strategies are likely to be more effective in this regard (Scalise, 2007). Face-to-face interactions have their own advantages as they can have the teacher's physical presence. For example, when teachers need to introduce new topics or conduct physical activities and experiments; their physical presence becomes very important. Sense of attachment and involvement can also play a crucial part in the success and effectiveness of this teaching-learning approach. On the other hand, the online learning approach answers many important teaching-learning issues for distance learners. It especially facilitates those who are not able to be in the traditional learning environment. Many students who belong to remote areas are doing jobs, or lack either permission or access to traditional educational institutions, are greatly benefitting from the online mode of learning (Malik & Akkaya, 2021). It also enables the learners to learn according to their own pace without any external pressures. Limited resources in conventional mode, technological upgrading, faculty accountability, and checking of student learning outcomes required by the higher

education institutions force them to move towards the new models of teaching and learning (Howard et al. 2014).

Garrison and Vaughan (2008) argue that higher education must start delivering its promises of providing effective and comprehensive learning experiences by engaging the students, and addressing the needs of society in the 21<sup>st</sup> century. Blended learning combines both models thus improving the overall effectiveness of the education process. It increased efficiency and working pace, improves reliability, brings convenience, and opens up new ways for collaboration, creativity, and critical thinking. As such, it is best suited for the needs of modern times and evolving challenges.

In blended learning, learners can get access to, and handle extensive information available on the internet and other digital media. Blended learning can also promote the culture of self-learning which can make the students independent learners. Furthermore, it promotes curiosity, critical thinking, and problem-solving skills in them (Dangwal, 2017). It also develops active and collaborative learning on a bigger and broader platform. It not only improves the teacher-student and student-student interactions, but also brings it to a whole different level (Kaur, 2013). Blended learning thus, develops new skills and approaches amongst the students which not only help them in their academic learning, but also benefit them in their future life.

#### **4. Blended Learning during Covid-19**

The current pandemic of Covid-19 further reinforced the role and importance of blended learning (Rachmadtullah et al., 2020; Saboowala & Manghirmalani Mishra, 2021). During Covid-19, online education and blended learning became imperative to ensure that the teaching-learning process did not come to a halt (Dhawan, 2020). Covid-19 changed the mindset of the policymakers, researchers, and practitioners about it, and they started to realize its importance. As a result, it saw exponential growth during this time (Malik, Akkaya, & Jumani, 2022). Now, its practices have become a part of our newly adapted life with social distancing. Initially, many education systems went for a purely online mode of learning, but most of them moved to blended mode as the situation eased, and also as purely online education could not provide the flexibility and accessibility that blended learning can.

#### **5. Historical Evolution and Critical Review**

Although, blended learning is not a new concept, and the idea of merging conventional and distance/online education started to be discussed in 1960; the term itself started to echo academic circles quite late. The first recorded instance of the term was used in 1999 when an Atlanta-based computer skill certification and software training business offered “blended learning” to its clients (The Free Library, 2013). Since then, the term has been widely used by policymakers, educationists, researchers and scholars.

Blended learning, also known as hybrid learning, technology-mediated instruction and mixed-mode instruction, has been defined by numerous researchers and scholars since the inception of the term. This part of the article looks into the historical evolution of the term and critically reviews some of the prominent definitions. One of the earlier definitions of blended learning was given by Smith in 2001. According to him, blended

learning was “a method of educating at a distance that uses technology (high-tech, such as television and the Internet or low-tech, such as voice mail or confer.” This definition does not explicitly talk about combining conventional and distance/online methods. It also reveals that blended learning was initially taken as an approach that was primarily meant to be used to facilitate distance learning.

Discroll (2002) defined blended learning in a very broad and multi-dimensional way. According to him, blended learning can take place in four different ways: combining different modes of web-based learning, combining different pedagogical approaches (with or without technology), combining any type of instructional technology with face-to-face learning, and combining learning and work by mixing instructional technology with actual job tasks. As a result, “blended” was not limited to combining online and conventional modes of learning (as described in the third point), but also to combine different technology-based learning strategies, pedagogical approaches, and learning and practices (actual work). It is important to note that currently blended learning is generally taken as combining online/distance and conventional education models.

Singh (2003) viewed blended learning as “a combination of multiple delivery media designed to complement each other and promote meaningful learning. The transition of technology from a luxury to a need has turned the table for individuals”. Although Singh (2003) did mention technology, but mainly blended learning was taken as the "combination of multiple delivery media". That means that according to him, blended learning could be a combination of conventional media or distance education media separately. Combining distance/online and conventional mode does not seem to be compulsory even in this one.

It was in 2004, that the term blended learning started to be exclusively used for combining distance/online and conventional modes of learning. Garrison and Kanuka (2004) defined blended learning in the same way as it is defined these days. According to them, it combines "face-to-face instruction with computer-mediated instruction". Oliver and Trigwell (2005) spoke similarly, saying that blended learning is the method of mixing e-learning with traditional learning, mixing online learning with face-to-face.

Graham (2006), also write about combining face-to-face learning systems and distributed learning systems (using technology). One year later, Bliuc, Goodyear and Ellis (2007) talked about mixing traditional and online teaching methods. It was one of the first occasions that the blending of online and conventional teaching-learning methods was used. Garrison and Vaugan (2008) followed the same line, but added a "thoughtful fusion” of the two teaching-learning methods. Westbrook (2008) also defined blended learning as the combination of the two methods, but added “in a pedagogically and didactically meaningful way” and “continuously supervised by a teacher”. According to Graham (2013), “Blended learning system combines face-to-face instructions with computer-mediated instructions”. He further added that blended learning can be contextual according to the institutional culture.

## **6. A New Definition of Blended Learning**

While looking at the aforementioned definitions, and how they evolved over the years, it is clear that initially, the concept of blended learning was too broad and multi-dimensional; but since 2004, it has been used for mixing online and conventional modes of learning. Traditionally, it has been a model based on the conventional mode of learning which incorporates online education with varying degrees; but with the changing times and challenges, blended learning can also be an online mode of learning based model with elements of conventional (face to face) education. Based on all these points, this article defines blended learning in these words. "Blended learning combines conventional (face to face) and online modes of learning for improved teaching-learning experience and better academic progress. It may be based on the conventional mode of learning, incorporating elements of the online mode of learning; or the online mode of learning based one with elements of the conventional mode of learning. The ratio, degree, level and type of the two modes may vary according to the learning objectives, teachers and learners' needs, and infrastructure-related issues and challenges."

## **7. Components of Blended Learning**

According to Doubet and Carbaugh (2020), there are five components of blended learning: launch/ hook, introduction of new contents or skills, formative assessment or checks for understanding, active processing with peers, and authentic learning experiences. For effective use of blended learning, a teacher should not only keep in mind these five components, but also the learning objectives, infrastructural situation, and the setting. These components and their further details are given below.

### ***7.1. Launch/ Hook***

Launch or hook strategies can be used to grab the attention of the students. Some of the techniques for it include the introduction of a new idea, giving any quiz or challenge or asking the students to predict something. Both conventional and online techniques can be used for it.

### ***7.2. Introduction of new content or skills***

New content or skills can also be introduced through any of the two modes. In online mode, it may be done through recorded video, live video or PPTs etc. In conventional mode, it may be done directly in the presence of the students, using online or conventional tools and strategies.

### ***7.3. Formative assessment and checks for understanding***

Formative assessment or check for understanding can also be done through both online and conventional modes. However, doing it through technology (not necessarily online) can make the process and feedback quicker, more efficient and effective.

### ***7.4. Active processing with peers***

This process means discussing with peers, analyzing, and then trying to apply the knowledge either independently or with them. It can also be done in both modes. There can be classroom group discussions and activities. Online groups can also be created for the same purpose.

### 7.5. Authentic learning experiences

It means providing the students with opportunities to do a task that would allow them to apply their knowledge and acquired skills in real-life situations. It may be more beneficial to do these tasks in groups with their peers and/ or mentors so that they would further increase their abilities in teamwork and social skills. Both online and face-to-face methods and strategies can be used for them.

## 8. Conclusion

Blended learning has been evolving over the years both as a concept and as a term. Interestingly, on one hand, the concept of blended learning has expanded (with the inventions of new technologies, and new innovations and strategies for it); on the other hand, it has become more specific. Whereas earlier it could be mixing of multiple strategies of the same method (e.g. multiple strategies of face-to-face method), or mixing instructional technology with the actual job; now it is taken as the combination of traditional (face-to-face) and online modes of learning.

Blended learning has seen immense and exponential growth, especially since the dawn of 21<sup>st</sup> century. The current pandemic of Covid-19 has further highlighted its role and importance. It provides flexibility, depth and richness to the teaching-learning process. However, the effectiveness of blended learning very much depends on the selection of the right strategies and tools based on the context, objectives and limitations.

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