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Blended Learning in Indian Elementary Education: Problems and Prospects

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Elementary education is vital for children as well as for society as a whole. It serves three major purposes in an individual's life. First, it provides a foundation for learning the core subjects. Second, it provides an understanding of the individual's environment and society. Third, it helps to foster an interest in duty and responsibility within the individual's own community through various activities. Elementary education is very important whether one is living in a developing country or a developed world. So it is the duty of every guardian and government to provide quality elementary education to every child. Blended learning is an innovative idea having immense potentiality to provide quality education to children. Unfortunately, the vast majority of blended learning research has focused on educational settings in North America and more attention is needed for its successful implementation in the developing countries like India where elementary education is suffering from so many problems in spite of the best efforts taken at various levels by the government. Using India as a setting, the objective of this essay is to define blended learning, outline the challenges in the Indian educational system, and suggest changes that need to be made for blended learning to gain the traction it needs to become a widely used and highly effective method of instruction in India.

Keywords: Indian elementary education, online learning in India, blended learning, Right to Education Act

INTRODUCTION

Blended learning is an educational program where more than one delivery mode is being used with the objective of optimizing the learning outcome and/or cost of the program delivery (Singh & Reed 2001). The concept of blended learning is rooted in the idea that learning is not just a one-time event, but rather, is a continuous process (Garrison & Kanuka, 2004). Blending provides various benefits over using any single learning delivery medium alone (Singh, 2003).

In 2003, the Australian National Training Authority (ANTA) described blended learning as the integrated combination of traditional learning with web-based online approaches. Blended learning focuses on the achievement of learning objectives by applying the *right* personal learning technologies to watch the *right* personal learning style to transfer the *right* skills to the *right* person at the *right* time (Singh, 2003). It has also been touted as a way to meeting the challenges of tailoring learning and development to the needs of individuals by integrating innovative, technological advances (Thorne, 2003). In short, blended learning combines traditional physical classes with elements of virtual education.

Blended learning has also been conceptualised in terms of combining traditional in-class learning with online activities and resources (Downes, 2008). One major advantage to blended learning is the online delivery of educational content with the best features of classroom interaction and live instruction to personalise learning in ways that allow thoughtful reflection and differentiate instruction across a diverse group of learners. Blended learning should be viewed as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities (Ferdig, Cavanaugh, DiPietro, & Black, 2009).

Blended learning is immensely complex. To make it work, there must be careful management of all the models, including all elements within the models, as well as all the programs and devices, and all of the other obligations that come with educating young people. Blended learning has major implementation challenges, especially in developing countries like India. In spite of being the seventh largest country and having the largest child population in the world, India is underdeveloped when it comes to blended learning availability and optimisation (Barbour, 2014). Problems in India include lack of infrastructure, insufficiently trained teachers, high teacher absenteeism, and low teacher accountability and motivation. However, blended learning could move forward by leveraging several important advantages.

The purpose of this essay is to conceptualize the challenges with large-scale blended learning in Indian elementary education, explain why blended learning should still be a goal, and then describe some promising developments in blended learning in India that could be the beginning of making that goal a reality.

Current State of Elementary Education in India

After 70 years of political independence, India is still beset by serious problems with its education system. Modern education in India from the elementary school to university levels is often criticized for encouraging rote learning, rather than comprehension, critical thinking, and problems solving (Jha & Parvatti, 2014). Unfortunately, even very young elementary students spend most of their time memorizing a series of disconnected concepts. Textbook knowledge, rigid ideas, and test scores take precedence over open debates and logical reasoning. Little room is left for creativity to thrive, a key element of proper child development (Rose & Doveston, 2015). Moreover, there are growing concerns about student learning outcomes, teacher training, curriculum quality, assessment of learning achievements, and the efficacy of school management (ASER, 2017). Faced with such problems, many children drop out of school before they even complete five years of primary education (ASER).

The importance of primary schooling with respect to the overall development of a child and a focus on future careers cannot be underestimated (Kumar & Rustagi, 2016). The lack of quality primary education—particularly in multitudes of small villages of the country which houses more than 70% of Indian rural population—is at risk of even greater inequality as seen in the widening of the gap between rural India and urban India (Census of India, 2011). In India, elementary education is especially important because it is likely to be the only education a child receives (Jha & Parvatti, 2014). Therefore, blended learning needs to start in the early grades so that it can reach the most people from the widest range of social groups and economic classes.

Currently, there are two types of schools in India: government schools and schools managed by private bodies such as private trusts, societies or companies. Private schools can be either aided or unaided by the government (Vishwanath, 2013). While government schools adhere to a syllabi (curriculum) prescribed by the state governments, private schools follow a variety of syllabi from various organizations such as the Central Board of

Secondary Education (CBSE), the Council for the Indian School Certificate Examinations (CISCE), International General Certificate of Secondary Education (IGCSE), or International Baccalaureate Diploma Programme (IBDP). Most small private schools follow state or central syllabi since they cater to the needs of the lower to middle-class strata of society whereas international schools cater to the upper class. However, many schools call themselves international schools, but there is no way to differentiate them from other schools (Sharma, 2011).

Studies show that private schools are more effective compared to government schools in terms of the quality of education they provide and in their learning outcomes, as they are accountable to the parents and must survive rigorous competition (Kremer, Brannen, & Glennerster, 2013). Consequently, the percentage of children attending private schools is increasing gradually year by year and it was estimated that 50% of children in India would be attending private schools by the end of 2018 (ASER, 2012). In fact, this has come true (ASER, 2017). Private schools are the choice of both rich and poor alike. Although poverty has been declining overall in India, the reduction has not been equal across all castes, religions, and nationalities and the poorest poor have benefitted the least from poverty reduction efforts (Alkire & Seth, 2015). This growing demand for private schools is attracting big and small investors to start small and international schools throughout India.

In an attempt to reduce these inequalities, India enacted the Right to Education Act (RTE) in 2009. The Act was supposed to give every child in the country the right to full-time elementary education that is satisfactory and equitable. However, there is no evidence this policy has made any deep impact. At both the national and international levels India has scored very low compared to other countries (Singh, 2016). With respect to Project for International Student Assessment (PISA) scores, which compare the ability to read, do math, and understand and apply scientific facts in 15-year-olds across the globe, India in its first entry, placed 72nd and 73rd among the 74 participating countries (Sing). Another gage of educational quality is the Annual Status of Education Report (ASER). This survey measures the learning outcomes of children across India in early grades and has been administered in India since 2006. Pratham—a large Non-Governmental Organization (NGO) operating in India monitors the survey. The 2016 ASER found that nationally, 29% of children drop out before completing five years of primary school, and 43% before finishing upper primary school where the high school completion rate is only 42%.

The 2012 ASER revealed the shocking truth that 58.3% of fifth standard (grade) students in government schools were unable to read a second

standard (grade) textbook in their respective local language or dialect. In addition, 75.2% of these students were unable to do a simple division. At the time, all available data on student achievement suggested that the children were performing far below the level that is expected of them. Further, of all rural children in India enrolled in standard five (fifth grade), only half could fluently read text from a standard two textbook. The 2014 ASER findings were not any more promising. The overall picture of basic reading was worrying. In 2014, only a quarter in standard three (third grade), only a half in standard five (fifth grade) and around 75% in standard eight (eighth grade) could read a standard two (second grade) text accurately

Statistics of English reading aptness are no better. In 2014, only 25% of standard five (fifth grade) children could read simple English sentences, a percentage which has remained the same since 2009. That same year only 60% of those capable of reading words (irrespective of grade) could explain their meaning, and only 62.2% of standard five students (fifth graders) could narrate a sentence's meaning. English is an important second language for many in India and is vital for global economic participation. Students need to learn their local language and English to have access to many good things in life.

Summary

Intermittent attendance, poor teaching quality, limited access to study material, and unavailability of quality teachers are some common features of millions of government-run primary schools in India. According to the District Information System for Education (DISE) 2014-15 report, government primary schools are short of basic amenities like electricity, as only 44.8% of schools have electricity supply. Further, only 53% of schools have functional girls' toilets and 74% have access to drinking water. Open schooling is interpreted literally as millions of schools are without buildings, especially in tribal and hilly zones. Further complicating matters like issues of poverty and unavailability of three square meals a day. Such profound poverty drains the motivation of the rural masses to acquire elementary education, let along anything afterward. The abysmal conditions found in primary schools countrywide causing a flight of students from government schools to private schools and this is not at all a good sign for a democratic nation like India.

These facts place India among the top five nations for out-of-school children of primary school age, with 1.4 million 6-to-11-year-olds not attending school. Even if students were to attend, there is already a teacher

shortage of approximately 689,000 teachers in primary schools. Looking at ASER figures from 2012-2014, it is estimated that 100 million children in India are two or more years below their grade level. Under the current circumstances, such children are very unlikely to reach the levels of capability expected of children after eight years of schooling, as mandated by the RTE.

Problems of Introducing Blended Learning in Indian Elementary Schools

Despite high technological growth, only 0.2% of schools in India have computers. Even when computers are available they tend to be used to just to provide basic computing skills for children (Bhattacharya & Sharma, 2007). In the survey conducted by the International Association for K-12 Online Learning (iNACOL) in 2006, India was nowhere in the picture of online education in K-12 education (Powell, 2006). However, higher education was already using e-learning. Universities like Jadavpur University, BITS Pilani Virtual University, Online education with Hughes, Visvesvaraya Technological University, Amrita Vishwa Vidyapeetham, DOECC Society and others had e-learning portals as early as 2006. Madras University in the state of Tamilnadu has become country's first virtual university, as the completion of the first phase of the Virtual University Programme that was jointly promoted by the university of Madras, Mumbai, and Kolkata. The program was inaugurated by the Ex-President of India and great Indian scientist Doctor A.P.J Abdul Kalam in 2005. Then seven Indian Institutes of Technology (IITs) have teamed with Indian Institutes of Science (IIS) in Bengaluru to set up India's first home-grown virtual technology university under the National Programme on Technology Enhances Learning (NPTEL).

Even as this progress was made, a second iNACOL survey in 2011, revealed that India had yet to use online learning for K-12 students. Further, only private tutoring institutes were using online learning to supplement their K-12 students' education. By contrast China, India's competitor, had created its first K-12 online school in 1996, which has since grown to 200 online schools with a total student enrolment of 600,000. It was estimated that around 26% of total K-12 student population were learning online in China (Barbour, 2014). India's indifference to online learning was because many found it is extravagant when needs like basic education, healthcare, drinking water, and electricity were not yet met. Indians were also sceptical about technology as it might replace teachers (Bhattacharya & Sharma, 2007). This caused fears that online learning might curtail the country's em-

ployment opportunities. For many, those fears have yet to be resolved.

There is a long way to go so that blended learning can gain swift momentum in India. A few of the roadblocks India faces are rooted in infrastructure issues and digital literacy. The task of implementing blended learning is not that simple; it requires a significant amount of research, planning, collaboration and execution (Kumar & Rustagi, 2016). Just purchasing high quality devices and licensing the latest online learning software is unlikely to work. Students and teachers have to be educated about how to use blended learning to be able to realize an educational advantage (Rose & Doveston, 2015). Blended learning will require changes in classroom management strategy, teaching methodology, current educational models, and the role of teachers and their responsibilities (Borup, 2018).

Children from historically underserved groups, including those from the areas that are geographically isolated or students with health issues, are not able to benefit from the formal traditional modes of instruction (ASER, 2012). In addition, the ethnic diversity in India poses challenges to implement equitable education nationwide. There are more than 300 languages spoken in the country. This makes it difficult to offer education tailored to specific social segments including educating women and girls from certain geographical areas (Mukherjee, 2018). In addition, children of poor families are forced to work and miss out on learning opportunities (Mukherjee). Naturally, in such a situation, the question comes to mind, is there really any space for the induction of blended learning in Indian elementary education sector?

Prospects of Blended Learning in Indian Elementary Schools

After painting this grim picture of India, one might wonder why anyone should bother advocating for blended learning. However, blended learning does not have to happen in India overnight. Further, there are still many prospective advantages. These advantages primary operate around active learning, flexible uses of technology, and the promotion of equity and social justice.

Active and rich learning for all our children. Blended learning offers the chance to make learning more enjoyable and more relevant to children. As a result, introducing them to technology early can help children to imagine themselves in technology-driven professions. Young children will also be able to develop cooperative learning habits to prepare them for future work and democratic participation. It is also possible that participation and attendance will increase in blended learning schools by instilling a sense of

investment from the government and communities. Also, students may feel like they have real chances to set long-term personal and professional goals because of the new ways of thinking (e.g., brainstorming) necessary for blended learning in schools.

Flexible use of Internet technology. In some cases, the Internet is available and reliable and sometimes it is not. Blended learning allows for students to use the Internet resources when available and to use traditional methods when there are network failures or outages. In addition, teachers can have access to data about students where they can make decisions that will help students achieve competences in standards (grade levels).

Meet goals for equity and social justice. India is the home of 26,810,557 persons with disabilities, as per the latest census report (Census of India, 2011). Of these individuals, it is estimated that around 45% are illiterate. In India, children with disabilities are educated in formal schools by order of the government. Yet, large numbers of children with disabilities do not attend school. Blended learning has the potential to integrate assistive technologies for the benefit of these children. In addition, children with disabilities, if they can be educated in a blended learning environment alongside their peers, will have unprecedented access to a school system that is truly inclusive. Further, many Indians come from traditional backgrounds with very conservative values. They are dedicated to preserving their culture. What is crucial is to maintain those traditional values while moving past historic cultural blind spots and injustices. Blended learning is precisely the medium which could support children in negotiating the past with their future.

Building Momentum for Blended Learning

Long ago, the great Indian saint Swami Vivekananda said that if the poor cannot come to education, education must reach them at the plough, in the factory, everywhere (The Complete Works of Swami Vivekananda). Technology-supported learning could fulfil the Swami's injunction. India could be part of this movement, especially since its young people, like many in the world, actively seek opportunities to learn with laptops, iPads, and smart phones. To cater to the school students' needs, education providers such as Educomp, Tata Class Edge, Pearson, and TeachNext have been building interactive software to aid teachers in classroom teaching. However, usage of digital technologies in institutes of higher education is still in its nascent stages and efforts are being made to fine-tune these technologies to adapt to the needs of university students.

India's growing economy with a burgeoning middle class and more than 200 million Internet users has made the country the third largest online market after China and the United States. With this kind of far-reaching impact, there is hope for an increase in the use of digital technologies in the education field. The question is then, who will make and sell devices and software to India for their children? Further, how soon will it be before we can make what we need for ourselves? India's booming urban areas provide an excellent opportunity for initial digitalization of educational services. To increase the quality of education with the latest digital technological know-how, majority of the schools and universities are trying to keep pace with the digital changes by implementing them. Thus, by empowering educators, digital technology may hold the key to some of India's educational challenges. There is an urgent need of some radical steps and major revolutions within the country to overcome the challenges. Then blended learning could usher in a better future for Indian school education system. The call to revamp India's traditional, outdated, and over-burdened education system is growing louder every day. The government's resources are stretched to breaking and government officials lack blended learning expertise. Private organizations, NGOs and non-profit organizations are starting to partner with government schools on pilot-projects to experiment with revolutionary teaching methods like blended learning, incorporating technology like cloud, tablets and remote teaching to provide more sustainable education delivery models.

For example, Zaya Learning Labs a start-up based in Mumbai, makes it possible that blended learning can be a solution for schools in less developed regions. They have been working with schools to implement a simple blended learning model enabled by low-cost technology, at least some existing qualified teachers, and teaching assistants who are trained by Zaya. The entire model is powered by Zaya's ClassCloud technology, which gives offline schools an online learning experience by creating a powerful local hotspot in classrooms or labs without Internet access. Zaya uses technology and a data-driven approach to empower teachers and facilitate student-driven learning. They are achieving this through their innovative, tech-based, personalised learning solutions built for the student and teacher, coupled with over five years of experience in implementing blended learning models in infrastructural challenged learning environments in India. Government should encourage this so that more such private organisations and NGOs come forward to spread blended learning country wide. However, we need more than one company in select urban areas to achieve the kind of educational progress necessary.

CONCLUSION

Now is the time for countries to use technology in the field of education and let students and teacher discover the knowledge on their own terms. The biggest challenge any teacher faces in an Indian school is capturing the students' attention and putting across ideas in such a way that it stays with them long after they have left the classroom. For this to happen, classroom experience should be redefined and innovative ideas that make teaching methods more effective should be implemented. Blended learning can prove to be a powerful strategy, if learning experiences are well designed.

Despite obvious issues related to the implementation of blended learning, it has potential to improve Indian elementary education. The positive outcomes are most likely when participants share an inspiring vision, seek maximum possible involvement and bring out the best in others, celebrate accomplishments and model behaviors that facilitate collaboration. The other very important issue is the development of positive attitudes towards blended learning. Forums should be organized that allow for government officials, parents, community members, teachers, and students to become aware of programmes, seminars, discussion forums. These can be utilized to make people aware about the benefits of blended learning so that a more open mindset is prepared for its implementation. However, the most open attitudes in the world do nothing unless they translate into real action for supporting infrastructure, building programs that are specific for specific populations in India, and in general changing the educational product markets to reflect what India values for its children in the next several decades instead of merely chasing higher PISA scores.

To conclude, it can be said that blended learning can fit within a larger program of reasonable improvement plans for problems in Indian educational system. If implemented in a well-planned, organized way with a positive attitude it could bring a better future. The digital age is here; its hallmark is non-linearity. This means that the economic efficiency that age-grade textbooks and syllabi (curriculum) provided in the past is no longer the best solution. Helping children create their own syllabi should be more plausible. The time has come to be aware of the conflict between the nature of the demand for equality that starts with educational equity and the willingness of government and industry to provide real help. The social problems we face and the conflicts in which we find ourselves must be managed better by expert brains. What better brains than those we find in our beautiful children?

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