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Blended Learning: A Tactical Approach For 21st Century

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Abstract

The current trend shows a significant increase in the popularity of e-learning, with blended learning effectively putting this concept into action. The COVID-19 pandemic has created a situation that necessitated individuals to participate in various activities from home, including education, which has profoundly altered the teaching and learning methodologies. The importance of blended learning, which integrates traditional classroom teaching with online learning techniques to improve educational quality by encouraging the use of digital tools alongside face-to-face instruction that promotes critical thinking, aligns with the vision of NEP-2020 for a multidisciplinary and skill-oriented approach. Additionally, blended learning's ability to assist students in remote and underserved areas, as well as its capacity to accommodate diverse learning styles, corresponds with the NEP's goal of delivering inclusive and equitable education. This innovative approach not only addresses the challenges associated with traditional rote-learning education but also prepares learners to thrive in an increasingly interconnected and technology-dependent world. This paper explores the concept of blended learning, the necessary conditions for its implementation, and its significance within the Indian education system. It also examines the benefits of blended learning, the challenges encountered, and the strategies for its effective implementation.

Keywords: *Blended learning, Traditional learning, Technology*

Introduction:

The existing educational system is currently undergoing a significant phase of transition. In response to challenges related to expansion and the need to address diverse learner requirements, the system is increasingly integrating new technologies and adopting innovative strategies to deliver quality education for all (Graham, 2006). However, several constraints—such as limited financial resources, inadequate infrastructure, and the enduring value of face-to-face interaction—continue to restrict a complete shift from traditional modes of teaching. Furthermore, learners themselves often exhibit uncertainty in adapting fully to digital learning environments.

Despite certain limitations, traditional teaching methods provide an essential human connection that is fundamental to the educational experience. The attitudes and behaviours of teachers significantly influence students' personality development and value formation. Face-to-face interaction plays a crucial role in achieving affective, cognitive, and psychomotor learning objectives, while also fostering social skills such as cooperation, self-expression, and respect for diverse perspectives (Garrison & Kanuka, 2004).

At the same time, the need to align education with rapid technological advancements and globalization has led to the emergence of ICT-supported teaching-learning processes. These approaches enhance access to vast knowledge resources and create opportunities for continuous learning, unlearning, and relearning (Bonk & Graham, 2006). ICT-based learning is particularly beneficial for diverse learners, including working professionals and individuals with disabilities, as it promotes inclusivity and accessibility. In this context, the idea expressed by Swami Vivekananda— "if people cannot reach schools, schools should reach them"—is effectively realized through technology-enabled education.

A critical examination of both traditional and ICT-supported approaches reveals that each has its own strengths and limitations, addressing different educational needs and expectations. Therefore, the most effective solution lies in designing an integrated system that combines the strengths of both approaches through an interdisciplinary framework. This has led to the growing emphasis

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on blended learning, which merges face-to-face instruction with digital learning environments to optimize student learning outcomes (Hrastinski, 2019).

Road Map with NEP

Given the growing significance of digital technologies and their integration into education at all levels, from primary to tertiary education, the National Education Policy recommends the implementation of the following essential initiatives: Online education pilot programs: Relevant organizations such as the NETF, CIET, NIOS, IGNOU, IITs, NITs, and others will be chosen to conduct a series of concurrent pilot programs aimed at evaluating the benefits of merging traditional education with online learning while tackling the associated challenges. Additionally, these initiatives will explore related issues such as student reliance on devices, preferred formats for e-content, and more. The conclusions from these pilot studies will be made publicly available and applied to promote continuous improvements. Digital Infrastructure: To effectively manage India's extensive scale, diversity, complexity, and device accessibility, there is a pressing need to enhance the development of an open, interoperable, and flexible public digital infrastructure within the education sector that can be utilized by various platforms and tailored solutions. This strategy will ensure that technology-driven solutions remain pertinent as technological innovations occur. Online learning platforms and resources: Existing e-learning platforms, such as SWAYAM and DIKSHA, will be upgraded to offer educators a structured, user-friendly interface along with a comprehensive range of resources to assist in assessing students' progress. The recent pandemic has underscored the urgent requirement for tools equipped with two-way video and audio capabilities to effectively facilitate online instruction.(Ministry of Education, 2020), (Dhawan, 2020).

Blended Learning

Blended learning transcends a simple amalgamation of online and face-to-face instruction; it embodies a meticulously designed integration of significant activities across both modalities. This blend necessitates the consideration of various factors, primarily concentrating on learning outcomes and fostering a learner-centred instructional environment. (Garrison & Kanuka, 2004; Graham, 2006).

The fundamental characteristics of blended learning include:

Flexibility in Learning Modes:

Students participating in blended learning are afforded the option to choose between conventional classroom instruction, which facilitates personal interaction with educators and fellow students, or ICT-supported learning. The choice of mode frequently hinges on the course content and objectives, although course designers or educators may also identify the most appropriate approach for particular subjects.

Proficient Educators:

A crucial element of blended learning is that instructors are skilled in both traditional and technology-enhanced pedagogical methods. They are adaptable, technologically proficient, and thoroughly prepared to effectively navigate both formats, ensuring the integration of conventional techniques with contemporary technological tools.

Enhanced Interaction Opportunities:

Learners gain from both face-to-face and virtual interactions, enabling them to engage with a diverse cohort of peers enrolled in the same course. This interaction takes place both on campus and in online settings, fostering a wide network that enriches their knowledge and nurtures a sense of understanding, appreciation, and harmony among students from various cultural and social backgrounds.

Comprehensive Technology Experience:

In the current digital era, proficiency in ICT is imperative. Blended learning provides students with invaluable exposure to modern technologies, as technological literacy has become as essential as traditional literacy. This approach equips students to effectively utilize technology in their future professional endeavours.

Development of Essential Life Skills:

Furthermore, blended learning places significant emphasis on the development of crucial life skills necessary for achieving a fulfilling and successful life. Key skills include empathy and decision-making abilities, which are integral to personal and professional success.(Poon, 2013)

Prerequisites for Blended Learning Implementing

Blended teaching can present significant challenges. It requires specific essential preparations across all facets of the teaching and learning process, encompassing the teacher, student, content development, and infrastructure. Below are the key requirements for effectively executing blended learning:

1. Well-trained educators - While the emphasis is on the students, teachers are pivotal in blended learning. Educators must be well-versed in the blended learning model and adequately trained to merge both traditional and technological methods. They should possess the ability to develop digital content that students can access online. Educators must be skilled in navigating the internet and familiar with relevant terminology, as well as knowledgeable about various websites that can enhance students' online learning experiences. Additionally, teachers need to be adept at utilizing blogs, YouTube, software such as Skype, Google Talk, and other video conferencing and social networking tools for educational purposes.

2. Teachers with a scientific mindset - It is crucial for educators to have a scientific mindset. They should exhibit strong observational skills, optimism, and problem-solving capabilities. A scientific approach will empower teachers to effectively address challenges they encounter while implementing this innovative concept and assist them in evaluating situations objectively. This constructive scientific attitude will naturally be conveyed from teachers to students.

3. Teachers with a broader perspective and a positive attitude towards change - For any innovative concept or approach to thrive, including blended learning, it is essential for educators to maintain a wide-ranging perspective and be flexible. They should embrace change and demonstrate creativity and dynamism.

4.Comprehensive facilities, which include a well-equipped computer lab and internet connectivity, are essential for blended learning. The effectiveness of blended learning is significantly dependent on infrastructure; therefore, schools must not only offer quality classrooms but also ensure that they have adequately equipped computer labs with sufficient computers to serve all students in a class, complemented by dependable internet access, preferably in a Wi-Fi-enabled setting.

5. Access to the internet through personal computers is essential for students. Alongside schools creating a fully ICT-friendly atmosphere, it is imperative that students possess fundamental hardware to facilitate their learning both online and offline at home. This necessitates a proactive strategy and efficient investment plans from the government.

6. The system's adaptability is essential. The educational framework must exhibit flexibility, incorporating adjustable timetables and examination systems, as this is critical for the successful integration of blended learning.

7. Informed and supportive parents play a vital role. Parents should be well-informed about this innovative teaching approach to ensure they are prepared and capable of assisting their children in the blended learning journey, recognizing that this transition from traditional teaching methods is beneficial.

8. Formative evaluation and ongoing internal assessment are essential. Educational authorities and institutions of higher education must be prepared to wholeheartedly adopt continuous internal assessment (CIA) and various formative evaluation methods, as traditional summative evaluation approaches do not adequately facilitate blended learning. Provisions should be established for online assessments to enhance the system's adaptability. (Kaur, 2013), (Graham, 2006), (Bonk & Graham, 2006),

Relevancy of Adapting Blended Learning in India:

The education system in India is facing a multitude of challenges, including its failure to provide free and compulsory education to every child, the difficulty of ensuring quality while expanding access, and the curriculum's shortcomings in

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aligning with the needs of the global market, alongside its insufficiency in safeguarding and promoting Indian cultural heritage.

Blended learning can significantly contribute to addressing the challenges faced by the Indian education system:

– In our country, the vast population presents a challenge for the formal education system to ensure equitable educational opportunities. Thus, blended learning emerges as a viable solution that can expand access to education and reach a greater number of children.

- The continuous advancements in technology and science necessitate that the education system evolves in tandem with these developments, allowing students to adjust to the swiftly changing job market. Given the dynamic nature of the technology and science sectors, which rapidly integrate new innovations, it is essential that the educational content provided to students is frequently updated. However, in India, course revisions are often infrequent. By implementing blended learning, both students and educators can effectively enhance their knowledge and skills. **(**Garrison & Kanuka, 2004).

- The lack of qualified teachers represents another critical challenge. There is a shortage of teachers, and numerous primary schools face difficulties in maintaining an adequate teacher-student ratio, a situation prevalent in both government and private institutions. Moreover, many educators exhibit a lack of commitment to their profession, rendering blended learning a practical alternative, as online education can complement traditional teaching methods. (Ministry of Education, 2020), (Kaur, 2013).

- Problems such as indiscipline, irregular attendance, and student dropouts continue to exist because conventional educational approaches do not cater to the individual needs of each student and fail to make content delivery engaging(Poon, 2013). Additionally, the curriculum often lacks direction, leaving students uncertain about their future, which contributes to unrest and stress, further exacerbating indiscipline. Blended learning can provide a holistic solution to these issues, as it offers varied experiences for students, maintains their engagement, and encourages them to take ownership of their learning, thereby promoting discipline (Garrison & Kanuka, 2004). Furthermore, by delivering more relevant and high-quality education from dynamic resources, the learning experience becomes more meaningful. (Graham, 2006).

Despite this, the pursuit of universal education continues to pose a considerable challenge. The Constitution stipulates that education must be free and compulsory for all children until they reach the age of 14; however, our educational system finds it difficult to achieve this goal. (Ministry of Education, 2020) Nevertheless, if educational institutions were to adopt blended learning methodologies, they might enhance enrolment figures irrespective of geographical constraints. **(**Bonk & Graham, 2006**)**.

- A significant number of educated individuals still do not possess the necessary skills and competencies to meet the demands of the global job market, leading to high unemployment rates. As previously indicated, blended learning can assist students in acquiring contemporary techniques and life skills that are crucial for a prosperous future. - The education of children with special needs also poses difficulties, yet blended learning provides the adaptability required to cater to the varied needs of these learners. For example, gifted students can satisfy their intellectual curiosity through blended learning, while students with visual impairments can take advantage of ICT-enhanced teaching strategies that offer essential resources. (Bonk & Graham, 2006).

Likewise, students with physical disabilities can access mainstream education and enrol in esteemed institutions without the concern of distance, as blended learning allows them to engage in online studies from their homes. - The standard of education, particularly in higher education, represents another urgent concern. None of our higher education institutions are ranked among the world's best, thus, to maintain competitiveness and enhance quality, it is imperative to embrace innovative strategies. **(**Ministry of Education, 2020; Dangwal & Lalima, 2017), **(**Garrison & Kanuka**,** 2004**)**.

Challenges of Blended Learning

a) **Access to Education –** In India, individuals encounter a range of infrastructural, socioeconomic, linguistic, and physical barriers when attempting to access education (Bhattacharya and Sharma, 2007).
b) **Quality of Education** – This encompasses the standard of infrastructure, teaching staff, and the educational process as a whole. The funding provided by both Central and State Governments is inadequate.

c) Skill Development - The enhancement of skills is vital for a nation's economic advancement. There should be an increased emphasis on skill development for both production and management, alongside the acquisition of knowledge.

d) Managing Instructional Complexity – In the context of blended learning, educators have a variety of delivery methods at their disposal. However, this expanded range introduces heightened complexity and demands on both the instructor and the designer, primarily due to the array of technological combinations and the potential lack of established frameworks for specific integrations. These challenges must be effectively addressed during the course design process.

e) Course Design – Developing a blended learning course that successfully incorporates instructional design principles necessitates a reassessment of teaching and learning methodologies to synchronize or align the differences between face-to-face and online elements.

f**) Role Management –** In contrast to traditional classroom settings, where typically a single instructor is present, blended learning encompasses multiple individuals taking on various roles. It is essential to clarify the responsibilities of instructors and assistants to ensure success and reduce potential conflicts and confusion among students.

g) Promoting a Cohesive Learning Environment – Efficient communication among educators during the preparatory phase is essential for the successful implementation of blended learning.

h) Setting Realistic Expectations – It is also vital to establish achievable expectations for both educators and students to cultivate a clear comprehension of the advantages throughout the training or course.

i) Cost Management – The implementation of Information and Communication Technology (ICT) can result in cost reductions.

In blended learning environments, theoretical concepts continue to prevail, while the most substantial educational advantages of ICT frequently come with significant costs. Features such as personalization, real-time communication, and other sophisticated functionalities can incur substantial expenses. The challenges identified from the perspectives of students, faculty, and administrators are outlined below:

Challenges from the perspective of learners:

a) Expectations for a lighter workload:

Students often perceive the time spent in lectures as "not work," while they consider online engagement as actual work.

b) Insufficient time management skills:

Time management has surfaced as a notably critical issue for students participating in a blended course.

c) Accountability for self-directed learning:

Students are accustomed to a passive learning approach in traditional courses. In contrast, blended learning requires them to adopt a proactive stance in their educational journey.

d) Competence in technology utilization:

Learners enrolled in a blended learning program must possess technological proficiency to navigate the online components of the course and effectively interact with their instructors.

Challenges from the perspective of faculty:

The obstacles that faculty encounter, which necessitate additional training or support, or a combination of both, include (Rockwell et al., 2000): - Encouraging interaction - Developing instructional materials - Employing selected technologies - Marketing the course - Cultivating robust technology skills - Requiring assistance or support (in online course design and delivery) From the faculty's viewpoint, the primary challenges of teaching in a blended format are:

(a) time commitment,

(b) insufficient support for course redesign,

(c) challenges in acquiring new teaching and technological skills, and
(d) the inherent risks associated with this course format (Voos, 2003; Dziuban & Moskal, 2001; Garnham & Kaleta, 2002).

a) Time commitment:

A considerable amount of time is required to design and implement a blended learning course compared to conventional classroom instruction. Faculty members

b) Faculty professional development:

Instructors teaching blended courses must possess a strong understanding of both new and emerging technologies to effectively design and deliver these courses.

c) Developing new pedagogical and technological competencies:

Faculty members must address their own fears and reluctance by actively engaging with a range of tools and applications.

d) Other notable risk factors identified by faculty who have taught blended courses include worries about losing control over the course, receiving lower student evaluations, and uncertainty about how this learning model aligns with the university's culture of teaching, research, and service (Dziuban & Moskal, 2001; Voos, 2003).

Challenges from the administrative viewpoint:

The following administrative challenges are critically significant and must be effectively addressed to improve blended learning:

a) **Alignment with institutional objectives and priorities**:

Twigg (1999) suggested that the successful implementation of blended learning hinges on an institution's commitment to effectively improving the student learning experience. This necessitates a commitment to thoroughly embedding technology within the campus culture. Barone (2001) additionally emphasized that this goal can only be achieved if institutional leaders undertake decisive measures through suitable resource distribution and essential policy adjustments.

b) Resistance to organizational change:

Resistance to change within higher education institutions is a well-documented phenomenon (Twigg, 1999; Barone, 2001). Bureaucratic barriers and apathy can obstruct changes in curriculum, course structures, schedules, and new strategies that are vital for the success of blended learning.

c) Insufficient experience with collaboration and partnerships:

A lack of a collaborative organizational framework and internal partnerships can pose a significant obstacle to the implementation of blended learning initiatives (Dziuban et al., 2004). consider the increased time commitment necessary for a blended course as their foremost challenge (Dziuban & Moskal, 2001). Johnson (2002) noted that the planning and development of a blended course with a large enrolment can take two to three times longer than that of a comparable course in a traditional format.

Blended Learning Approaches:

Numerous researchers have contended that the focus should transition towards the construction of knowledge, thereby enhancing rather than supplanting the traditional model of information dissemination (Warschauer, 2003; Etheris and Tan, 2004). Social learning is pivotal in promoting the knowledge construction paradigm: active collaboration among peers is strengthened through the use of various collaborative technologies and, notably, by cultivating a sense of presence. Human learning is fundamentally a social process, realized through the sharing and execution of tasks aimed at achieving a common goal. In this context, learning is perceived as a collective endeavour (Hung and Nichani, 2001).

Blended learning ought to be viewed as a comprehensive reassessment of the educational framework, distinguished by the following features:

I. A shift from traditional lecturing to a student-centred approach, where learners are actively involved and interact (even during face-to-face sessions).
II. An enhancement in interactions among students and instructors, between students themselves, with the content, and with external resources. III. The integration of both formative and summative assessment strategies for students and instructors alike.

There exists a variety of methods to choose from:

a) Live Classroom Method (Traditional)

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Traditional classrooms enable direct interaction between instructors and learners within a shared physical environment. The subjects typically encompass complex, extensive, programmatic topics, or include new content that necessitates personal interactions, expert guidance, cultural development, team building, networking, business problem-solving, or material presentations by an instructor or facilitator.

b) Virtual Classroom Method

A virtual classroom allows instructors and learners to engage simultaneously from various locations and provides the option to record the session for later access. These sessions are usually conducted via virtual meeting platforms.

c) Live Demo or Practice (labs)

Method This strategy is utilized when collaborative practice is crucial for understanding intricate hardware, and there is a plentiful availability of live products and instructors for in-person training.

d) Broadcast (TV or Streaming Video) Method

This technique facilitates the rapid distribution of information to a widely dispersed audience. Organizations can take advantage of high-quality broadcast recordings, making it ideal for content that requires swift production but is not intended for frequent updates.

e) Interactive Chat Session Method

Consider employing this technique when learners have diverse needs that cannot be met by a uniform instructional method and when expert resources are accessible for tailored information sharing and assistance.

f) Online Information via Web site Method

This approach is suitable when foundational concepts, policies, procedures, and information need to be available to a broadly distributed audience over an extended duration.

g) Online Instructional Materials Method

This strategy is appropriate for learners who are geographically dispersed and need to quickly acquire new skills. Learners should have the necessary technology to access content and practice at their own pace, with resources available for content maintenance and updates. The content can link to other educational resources.

h) Online Reference Materials Method

This method is fitting when learners are scattered and require rapid skill acquisition along with maximum flexibility in their learning schedules.

i) Offline Instructional Materials Method

This approach is relevant when there is a small cohort of learners, making content distribution manageable. The materials typically have a long shelf life, with fundamental concepts, policies, procedures, and corporate information being stable and not requiring extensive communication.

j) EPSS Electronic Performance Support system (EPSS) Method

This strategy offers content that aids users in developing software applications.

k) Threaded Discussion Method

This approach is particularly suitable for learners with varied needs that standardized instructions may not adequately address. Expert resources facilitate group information sharing and support, allowing learners to participate in discussions at different times and review prior conversations.

l) Product Simulation Practice (Virtual lab) Method

This method is recommended when learners face challenges in accessing live systems, and there is a greater need for trained individuals than the available systems for training.

m)Live Practice Method

This strategy is advantageous for a small group of learners located in close proximity, offering opportunities for repeated practice and fostering teamwork to learn and implement new skills.

n) Simulation-Based Practice Method

This method should be utilized when a comprehensive understanding is essential before applying knowledge in practice.

o) Written Tests Method

The aim of this method is to evaluate knowledge and retention of information. Evaluations through case studies serve as effective measures of job performance.

p) Performance Tests Method

In this approach, trained observers are engaged to assess performance or evaluate work outputs. It is relevant when the physical demonstration of a skill or specific behaviour is a necessary result of training.

q) Self-Assessment Method

This approach ought to be utilized in conjunction with more structured evaluation techniques

r) Book method

Books are economical, dependable, and physically enjoyable, making them easy to transport and widely available. There is a strong sense of familiarity as most individuals know how to utilize them. The benefits of each method can be integrated to create greater synergy and improved effectiveness.

Conclusion

Blended learning could be viewed as a remedy for the qualitative and quantitative learning outcomes of our educational system. If implemented with the right attitude and in a structured, well-thought-out way, it has the potential to shape the future of our educational framework. When learning expectations are meticulously designed to meet the desired outcomes for all stakeholders, blended learning can prove to be an effective strategy. By establishing a transformative model at its foundation that ultimately addresses the needs of administrators, educators, and learners, it holds the promise of positively influencing higher education in India.

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