

Blended Learning: Optimizing Learning Outcomes

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Abstract

The National Education Policy is primarily student-cantered, with students serving as the key stakeholders and the system serving as a means of achieving their goals. Numerous teaching- learning modes, such as in-person instruction, online instruction, and learning at a distant or virtual mode, are permissible with this methodology. Additionally, it supports the integration of trans-disciplinary, multimodal, and vocational courses in blended education.

By combining synchronous and asynchronous learning tools in both in-person and online settings, this pedagogical approach enhances the learning process and makes it more accessible to students. When students and teachers are physically present in the same location, they can collaboratively manage the pace of learning and ensure meaningful outcomes. The flipped classroom model can further engage students by providing opportunities to access digital learning materials through a cloud-based platform.

Keywords - *Asynchronous Learning, Blended Teaching, Learning tool, New Education Policy, Open Distance Learning, Pedagogy, Synchronous Learning.*

Introduction

The history of pedagogy has witnessed a significant paradigm shift, with a growing emphasis on student-centred learning. This approach, in contrast to teacher-centric instruction, empowers students to take ownership of their education. By fostering greater student engagement and autonomy, student-centric learning can be derived through different methods, such as creative teaching methods, personalized learning experiences, and flexible learning options.

Recent years have seen a transformative evolution in pedagogy, characterized by the integration of innovative teaching approaches and cutting-edge technologies. This fusion aims to adapt teaching practices to the evolving needs of students and establish best practices in academia. A prominent model within this framework is mixed mode instruction combined with contemporary with web-based learning. While blended learning is not a new concept, scientific advancements have highly increased its capabilities. Beyond supplementing classroom instruction with resources like textbooks, online materials, and interactive whiteboards, blended learning now facilitates student interaction, self-paced learning, and a more flexible curriculum.

In contemporary education, blended learning primarily indicates towards inclusion of technology into curriculum development and delivery. It is a pedagogical approach that seam-

lessly blends traditional classroom instruction with computer-mediated learning, offering a holistic educational experience. By fostering personalized learning, student autonomy, and a combination of teaching methodologies, blended learning provides an optimal environment for effective learning.

The present article deliberates upon the concept of blended learning through a comprehensive review, considering both existing literature and the current educational landscape, including the impact of the COVID-19 pandemic, the National Education Policy, and emerging teaching methodologies.

Research Objective

The present research aims to analyse blended learning thoroughly, investigating into its pedagogy, exploring diverse models, and conducting a systematic review to identify both advantages and disadvantages. The ultimate goal is to achieve application oriented blended learning pedagogy.

Results and Discussion

Despite the devastating effects of COVID-19 pandemic, there has been significant educational innovation. Thousands of virtual schools worldwide have paved the way for broader adoption of computer based teaching and learning methods. (Dhawan, 2020; Wang, 2021). This shift has prompted educators to rethink their use of digital tools and teaching strategies during the confinement at home because of corona virus.

Digital technologies, which have evolved over the past two to three decades, have greatly influenced how people connect and communicate. With a period of time, these technologies have been increasingly tailored to enhance classroom learning. Tools such as presentation graphics application and collaborative learning with academic software such as LMS and SRS, and play based learning platforms (GBLP) have become key in modern education (Moorhouse & Beaumont, 2020; Tay et al., 2017). Initially, the impact of web based technologies in education was minimal (Cuba, 2001). However, with the rise of portable, Internet-ready devices like smartphones and tablets, teachers can now access online resources without using expensive laptops or computer labs, leading to the self-directed learning environment. (Hockley & Dudeney, 2018).

During COVID-19, the use of e-learning platforms, such as virtual classroom, became widespread. These platforms served as central hubs for teaching and learning, allowing faculty to automate grading, analyse outcomes, and assess student performance. LMS gained popularity because it provided a flexible online environment for asynchronous communication and task management, from uploading materials to submitting assignments.

Teachers have effectively used allochronic instructional methods to provide on-stream feedback, custom presentations, and educational videos to students. Tools like Google classroom, Kahoot, PearDeck, ClassDojo, Screencastify, OBS Studio, iMovie, and Annotate. Everything were commonly used to create presentations. Many teachers recorded lectures with voice-overs, allowing students to access them anytime, regardless of internet speed.

These videos were often uploaded to platforms like YouTube and Ed Puzzle, offering flexibility for both educators and pupil.

Recently, professors have increasingly relied on asynchronous learning tools such as digital white board, messaging apps, grading software. Collection of database of students, through Google forms, has proven to be effective for reviewing activities, as it provides detailed data on student partaking and correctness. Survey Administration Software also generates spread sheets, simplifying the process of evaluating student performance.

Simultaneously online virtual classes are conducted using various video conferencing platforms (VCS), such as Zoom video communication, Webex meetings, free conference Google Meet, Microsoft Teams. These platforms offer features like chat, voice communication, sharing of screen, and virtual whiteboards. VCS tools also integrate with student response systems (SRS) and production tools, enabling interactive quizzes (Kahoot), presentations (Google Slides), and more. Breakout rooms allow teachers to divide larger classes into smaller groups of students for discussions. Recording features let professors upload lesson recordings for review or security purposes.

The rapid shift to virtual classrooms during COVID-19 left many educators fatigued by online teaching strategies. Thus researchers are looking better mode to fulfil the demands and attitudes of instructors toward online learning. They have developed innovative methods for synchronous online teaching, utilizing VCS features like screen sharing, gallery view, and structured learning sequences to help students adapt to this new mode of education.

Synchronous online learning allows instructors to deliver live lessons using video conferencing systems (VCS). It can also combine both live (synchronous) and recorded (asynchronous) modes. However, teaching live online can be more challenging for educators. They need to precise over multiple internet tools, stay engaged, facilitate real-time interactions, and complicated technical issues all at once (Rehn et al, 2018).

Despite these challenges, contemporary learning fosters direct communication between instructors and students. It enables teachers to interact with students in real time, encourage group activities, quickly address concerns, and help build confidence for completing asynchronous tasks. With technological advances, mentors have more alternatives for teaching methods (González-Loret, 2020). To teach effectively online, teachers must be acquainted with both technical tools and online teaching strategies (Cleveland-Innes & Garrison, 2012).

Teachers can also track student appraisal and share feedback with the whole class, in groups (via breakout rooms), or individually, using shared screens and various forms of communication. Corona viral disease highlighted the necessity for educators to develop more strategies to teach students online. Teachers must embrace both contemporary and allochronic technologies and approaches to run emergency virtual classrooms, as these strategies differ from in-person teaching methods (Servatka, 2002).

Conclusion

Integrating blended learning formats is essential for promoting student-centred learning, though it may be challenging. Using technology in the classroom helps create innovative teaching methods and good outcomes in education. When faculty reflect during practice sessions

or professional development courses, they enhance the connection between syllabi and teaching. This leads to expanded learning opportunities, better communication, easier submission and grading of assignments, and richer access to information.

Blended learning combines in-person and online formats to support effective student-centred education (Garg & Bhardwaj, 2022). Key elements of this approach include assessment, communication, and instructional processing. Asynchronous tools allow teachers to provide educational resources for students, while synchronous technologies offer real-time conversation between learner and educator, such as through virtual classroom sessions.

However, relying solely on either synchronous or asynchronous methods is not enough. A hybrid virtual approach provides the necessary tools for efficient teaching, assessment, and communication, especially for remote learners. This highlights the importance of a new pedagogy, the Blended Online and hybrid web based teaching, as an effective way to engage, assess, and connect with students.

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