

Encouraging Future Teachers and Teacher Educators in the Digital Age to Create Innovative Futures by including Blended Learning in India's Higher Education Institutions

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Abstract

Future policy leaders and nation builders will be today's digital age learners. As a result, the instruction they receive needs to be cutting edge and relevant to the current digital world. With the expansion of educational opportunities and more exposure to technology, educational institutions and associated higher education institutions are becoming more conscious of the fact that today's students are not only more diverse but also more diversified. Students in higher education face the task of preparing their institutions for the twenty-first century. Furthermore, the knowledge and skill requirements of the job in the twenty-first century differ from those of the preceding century. Teachers have warned that there might be disastrous outcomes if the issues raised by this new educational environment are not resolved. This new generation of learners may stop studying because they are dissatisfied with old approaches and look for more interesting and participatory activities. Therefore, it is more important than ever to transform teaching and learning methods. In order to equip learners in the digital era with cutting-edge and contemporary learning abilities, this study aims to emphasise and elucidate the significance, advantages, models, innovative methods, and methodologies of blended learning. Nowadays, the phrase "blended learning" is used often in business. Blended learning offers a "good" combination of technology and interaction, making for a positive, socially supported educational experience. This paper's goal is to thoroughly and logically examine and concentrate on the idea of blended learning.

Keywords: *Blended learning, Digital age learners, Higher Education, Professional Development, ICT*

I. INTRODUCTION

Higher education institutions now have to deal with the surge of technological advancements and shifting expectations regarding the caliber of the educational experience. Higher education institutions have long since realised that maintaining outdated techniques that don't align with the expectations of a knowledge-based society is unsustainable. Redesigning blended learning offers the best chance of recapturing the values of higher education. There is more to blended learning than just improving lectures. It symbolises the shift in the way we approach education. The educational setting, learning environment, and learning experience are all completely rethought and redesigned. In order to achieve meaningful educational objectives, blended learning is a cogent design strategy that freely evaluates and incorporates the advantages of in-person online learning. Higher education will change in a way not witnessed in the growth of higher education in the late 19th and early 20th centuries when blended learning is properly understood and put into practice. Gaining a thorough grasp of the necessity, possibilities, and tactics of blended learning in order to address the goals of higher education is now the problem.

The efficacy and socialisation chances of the classroom are combined with the technologically sophisticated active learning capabilities of the internet setting to create blended learning. High levels of teacher and student satisfaction may be generated in a totally online setting, according to research. However, both teachers and students bemoan the absence of in-person communication. The components of blended learning models include learning via information, learning through interaction, learning through collaboration, and learning through classroom experiences, all of which are mixed in different proportions based on the needs of a business. "Blended learning should be viewed as a pedagogical approach that combined the effectiveness and socialisation opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities," stated Dziuban, Hartman, and Moskal (2004) in a research brief for "Educause" titled "Blended Learning."

ICT has made it possible to accelerate the paradigm shift in recent years by offering more adaptable learning methods. With the internet's vast potential and a variety of online assignments, students may study on their own. The primary emphasis should be on the many non-classroom technology-mediated delivery methods that have been used in academia for over forty years. The ideal function of live interaction would be provided by

a suitable combination. A strong support and training model must be provided, and cultural considerations must be taken into account. In order for our students to become blended learners with self-regulatory genuine learning experiences, it is the obligation of authorities to offer the required learning support by granting access to online learning.

II. THE BLENDED LEARNING HISTORY

Blended Learning: An Overview

The learning environment has been interestingly impacted by e-learning. It has quickly developed into the idea of blended learning, which, as its name implies, combines online learning with more conventional ways of learning and development, despite its enormous potential to transform learning and development. The most sensible and organic development of our educational agenda is blended learning. It offers a sophisticated way to overcome the difficulties of customising learning and growth to each person's demands. It offers a chance to combine the greatest aspects of conventional learning—participation and interaction—with the creative and technological innovations of online learning. The knowledge and one-on-one interaction of individual decisions may be used to support and improve it. Understanding how blended learning fits into the larger framework of organisational learning and development is one of the most crucial elements in developing blended learning solutions. Blended learning has virtually infinite possibilities and is a natural progression from traditional learning methods to a customised and targeted growth path.

Meaning and Definition of Blended Learning

True blended learning is difficult to identify. Blended learning is the deliberate combination of online textual communication and in-person spoken communication that is properly integrated so that the strengths of each are used to provide a distinctive learning experience that is consistent with the educational goal and environment. While the idea of blended learning may seem straightforward and obvious, its actual implementation is more difficult. Blended learning is more than just adding a costly instructional layer. In order to increase participation and expand access to online learning options, it is a reorganisation of class contact hours. Above all, blended learning is a fundamental redesign that changes how teaching and learning are organised and conducted. Understanding the relative advantages of in-person and virtual learning leads to blended learning. This creates a plethora of opportunities for learning redesign that go beyond improving the conventional lecture in the classroom. Reaching the blended learning threshold entails substituting suitable online learning activities, such as laboratories, simulations, tutorials, and evaluation, for some portions of in-person instruction. In keeping with the objectives of certain courses or programs, blended learning is a novel strategy that combines classroom and online activities. A variety of possibilities are taken into account by blended learning, which necessitates re-examining how pupils learn in profound and significant ways.

Traditional in-person training is combined with computer-mediated or online instruction in a blended learning environment. In recent years, the phrase has gained popularity among businesses (Lamb, 2001). According to the American Society for Training and Development, blended learning was one of the top ten developments in the knowledge delivery sector in 2003 (Rooney, 2003). According to Marc Rosenberg, author of *E-Learning Strategies for Delivering Knowledge in the Digital Age* (2001), "the question is not what we should blend...rather the question is what are the ingredients that are to be blended," as Barbian (2002) points out. I.e. The following are the main presumptions of mixed learning designs:

1. Thoughtfully integrating face-to-face and online learning.
2. Fundamentally rethinking the course design to optimize student engagement.
3. Restructuring and replacing traditional class contact hours.

Blended Learning in Higher Education

Higher education students may comprehend the potential of naturally combining in-person and online instruction for interesting, productive, advantageous, and significant learning experiences with the help of blended learning. An organising framework for the investigation and comprehension of the concepts and methods required to bring about the critically needed revolutionary changes in higher education is provided by blended learning. In order to meet the quality difficulties and effectively and efficiently fulfil disciplinary goals, it also offers the organisational support structures and real-world examples needed to integrate a variety of in-person and online learning.

With the usage of Web-based communications technologies, teaching and learning in higher education will inevitably change (Newman, Couturier, and Scurry, 2014). Fundamental redesign based on blended approaches to teaching and learning represent the means to address the challenges associated with provided a quality of learning experience. Even while technology has been the driving force behind changes in teaching and learning, the potential of blended learning is being highlighted by the urgent need to improve quality standards. Technology is a tool that makes things possible. Many Indian higher education institutions are quietly

positioning themselves to take advantage of blended learning's transformative potential because it is an approach and design that combines the best of traditional and web-based learning experiences to create and sustain vital communities of inquiry.

The progress of teaching and learning in higher education is centred on blended learning. However, a thorough grasp of the nature of the educational process and the desired learning outcomes is necessary to maintain transformative progress. Higher education places a strong emphasis on giving students the chance to create meaning and validate their understanding via conversation. A community of inquiry that fosters student connection and cooperation and establishes a learning environment that combines social, cognitive, and instructional components in a way that will encourage and maintain critical reflection and conversation is at the center of this process. Creating and maintaining an inquiry community outside of the classroom is made possible by blended learning.

Blended Learning for Higher Education Learners will be:

- ❖ Practice exercises and activities are very engaging.
- ❖ More economical, adaptable, and efficient.
- ❖ Fulfilling the expectations of students on the use of technology to acquire skills.
- ❖ Gaining the ability to learn on your own.
- ❖ Providing more convenience and flexibility.
- ❖ Giving those with learning disabilities more success.
- ❖ Improving technological expertise.

There are two components to blended learning.

1. Using a range of learning materials, it is a planned blend of in-person instruction and online learning.
2. It is an instructional approach that combines traditional teaching methods with online learning strategies, such as the distribution of content via websites, discussion boards, and email.

BLENDED LEARNING: AN E-LEARNING CONTINUUM

The fundamental problem and argument is that the nature and quality of the educational experience undergo a quantum shift when we have a firm grasp of the characteristics of the Internet and know how to successfully integrate Internet technology with the most desirable and valued aspects of in-person learning experiences. The quality and volume of contact as well as the feeling of involvement in a community of inquiry and learning, attained via the successful integration of Internet communication technologies, are at the core of this argument. If we take a minute to concentrate on the percentage of the Internet, we know that the interactive features of Internet communication technology are largely responsible for the success and happiness of blended learning experiences. Swan (2014) and Garrison and Cleveland-Innes (2013). Upon deeper inspection, asynchronous Internet communication technology may support both solo and group learning at the same time. In other words, students can be both independent of time and space at the same time. Because of the focus on written communication, learning using Internet communication technology also has important pedagogical implications. In some situations, writing may be a very powerful communication tool that promotes introspection and accurate expression. The educational opportunities are increased when carefully incorporated with the rich dynamics of rapid, impromptu verbal conversation in a face-to-face learning setting.

The capacity of blended learning to foster a community of inquiry is what makes it so successful. Open communication and unrestricted access to information on the Internet are balanced by the stabilising, unifying power of community. The hallmarks of higher education—free and open communication, critical discussion, negotiation, and agreement—are also made possible by communities. These conditions can be facilitated by blended learning, which also adds a crucial reflective component with a variety of communication channels to satisfy particular learning needs. For instance, it could be beneficial to have in-person instruction at the start of a course in order to connect and foster a sense of community.

On the other hand, an asynchronous online discussion forum could be a preferable way to address a complicated topic that calls for introspection. Communities of inquiry, whether in person or virtually, are made up of three components: teaching presence, social interaction, and cognitive ability. If the objective of reaching higher learning levels is to be maintained, there must be a sense of social and cognitive community and belonging. This necessitates taking into account the various social and cognitive aspects of every communication medium. In this sense, blended learning poses a unique challenge, underscoring the significance of the third essential component—teaching presence. In addition to focusing and facilitating learning experiences, teaching presence controls the surroundings. Blended learning provides a clear benefit in fostering higher levels of learning through critical discourse and reflective thinking by combining synchronous verbal and asynchronous writing communication within a unified community of inquiry.

The variety and caliber of interactive discourse that may be promoted through blended learning align with the generally acknowledged strategies for promoting higher-order learning and critical thinking. For

instance, Hudson (2012) contends that "the very basis of thinking is rooted in dialogue, drawing on a socially constructed context to endow ideas with meaning." In a community of inquiry, the focus must change from absorbing knowledge to creating meaning and verifying understanding. Discourse that questions conventional wisdom is the focus of this process, which is rarely achieved by pupils working alone. In addition, being a critical thinker is taking charge of one's mental processes and developing a metacognitive comprehension of them (i.e., learning to learn). Along with a scaffolded acceptance of responsibility for creating meaning and understanding, a blended learning environment can offer the autonomy and more control necessary to foster critical thinking.

Blended Learning's Potential for Transformation

As previously said, blended learning integrates online and in-person learning experiences rather than stacking one on top of the other. According to this viewpoint, the Internet is a disruptive technology that necessitates giving significant thought to the objectives, frameworks, and procedures of education. According to research, blended learning may be more successful and efficient than the traditional classroom paradigm (Heterick & Twigg, 2012 and Twigg, 2014). Exam results show that pupils are happy with the method and do as well, if not better. 19 out of the 30 initiatives have shown enhanced student learning thus far, with the other 11 showing no discernible change. Increased course completion rates, greater retention, improved student attitudes toward the subject matter, and higher student satisfaction with the manner of teaching as compared to traditional formats are further results of the redesigns. Redesign, in our opinion, is the key to technology's potential in higher education.

These results can be explained in a number of ways. Essentially, however, we claim that it starts by challenging the lecture's hegemony in favour of more engaging and significant learning exercises. According to the studies reviewed by Heterick and Twigg (2012), a large enrolment course usually substitutes any combination of online discussion groups, simulations, discovery labs, multimedia lessons, tutorials, assignments, research projects, quizzes, and digital content for one or two lectures per week. Under the guidance of a professor, teaching assistants can successfully assist with these. After that, the instructor has more time to devote to each student and improve the course's quality through ongoing innovation and course improvement as well as teaching development. According to Twigg (2014), "the most significant aspect of this process has been the need to teach the design methodology... since neither faculty nor administrators traditionally employ this approach to restructuring courses using IT." Although blended learning offers a lot of potential and variety, it also presents difficult design issues.

Blended Learning's front end: Development and Administration

Issues pertaining to the front end of blended learning (administration and development) fall into the following categories: policy, planning, resources, scheduling and support.

Guidelines

- The majority of conventional institutions provide technology-mediated education in one or more forms to specific student demographics, frequently depending on the interests of individual staff members. Since the number of students is normally fairly small, these programs or courses are usually run by the particular faculties, or teaching faculty, and need little administrative policy. However, a distinguishing feature of blended learning is the Internet's capacity to offer a cost-effective and accessible interactive learning experience to large numbers of students (e.g., high enrolment and/or high demand courses). Planning is connected to policy.
- Strategic and operational planning are the two crucial layers of planning needed to create and maintain blended learning. Identifying requirements, goals, and objectives, as well as possible expenses and resources, are all part of strategic planning. Cost identification is the most challenging and crucial component of strategic planning. Technology, delivery models and timetables, human resources (such as administrative support, course creators, instructors, and technical help), and infrastructure (such as hardware/software, Internet connectivity, and office space) are among the costs that must be ascertained.
- To operationalise the aims and objectives of an action plan, operational plans are required. Operational planning for blended learning includes managing technology, developing an affective assessment process, establishing connections for shared resources (such as registration and fees), and promoting and advertising strategies, among other instructional components.

Resources

- ❖ It is impossible to overstate the importance of properly evaluating the resources needed to establish and maintain successful blended learning environments. The necessary resources may be divided into three main categories: technological, human, and financial. Initiatives for blended learning require funding in

order to be started and maintained. Although they require "seed money," new efforts like blended learning may wind up being more successful and efficient in the long run (Heterick and Twigg, 2012).

- ❖ Support for instructional design and development, as well as ongoing incentives for computers and release time, are necessary. However, with a reevaluation of priorities, this expense may be found in current budgets and is quite cheap. Therefore, top administration's devotion is crucial. The creation and implementation of blended learning programs depend heavily on human resources.
- ❖ To assist teaching instructors who are new to blended learning, people with expertise in instructional design, curriculum development, and technology are required. In addition to these abilities, teachers who are not persuaded of the benefits of blended learning approaches need someone who can provide them individualised attention and motivating techniques.
- ❖ Lastly, reliable and transparent technological resources are needed to guarantee that the technology can support learning rather than hinder it. This necessitates having current course learning requirements, as well as dependable and user-friendly technological tools.

Support

- An essential part of blended learning is offering assistance to both instructors and students. In addition to situational, dispositional, informational, and institutional hurdles, effective support for blended learning at the very least necessitates knowledge of the course management environment that instructors and students will be using.
- More precisely, a specialised student service support center is required to assist students with technology access, which encompasses not only a computer with the required software and Internet connections but also assistance with the skills required to thrive in a blended learning environment.
- Nowadays, the majority of conventional colleges offer sufficient support services to meet the technological demands of their students. In contrast to their pupils, teaching instructors also need support services, although they are frequently lacking.
- Teaching faculty members need help with technological support, time management for their learning curve, and course creation.
- A course development team for the creation of blended learning courses is one of the most effective support systems for instructors.
- An instructional designer who helps with course design, a media professional who helps with the technical construction of course materials, and the teacher as content expert usually make up this team.

Components of blended learning

The following are the components of blended learning:

- Live Events: A teacher-led, synchronous learning environment where students may all engage simultaneously. It might take place virtually or in an actual classroom.
- Self-paced learning: This method allows the student to learn at his own pace by using recorded live events that may be accessed online or on CD-ROM.
- Collaboration: It suggests a more lively exchange of information between several students.
- Assessment: To ascertain prior knowledge and gauge learning transfer, learners' knowledge is measured both in-person and online.
- Performance Support: These are reference items that improve learning transfer and retention. It might include documents, downloadable multimedia learning resources, printable references, etc.

In the higher education system, blended learning provides a more effective pedagogy:

There is substantial, well-documented information about the types of teaching experiences, even if there is no formula that will ensure learning for every student in every situation. This data indicates that when educators foster a helpful learning environment, pupils learn most effectively. Consequently, blended learning offers chances for:

1. A greater use of active learning techniques.
2. A stronger emphasis on learners.
3. A stronger focus on learning from peers.
4. A shift in the way instructors set aside time to coach each student's creative teaching.
5. The ability to communicate with faraway experts or have work reviewed by peers.
6. Make new knowledge more applicable.
7. Encourage group study of mathematics and other topics.
8. Making links to past knowledge and experiences enables more imaginative and engaging course assignments.

Knowledge Access

- Encourage students to form or join communities of learners that go way beyond the classroom in order to facilitate the formation of connections.

- Provide materials that consider individual, cultural, or developmental variations to help create helpful learning environments.
- Increase learning possibilities by providing students with time-saving virtual experiences and resources that enable them to further their education.

Blended Learning Models

Based on variations in instructor responsibilities, physical space, delivery modalities, and scheduling, blended learning may be divided into six different models. The following are the six blended learning models:

- ❖ Face-to-face Driver Model
- ❖ Rotation
- ❖ Flex Model
- ❖ Online Lab
- ❖ Self-Blend
- ❖ Online Driver or Enriched Virtual Driver Model

Blended Learning Implementation

It's not exactly easy to implement a blended learning program in our classroom or institution. The transaction will go much more smoothly with careful planning and a solid grasp of blended learning.

1. Blended learning, which can take many different forms, combines online and in-person instruction.
2. Establish the prerequisites for success before beginning: Students require a great deal of financing and assistance.
3. Establish a plan and schedule.
4. Create models for instruction.
5. Select the content and platform.
6. Determine the kinds of equipment that will be utilised.
7. Identify the infrastructure that will be required.
8. Implement and integrate.
9. Utilise possibilities for professional growth.
10. Make use of tech help as needed.
11. Always remember to measure, evaluate, and make necessary adjustments to triumphs and failures.

Elements of a Successful Blended Learning Environment in Higher Education

It has been observed that insider stories of blended learning's debut in campus-based courses, which typically use a learning management system and frequently include online conversations, predominate in the research that is currently accessible. These reports are frequently quite detailed, and elements that might encourage effective blended learning are rarely mentioned more clearly and are frequently concealed in the form of closing remarks and suggestions. The following recommendations are categorised into four topics that have been derived from the literature that is currently accessible, with a general focus on pedagogical considerations.

The following elements support and foster effective mixed learning:

- Rather than employing a general strategy, blended learning models should be created that might address organisational, community, or local needs (Sharpe, Benfield, Robert, 2006). However, Mason and Rennie (2006) argued that while making such decisions, the teacher should prioritise the needs of the students over the competition;
- The institutional building elements, such as organisational preparedness, enough technological resources, motivated teachers, and effective routes for student feedback and communication, must be in place (Taber, 2007);
- Employees can create their own interpretations of blended learning, which is currently ill-defined to incorporate in-person instruction and active learning and foster dedication to the idea (Sharpe, Benfield, Robert, 2006);
- Rather than merely adding technology, blended learning should be implemented as a scholarly and revolutionary redesign process inside the institutions that rebuild the course (Sharpe, Benfield, Robert, 2006; Littlejohn and Pegler, 2007; Garrison and Vaughan, 2008);
- Conducting routine assessments and disseminating the findings need to be an institutional habit (Sharpe, Benfield, Robert, 2006).

Concerning Teachers

1. It is important to recognise the necessity of ongoing professional development for educators who have had enough time to grow (Vaughan, 2007);

2. A tried-and-true strategy for maintaining such teacher creativity is ongoing pedagogical and technical support via membership in a blended community of practice (Garrison and Vaughan, 2008);
3. It is crucial to address instructors' concerns about losing control, receiving poorer grades from students, and feeling generally uneasy about how online learning may affect relationships in the classroom (Vaughan, 2007);
4. The impact on teachers' workload must be taken into account. Littlejohn and Pegler (2006) identified the costliness in terms of both institutional and teacher investment and suggest the creation of shareable and reusable digital resources in an effort to ensure that blended learning is sustainable.

Concerning Students

1. It is necessary to take into account students' learning maturity and preparedness for blended learning with its requirements for autonomous learning (Tabor, 2007);
2. It is important to consider the expectations of students, particularly their perceptions that fewer in-person classes equate to less work and the necessity of developing more accountability for their education and time management abilities (Vaughan, 2007; Tabor, 2007);
3. To assist students comprehend the blended learning process, there must be regular and open communication about the new expectations (Sharpe, Benfield, Robert, 2006).

The Role of Teachers in Blended Learning

Meeting students' evolving expectations is one of the biggest issues confronting educators today. Subjects that provide flexibility in terms of learning possibilities must be given. Due to the growing diversity of their socio-political backgrounds, students bring conflicting expectations and personal requirements to their classrooms. Today's educators must provide for these demands. For both instructors and students, blended learning methodologies offer flexibility in terms of learning design. Blended learning is expanding and has huge potential to change education. According to research, it can offer adaptable, cooperative, student-centered, multimedia-rich, genuine, high-quality learning opportunities (Miller & King, 2003; Palloff & Pratt, 2001). But the study also makes it abundantly evident that this potential cannot be fulfilled without a fundamental change in the institution, the student, the pedagogy, and the instructor (Miller & King, 2003). As a result, new approaches for training educators who welcome innovation and change are needed (Childs, 2004; Crichton & Labonte, 2003; Kemshah-Bell, 2001).

Brennan (2003) advocates for hiring "teachers and trainers who are both confident and comfortable with this new way of working" in order to implement this fundamental change in pedagogical practice and rethink teaching (Brennan et al., 2001, p. 51). For many of these instructors, however, preparing for blended learning entails a significant change in both theory and practice. It seems that the time has come for a new approach that exposes educators to the growing corpus of information about successful blended learning strategies both early in their teaching careers and later on. "What is the role of teachers in blended learning?" is one of the most often asked questions at this stage. A student's day in the blended learning approach usually consists of both online study and teacher-led small group teaching. With this learning paradigm, the classroom teacher's attention is diverted from more conventional curriculum and administrative responsibilities to working with data and giving pupils more individualised help. The classroom teacher's role can grow in interesting and challenging ways since the emphasis in this model has switched from lesson planning and material delivery to being a facilitator of student learning. In the blended learning environment, classroom teachers are required to do the following instead of the traditional tasks of distributing material and marking papers:

1. Be a willingness to learn

In a blended learning program, the teacher should be prepared to:

Utilise data as a crucial component of the planning process for the entire class, individual students, and student groups. To guide training at various levels (individual, group, and class), use benchmark exams and other evaluations. Many blended learning systems mandate that instructors complete training as part of their mandatory professional development in order to assist them in understanding blended learning and their new duties. Participating in training on the data management system and having a mentor with experience in blended learning as a guide are also crucial. A "traditional" teacher can acquire the data analysis abilities required to maximise the benefits of the blended learning paradigm with the right professional development.

2. Be Receptive to New Methods of Instruction

The blended learning teacher should:

Possess a broad range of subject-matter expertise to instruct a variety of courses. Differentiate education according to the requirements of the students (based on the data). Put an emphasis on academic enrichment and intervention. Blended learning instructors have more time to spend one-on-one with students and can provide them with the assistance and attention they require, but they still need to be able to maximise learning time and successfully manage the classroom.

3. Be leaders

To help guide students in a blended learning environment, teachers should:

Show pupils how to locate knowledge and solutions (or ask the proper questions) by modelling learning, possess the ability to oversee project-based learning initiatives. Establish methods to maintain students' motivation, engagement, and focus. The blended learning teacher assisted students in applying the material to novel contexts rather than just "regurgitating" rote answers. Students must learn to reason, integrate information, and apply their knowledge in the same way that teachers must understand and analyse it. So, what might blended learning mean to teachers? Continued growth as they modify their existing strategies to lead students to become independent learners themselves? Technology can also give teachers crucial information to understand individual needs of students to support and strengthen their learning. When teachers use good technology effectively, it provides them the power to become even greater experts in the content areas they teach.

Advantages of Blended Learning

A logical concept for a learning strategy is blended learning. In order to achieve flexibility, efficiency, and cost-effectiveness, blended learning combines the finest aspects of instructor-led, self-paced, distance, and classroom delivery.

The following are some of the advantages of blended learning:

- ❖ Improved social interaction, communication, and teamwork: Blended learning uses technology to link individuals, events, and activities. It is an essential instrument for fostering and disseminating cultural awareness worldwide;
- ❖ Provides efficiency and flexibility: It blends online and offline learning, with online learning being defined as using the Internet for educational purposes. On the other hand, offline learning takes place in a more conventional classroom. When it comes to teaching and learning activities, the Internet offers efficiency and flexibility. Video or teleconferencing can be used for the teaching and learning process, allowing students to participate virtually. Research resources and study materials are readily accessible online;
- ❖ Increase Mobility and Reach: The development of information and communication technologies has altered how people study. Learning may happen anywhere, at any time, thanks to the growing usage of mobile and wireless technology.
- ❖ Optimising Development Cost and Time: By combining several delivery methods, blended learning balances and optimises the costs and time associated with developing and implementing learning programs. The internet is a technology that provides online education at a low cost, supporting a wider variety of learning styles and individual variances in learning;
- ❖ In-person instruction is engaging and participatory.
- ❖ Opportunities for online collaboration and mutual learning.
- ❖ Both the content and the distribution method are collaborative and inventive.
- ❖ 8. Give each student prompt feedback while saving time and paper.
- ❖ It encourages critical thinking.
- ❖ A relevant setting fosters the development of creative thinking processes.
- ❖ Promote lifelong education.
- ❖ Integrate the limits of knowledge to promote learning across the curriculum.
- ❖ Research aptitude is sparked and started.
- ❖ Collaborative learning and teamwork are encouraged.
- ❖ Proper utilisation of important ICT resources.

Importance of Blended Learning

According to Banathy (1988), learning requires some kind of experience to occur in a learning environment, which may be quite diverse for each learner in that we have to take differences in

1. Interests;
2. Needs;
3. Skills;
4. Successes
5. Differences in the amount of time required to complete a particular learning assignment;
6. The capacity to handle concreteness or abstractness;
7. The extent to which a student need guidance;
8. The capacity to handle complexity;
9. The capacity to work with items (such machinery or equipment);
10. The extent to which imagination may be used;

11. Capacity to inspire innovation;
12. Disparities in problem-solving

Disadvantages of Blended Learning

The disadvantages of blended learning are as following:

1. The absence of a solid foundation to motivate learners;
2. Students who lack desire or have poor study habits may lag behind; a high degree of self-discipline or self-direction is necessary;
3. E-learning systems lack a learning environment;
4. There is less direct and interpersonal connection between students and professors while learning remotely;
5. The learning process is less effective than in-person instruction.

III. A POSSIBLE TOOL FOR BLENDED LEARNING: SMART CLASSROOMS

By incorporating learning technologies like computers, specialised software, audience response technology, networking, and audio/visual capabilities, smart classrooms create chances for both teaching and learning. Learning initiatives that can help teachers integrate ICT into the classroom are necessary for smart classrooms. These smart classrooms provide ways to engage the digital generation, enhance individualised learning possibilities, encourage learning innovation, improve instructors' digital pedagogy, and maximise school ICT investment. The transition from teaching and learning about ICT to teaching and learning with and through ICT is a difficulty. This implies that we want to utilise technology to empower and transform teaching, learning, and the curriculum rather than simply do old things in new ways.

Smart Classrooms with Relation to Blended Learning

The following components are used in smart classrooms, combined in different ratios based on an organization's blended learning requirements:

- ❖ **Learning through information:** The first logical step in initiating a learning program is to get material-based knowledge. Learners may now access web-based content; a variety of e-learning strategies can make the program simple to administer and quick to execute. Making the material available at all times will allow students to browse it at their own pace, which will increase comprehension and excitement.
- ❖ **Learning via Interaction:** Learner-content, learner-learner, learner-instructor, and learnerIn a mixed learning setting, infrastructural interactions become even more crucial. All of the aforementioned modes of interaction may be supported by the web, which collectively aid in the retention of information-based knowledge. Learners may use their knowledge realistically through web simulations of real-life scenarios without having the potential to directly impact your business.
- ❖ **Learning via Collaboration:** Peer-to-peer conversations, conference calls, chat, team rooms, and instant messaging are all examples of collaborative learning. The idea of cooperation has been greatly expanded by technology, allowing students to connect in real time while being physically separated. Additionally, the collaborative setting increases the likelihood that e-learners and subject matter experts (SMEs) will work together.
- ❖ **Learning via Classroom Interactions:** Conventional, tried-and-true, and unquestionably one of the most successful learning strategies, classrooms are the greatest locations to establish direct connections with teachers and classmates. The benefits of this strategy cannot be replaced by technology, which is why no e-learning or blended learning model would exclude this component for any reason. However, despite popular belief, blended learning has never tried to take the place of traditional classroom instruction.

Implementing Blended Learning Presents Difficulties

Learners' and teachers' viewpoints may be used to examine the difficulties in creating a mixed learning environment. When creating a mixed learning approach, it is necessary to take into account students' perceptual skills and abilities as well as their learning style. In a blended learning setting, learners' ICT ability is equally crucial. Therefore, while creating a blended learning approach, it is crucial to ascertain the abilities and methods by which students gain and create information online. Finding the right mix between online and in-person training is one of the biggest difficulties teachers have when creating a blended learning strategy. In order to create a plan that takes into account the demands of the learners in a blended learning environment as well as the educational offerings of the institution, the instructor must possess a high level of knowledge.

The following are the other most frequent obstacles to guaranteeing successful learning outcomes from blended learning:

- Some students are ill-prepared for a change in the emphasis of classroom-based work and for taking ownership of their education;
- There is a need for high-quality help-desk design support because not all pupils are proficient with technology and some have difficulty using it;
- Rather of using instructional design concepts to reconsider what and how students learn, instructors may overburden students with material;
- Rather of being interesting and difficult, online learning components might be passive and rich in material;
- Even though blended learning necessitates it, some teachers are occasionally hesitant to drastically alter their conduct in the classroom. In blended learning, some online resources are just copies of texts, PowerPoint presentations, and lecture notes.

IV. CONCLUSION

The use of blended learning methodologies by campus-based higher education institutions is becoming unavoidable. Several higher education institutions have shown that once there is a defined policy and strong leadership, the change will be rapid. Higher education institutions may be transformed in a few short years in a way that is compatible with their principles and mitigates the pedagogical and financial issues that are now affecting the quality of the classroom experience. The only things left are the will and dedication; the academic benefit, proof, and competitive benefits are evident. As we examine the usage of blended learning, it is crucial that we measure and evaluate its efficacy. Blended learning may start the process of reframing higher education institutions as learning-centered and promoting a higher learning experience. It's crucial to monitor changes brought about by blended learning techniques in terms of learning outcomes, student satisfaction, retention, and accomplishment in order to provide baseline measurements of the changes brought about by blended learning courses. It is important to evaluate both the learning process and the learning results. It is crucial to assess and evaluate how blended learning affects higher learning levels as well as critical and reflective thinking. It is essential that researchers begin to explore the impact of blended learning in achieving more meaningful learning experiences.

Many businesses and universities have made significant investments in incorporating technology into the teaching and learning process in recent years. Nearly every corporate student has access to computers and the Internet these days. When implemented properly, blended learning may enable organisations to combine various teaching resources and technologies into a successful, integrated learning experience, providing students with plenty of chances to transition from passive to active learning. Blended learning environments can facilitate diversified staffing, increase relevant professional development opportunities, and provide more and better chances for teacher collaboration. Teachers have access to an abundance of improved and enlarged student data thanks to advanced data systems, which increases productivity and reduces time spent on repetitive chores and record keeping.

Working with kids, cooperating with other educators, and taking on new responsibilities may all be done with the time saved by the careful use of technology. Teachers become even more crucial in a customised learning environment when the potential of blended learning is fully realised. Naturally, there is no one-size-fits-all approach to teaching, and some hybrid classes are likely more successful than others. The success of hybrid learning is influenced by several aspects, according to a scientific literature evaluation conducted by the Australasian Society for Computers in Learning in Tertiary Education. Students need to know exactly what is expected of them in this new environment, and teachers need to be dedicated to being well-trained in blended and hybrid education and its technology. Schools and instructors will probably comprehend and apply blended learning more effectively as it becomes more prevalent. However, blended learning is still in its early stages of development, which makes it an exciting moment to be a student. Every pupil learns differently. Although not very new, this idea is crucial. This is the true power of blended learning: it turns a mostly transmissive teaching approach—for example, a professor speaking for what seems like an eternity—into one that is genuinely participatory.

Compared to other teaching methods, blended learning offers instructors and students the opportunity to learn and teach more successfully. It gives students the chance "to be both together and apart." Because of the advantages that computer-mediated instructional technologies offer, a group of students may communicate at any time and from any location. A "good" combination of technology and contact is offered by blended learning, which produces a positive, socially supported educational experience. Every student can benefit from blended learning. In order to construct and create a new revolution in this current digital age culture, blended learning has been introduced in schools and higher education institutions in a variety of formats. The entire instructional design of the learning process is taken into consideration in a blended learning approach. Blended learning is a dynamic process where learning demands, epiphanies, and distinctive routes change with time, but careful preparation is crucial.

The student should ideally have more control over how the educational process proceeds. Differentiating education is made simpler with this sort of flexibility, meeting the demands of a wide range of students. In certain blended learning settings, technology is not required, but it is utilised as a tool for learning and to support a discovery-based approach to online learning. Through careful blending of online and in-person contexts, blended learning is a student-centered method to providing a learning experience where the learner interacts with other students, the teacher, and the subject. A well-planned blended learning program carefully arranges activities, support materials, and information through synchronous and asynchronous learning events, all of which are presented in a range of ways, from traditional lectures to online tutorials. Collaboration and communication are essential components of a mixed strategy.

The student takes ownership of their education when formative assessment is integrated into learning activities. Blended learning settings offer many methods to obtain knowledge and demonstrate mastery, in contrast to teacher-centered, rote learning models.. They thereby make it easier to differentiate between content and procedure. Additionally, a mixed approach allows the student to take greater responsibility for their education, which may result in a more relevant learning environment for each individual. The learner is more likely to show comprehension beyond rote memorisation and to apply what they have learnt in different contexts since they develop their knowledge through personal effort. In conclusion, it is crucial that we analyse and appraise the efficacy of blended learning as we investigate its use. Monitoring changes in learning outcomes, student satisfaction, retention, and accomplishment is crucial for serving as a baseline indicator of the changes brought about by blended learning programs. It is important to evaluate both the learning process and the learning results. It is crucial to measure and analyse how blended learning affects learning at higher learning levels (such as critical and reflective thinking).

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