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BLENDED LEARNING A CONVERGENCE OF ONLINE LEARNING AND FACE-TO-FACE EDUCATION FOR IMPARTING BETTER EDUCATION IN INDIA

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Abstract

Student sector in the developing world are frequently cited as being among the most important beneficiaries of online education initiatives such as massive open online courses (MOOCs). All over the world the concept of online learning is spreading at higher speed rather it is in junior education or in higher education. The convergence of online learning and face to face conversation to a different fold refers to a concept of Blended learning. Blended learning method refers to “mixing of different learning environments”. It combines traditional face-to-face classroom methods with more modern computer-supported activities using Internet and other advanced technology. According to History of Indian Education, Traditional teaching method is most popular method of teaching in Indian school which involves face to face interaction and cannot be eliminated from Indian education culture. Online learning, web based learning, intelligent tutor systems are the new technologies in education which helps in profound improvements. Online learning has unique abilities to provide students with enriched learning experiences, to extend learning beyond the school day, and to support more successful

differentiated learning strategies that personalize students' educational experiences. Web based learning has the advantage of learning through animations, multimedia, videos and chats etc. Blended learning is the teaching practice that combines teaching methods from both face-to-face and online learning and is going to prove as a powerful method of educational transfer.. So the objective of this paper is to explain how blended learning is essential in departing education. The paper not only describes the characteristics of blended learning but also put light on pillars of this learning scheme. Evidences are also there for the working of blended learning. Issues are also described for the need of blended learning in case of technical education in India which can be implemented with the concept of Massive Empowered Classrooms (MEC).

Keyword

MOOC Traditional Learning, Online Learning, Blended Learning, Web Based Learning, Multimedia, Animations, MEC

1. Introduction

Online learning is the catalyst to enhance collaborations in new ways. Blended learning should be viewed not only as temporal construct but also as a fundamental redesign model. Through this content delivery becomes digital and online .It is taking about a new paradigm for both teachers and students with the use of web technology to transform learning. One to one computing programs, the classroom and the teacher are the ingredients of cutting edge blended learning. Highly qualified teachers focus on using online curriculum, web and one-to-one learning to create a new world of education transform. Truly blended learning requires teachers should adopt the approach as guides and mentors and learning should go beyond the classroom walls. Blended learning is also known as Hybrid learning.



Figure 1: *Ingredients of Blended process*

2. Definition

Definitions of blended learning can be described in many ways. Some of the definitions include:

- The integration of face-to-face and online learning to help enhance the classroom experience and extend learning through the innovative use of information and communications technology. Blended strategies enhance student engagement and learning through online activities to the course curriculum, and improve effectiveness and efficiencies by reducing lecture time. {1}
- “A course that blends online and face-to-face delivery. Substantial proportion of the content is delivered online, typically uses online discussions, and typically has some face-to-face meetings.” The Sloan Consortium defines blended courses as having between 30 percent and 79 percent of their content delivered online, with the remaining portion of the course content delivered by face-to-face instruction or other non-web-based methods, such as paper textbooks. {2}
- The combination of multiple approaches to learning. Blended learning can be accomplished through the use of ‘blended’ virtual and physical resources. {3}
- Integrated formative and summative assessment mechanisms for students and instructor.” {4}

- “The widespread adoption and availability of digital learning technologies has led to increased levels of integration of computer mediated instructional elements into the traditional F2F [face to face] learning experience,” {5}

3. Characteristics

Various characteristics of BL are:

- Blended learning represents instructional strategy shift.
- Increases communication between student-student, student –instructor, student –content and student-outside resources.
- It integrate use of educational technology to online curriculum and face to face interactions.
- It is not a single type, rather the continuum expands from fully online to fully face-to-face.
- It is the medium of delivering the content with the help of video, simulations etc., which in turns is more effective than Text –based content.
- Blended learning relies on a significant level of web-based communication and content, it relies on a course management system or a learning management system to organize the content and facilitate communication
- Blended learning can vary in many ways, it may present challenges for research and policy.
- It helps in inquiry, research, collaborations, presentations and reflections

4. Pillars of Blending Process

Blended learning is an evolutionary process. In the past, the ingredients for blended learning were limited to physical classroom formats (lectures, labs, etc.), books or handouts but Today organizations have myriad learning approaches to choose from, including but not limited to:



Figure 2: *Structure of Blended Learning*

4.1 Synchronous physical formats:

- Instructor-led Classrooms & Lectures
- Hands-on Labs & Workshops
- Field Trips

4.2 Synchronous online formats (Live eLearning):

- e-Meetings
- Virtual Classrooms
- Web Seminars and Broadcasts
- Coaching
- Instant Messaging

4.3 Self-paced, asynchronous formats:

- Documents & Web Pages
- Web/Computer-Based Training Modules
- Assessments/Tests & Surveys
- Simulations
- Job Aids & Electronic Performance Support Systems (EPSS)
- Recorded live events and Online Learning Communities and Discussion Forums

5. The Benefits of Blending

Blending provides various benefits as compared to single learning method as:

- Improved Learning Effectiveness
- Extending the learning environment
- Optimizing Development Cost and Time
- Optimizing Business Results
- Better content delivery in speedy way
- Provides partnership with a community-based organization.
- Make learning more social and more transparent
- Increased flexibility and personalization of students' learning experiences
- Increased communication among teachers
- Enriched professional development
- Curriculum development
- Manage grades/attendance, track student behavior problems.

6. Evidence That Blending Works

The research from institutions such as Stanford University and the University of Tennessee has given valuable insight into some of the mechanisms by which blended learning is better than both traditional methods and individual forms of eLearning technology alone. This research gives us confidence that blending not only offers us the ability to be more efficient in delivering learning, but also more effective.

The introduction of live eLearning into their program to address these needs raised student completion rates to 94% by the availability of interaction with instructors and peers, and higher quality mentoring experiences. The Stanford research strongly suggests that linking self-paced material to live eLearning delivery could have a profound effect on overall usage and completion rates – enabling organizations to radically increase the return on their existing investments in self-paced content.

Research by the University of Tennessee's Physician's Executive MBA (PEMBA) program² for mid-career doctors has demonstrated that blended learning programs can be completed in approximately one half of the time and cost. The well-designed research program

was able to demonstrate an overall 10% better learning outcome than using the traditional classroom learning format alone.

7. Technical Education in India

The context of technical education in India is very different from that in the Global North. Engineering education in India is a huge enterprise and is very heterogeneous. In 2014, there were more than 3400 engineering institutes in India, teaching approximately 4 million students, and the rate of increase in enrollment is enormous: between 2009 and 2014, the intake of engineering colleges grew from 1.1 to 1.6 million students [6]. Outside of India, many people are familiar with elite institutes such as the Indian Institutes of Technology (IIT), National Institutes of Technology (NIT), Birla Institutes of Technology and Science (BITS), and others. However, these teach only a small fraction of all the engineering students in India (e.g., the total number of new seats for all 16 IITs in 2014 was ~10,000 [7]). The vast majority of engineering students enroll in a variety of other institutes across the country. Some of these are autonomous “deemed” or private universities, and a large proportion are colleges affiliated with state universities. But they usually face web of difficulties as :

- Lack of qualified teachers
- Limited relevance of classroom performance etc

So need of online education arises. But it also face various challenges as

- Research suggests only Adults are aware of these resources and using them not others.
- The syllabi of online courses differ from university courses, and the level/speed of teaching is often too fast for students at regional colleges. Also online material is not relevant for exams.
- Language and accent is a serious concern.
- There remain serious network bandwidth constraints for most colleges and students.

These issues leads to the concept of implementation of Blended learning in India, which is not so common in India as such and research is needed in that area. For this the concept of Massive Empowered Classroom (MEC) is built to explore how online educational content and techniques in blended learning might be used for teaching computer science at state technical universities in India.

8. Case Study

In India, Zaya Learning Labs is transforming the learning experience of students and educators across India and beyond. With a pilot programs across the world, Zaya is working with teachers, school leaders, and students to bring the power of blended learning to low-cost schools. The idea was to give students traditional learning and then rotate the same objectives with the help of technology based learning environment.

In the trial version, Six Schools in Mumbai shown great progress through the use of blended learning. Also implementation is done in case of three more schools in Malwani which is a slum area.

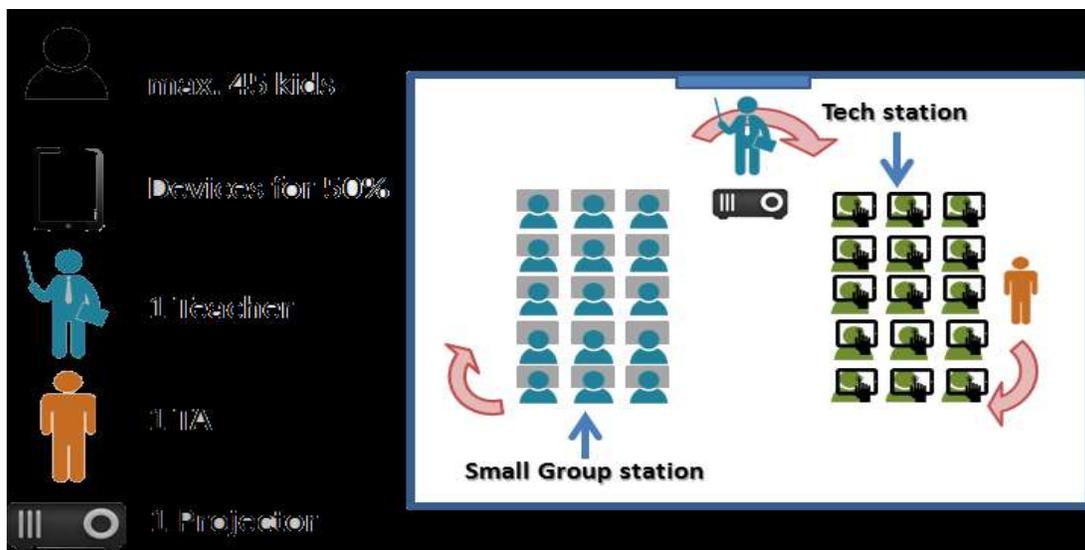


Figure 3: This model provides a new opportunity for lessons to be targeted to each child

INFRASTRUCTURE USED:

Internet and Wireless: Zaya ClassCloud

Tablets: Android 4.2 (Lenovo)

Software: Zaya Learn Platform

Content: Khan Academy Lite, Zaya custom content for Math and English

9. Future

Zaya Learning Labs is expanding to work in 60 schools and tuition centers in the coming school year, bringing its blended learning platform to classrooms in six Indian states. As the pace and direction of this learning platform is self-directed and motivating, the goal of reaching every student in the class became a real possibility.

10. Conclusion

Organizations are now discovering that blended learning is not only more time and cost effective, but provides a more natural way to learn, work and transform education. Organizations that are in the forefront of this next generation of learning will have more productive staffs, be more fast in implementing change, and be more successful in achieving their goals. This could help to ease some of the serious constraints in higher education in India and other developing regions where the demand for education is affected by shortage of trained teachers. The research suggests that an interactive combination of video teaching by local professors and an energetic peer facilitator can be effective in education sector by looking beyond the traditional boundaries of classroom instruction by augmenting their current best practices with new advances in learning and collaboration technologies to maximize results.

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