

## **JOURNEY OF BLENDED LEARNING FROM PAST TWENTY YEARS IN INDIA: A SYSTEMATIC REVIEW**

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### **ABSTRACT**

*Blended learning is a promising and innovative pedagogical strategy. This technique is in use maximally in developed countries for their education system. Many previous studies proved that it is an effective technique in improving teaching learning environment. In India, proper implementation of blended learning strategies are lacking due to inadequate funding, lack of awareness, lack of infrastructure etc. But keeping eye in new normal, it is very important to know and understand the value of blended learning in India. This paper contains systematic review of 12 papers published in SCOPUS indexed journals from 2000-2020 related to Blended learning in India. Content analysis and areas discussed in those papers and the unexplored areas of blended learning which are still unexplored in Indian scenario are discussed here. Analysis of papers reveals that adequate number of quality papers are lacking related to Blended Learning in India. Most of the areas of blended learning research are still untouched. More researches and quality papers are needed for implementation of the strategy.*

**Keywords:** *Blended Learning, Blended learning in India, teaching – learning system, innovative pedagogy.*

### **INTRODUCTION**

Though we have spent more than 70 years of independent life in India, the drastic reformation of education system have not been done yet in comparison to other countries. After emergence of educational technology in field of education PLATO (Programmed Logic

for Automatic Teaching Operations) was first introduced in 1960s by University of Illinois. Later e-learning and then hybrid learning techniques were introduced. Later the hybrid learning was renamed as Blended learning in the year 2006 by Bonk and Graham in their book 'Textbook of Blended Learning'. Many previous studies prove that blended learning technique has an excellent potential to meet the new challenges of ever transitional education system. In India we can found many loopholes in current chalk and talk based education system. Blended learning can be the possible way to overcome the hazards coming on education system in India.

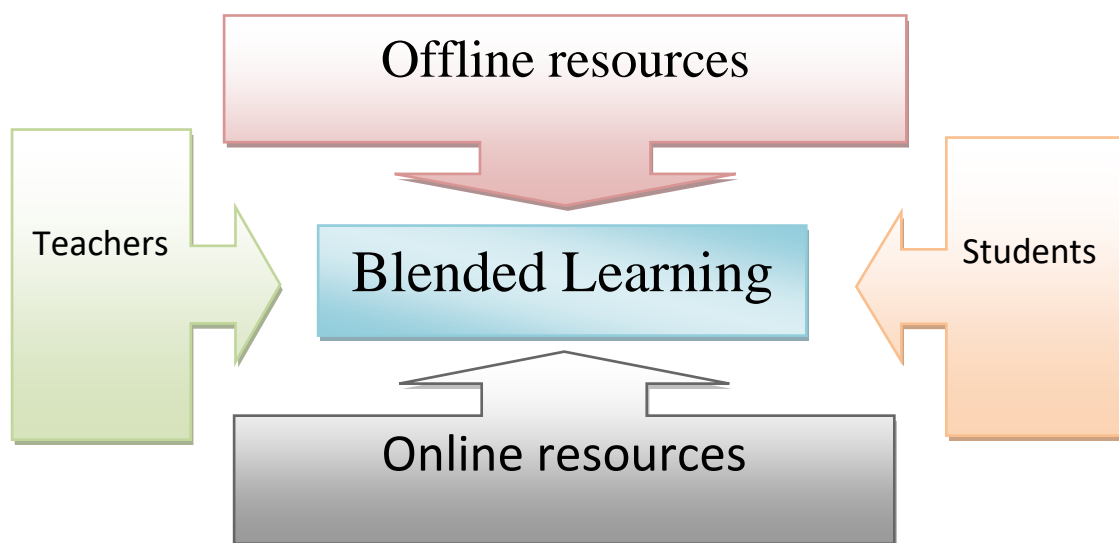
Blended learning is in use maximally in developed countries for their education system. Many previous studies proved that it is an effective technique in improving teaching learning environment. Some LMS are introduced now in India, like Byjus, Moodle etc. they are costly and every institute cannot able to afford it. Implementation of blended learning in every educational institution is lagging till the date. In India, two main types of schools are found: Government and Private schools. Some government schools are fully government undertaken some are aided. Where the funding are limited so that the inequality occurs as private schools are becoming too much modified by their advanced technology use and government and aided are not progressing as per need due to lack of money and resources. In India, proper implementation of blended learning strategies are lacking due to inadequate funding, lack of awareness, lack of infrastructure etc. But keeping eye in new normal, it is very important to know and understand the value of blended learning in India.

## **BLENDED LEARNING**

Blended learning is an innovative teaching strategy which includes presence of both physical resources and e-resources at a time for proper utilization of time meet the individual need of the child and finally help to draw out best learning outcomes from pupil. Though the term was first introduced by Bonk and Graham in the year 2006, it was formerly known as hybrid learning and can be categorized under Computer assisted Learning or ICT based education. Need of advancement in educational sector is in pick nowadays. Social distancing, social isolation, wearing masks are new normal to us. In this age of isolation advancement in educational institutions is one of the most important issues. For the proper implementation of advanced teaching learning system blended learning can be the possible way to resolve the issue. Blended learning strategies proven very much effective in many countries. USA,

China, Japan, Middle East many countries introduced Blended learning as their teaching strategies and found positive results. Blended learning proved very much efficient in bringing positive responses, fullest use of limited resources, it can improve students engagement in class and also increases motivation among students (National Educational Technology Plan, 2010).

Blended learning is considered as Third Generation of distance learning (Staker, 2011) which can leave deep impact on learning environment, student's satisfaction and motivation (Zhonggen et. al, 2015). There are different models for blended learning strategies: Rotation, Flex, A-la-carte, Face to face driver, enriched virtual etc.



**Fig 1: Blended Learning technique**

### **ADVANTAGES OF BLENDED LEARNING**

- Improvement of communication skill teachers and students both can be possible with blended learning.
- Main drawback of e learning was, it was too much machine oriented and that social interaction was not possible at all among pupils by that method. In blended learning social interaction among students and teachers are fully present.
- Advancement of curriculum as per need of the modern age is possible through Blended learning.
- Enhances digital literacy among students.

- Interaction between teachers and students in presence of e-resources are fully conducted through this mode of learning.
- Growth of self motivation, responsibility, discipline, peer learning, time management etc can be increased among students.

## **REVIEW OF LITERATURE**

Blended learning is a process of rethinking of conventional teaching learning process by which we can get a more structured class with full utilization of limited resources (Bailey et. al, 2013).

Brand and Kinash (2010) conducted their research with quasi experimental Research design. They wanted to know that use of technologies via mobile are able or not to make a difference in learning outcome among the students. Attitude towards technology, technology related anxiety and achievement after using technology were the variables they have considered in their study. With 150 samples size over 2 semesters they have administered comparison group with traditional teaching and given treatment through mobile and ipad based blended learning classes to experimental group. Statistical analysis was done by MANCOVA and analyzed by software like SPSS and NVIVO. They concluded that mobile learning proven very interesting to the students thus it should increase in interest attitude student satisfaction and helped in reducing anxiety.

Yen and Lee (2011) conducted a study where they compared blended learning specifically 3 categories, namely: mobile learning, web based learning and classroom teaching to give students real and practical scopes for study at a time. The motto of the study was to reveal that blended learning is capable or not to resolve the problem solving patterns and its impact on learning achievement. Whole study includes 3 groups: “hybrid oriented group (N=17), technology oriented group (N=12), efficiency oriented group (N=5)” in total the sample size of 34. Hybrid group was taught by e learning and face to face learning techniques both. Technology based group where taught mostly through e learning process. And efficiency oriented group were taught by task oriented teaching. Efficiency oriented group shown higher amount of success in achievement test than other groups. Hybrid group showed higher success rate than technology group in present study.

The researchers assessed a blended system that combines e-learning and person-to-person interaction. The program offered the students a hands-on learning experience based on self-

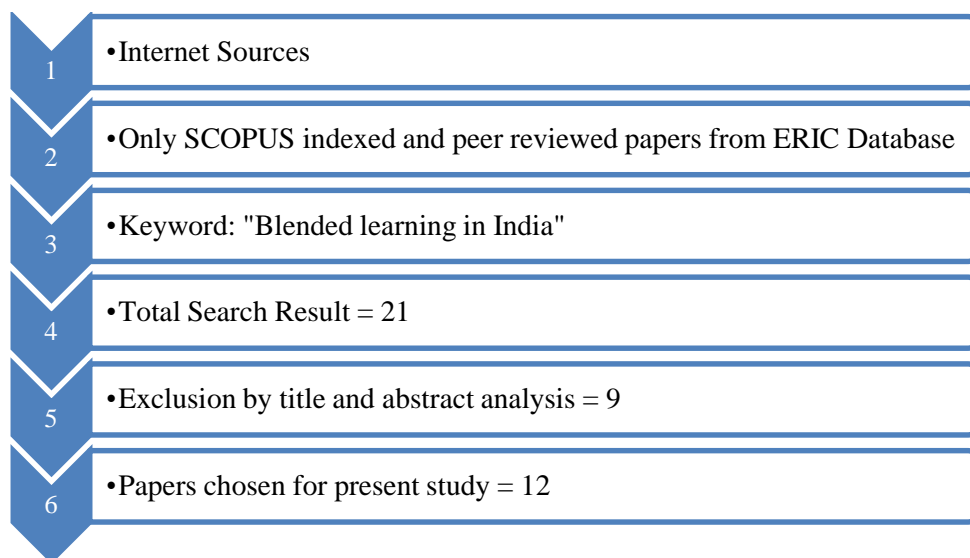
reflection, access to technology, interactive learning, frequent interaction with the multidisciplinary team, more exposure to patients, and regular feedback and finally their feedback surveys and their pre and post-tests. Results indicate that the students appreciate this system as a rich and effective learning experience demonstrated by their positive feedback and by their significant improvement in knowledge assessed at the end of their rotation. Implementing an interactive blended system is a beneficial approach to teaching geriatric medicine in medical schools as they inferred that, as in-hospital experiences with electronic log book, mobile app etc can cause increase in interest among the students with interactive learning technique, can be useful for them.(Duque et. al, 2012).

Kumar (2010), in a true experimental study, investigated about potential of Blended Learning in enhancing learning retention and attitude towards English Language and used ICT tools for Blended Learning Classes, found positive result with BLS. BLS proved effective in Critical thinking, Problem solving, Science process skill and in Science Achievement in a quasi experimental study by Krishnan (2017).

Islam et.al (2018) Investigated to see the relationship of blended learning with motivation and achievement scores. By quasi experimental control group design they have conducted their study. Control group was treated with conventional teaching method where as experimental group was treated with blended learning method through three weeks. Result of the study shows that blended learning proven very much effective in improving motivation level and also higher achievement scores was found among experimentally group students which indicates that blended learning strategies are capable to improve the achievement scores of students also.

## **RESEARCH METHODOLOGY**

This is a systematic review paper. Papers were collected through ERIC data base. So internationally known SCOPUS indexed and peer reviewed papers from the year 2000 to 2020 are only taken for reviewing purpose. After entering the keywords “Blended Learning in India” total 21 Papers were displayed. After title and abstract analysis total 12 papers were taken for in depth analysis as per need of the present study.



**Fig 2. Review process in brief**

## RESULT AND DISCUSSION

The papers chosen for present study are all peer reviewed and SCI Indexed.

“SI . No	Year of Publication	Title	Author	Journal /Book/ Publication House
1	2011	Enhancement of teaching-learning process through multimedia technology	R. Charles	i-manager’s Journal of Educational Technology, Vol. 8 1 No. 3 1 October - December 2011
2	2013	Does smart classroom an effective technology for teaching: A Research Analysis	Ananta Kumar Jena	i-manager’s Journal of Educational Technology, Vol. 10 1 No. 1 1 April - June 2013
3	2014	A Blended Approach to Canadian First Nations Education	Mr. Martin Sacher, Mrs. Mavis Sacher and Dr. Norman Vaughan	ISBN: 978-989-8704-08-5 © 2014 International Conference e-Learning 2014

4	2015	Blended Learning approach for enhancing students learning Experiences in a knowledge society	Suprabha. K G.Subramanian	i-manager's Journal of Educational Technology, Vol. 11   No. 4   January - March 2015
5	2016	Digital Literacy Matters: Increasing Workforce Productivity Through Blended English Language Programs	Kshema Jose	Higher Learning Research Communication; Vol. 6 Num. 4   December 2016
6	2017	Blended Learning: An Innovative Approach	Lalima, Kiran Lata Dangwal	Universal Journal of Educational Research 5(1): 129-136, 2017 <a href="http://www.hrpub.org">http://www.hrpub.org</a> DOI: 10.13189/ujer.2017.050116
7	2018	Blended Learning in Indian Elementary Education: Problems and Prospects	Arnab Kundu	Journal of Online Learning Research (2018) 4(2), 199-227
8	2018	Blended learning to improve quality of primary education among underprivileged school children in India	Priyadarshini Dey & Somprakash Bandyopadhyay	Education and Information Technologies <a href="https://doi.org/10.1007/s10639-018-9832-1">https://doi.org/10.1007/s10639-018-9832-1</a>
9	2019	Effectiveness of flipped classrooms: A case of management education in central India	Prateek Maheshwari and Nitin Seth	International Journal of Educational Management Vol. 33 No. 5, 2019 pp. 860-885 © Emerald Publishing Limited 0951-354X

				DOI 10.1108/IJEM-10-2017-0282
10	2019	The journey from recall to knowledge A study of two factors – structured doodling and note-taking on a student’s recall ability	Burna Nayar and Surabhi Koul	International Journal of Educational Management Vol. 34 No. 1, 2020 pp. 127-138 © Emerald Publishing Limited 0951-354X DOI 10.1108/IJEM-01-2019-0002
11	2019	Vicarious Education, Dialogue Education and Self-Efficacy among Indian Female Students in a Diversity Management course	Nasima M. H. Carrim & Fritz Dresselhaus	Africa Education Review ISSN: 1814-6627 (Print) 1753-5921 (Online) Journal homepage: <a href="https://www.tandfonline.com/loi/raer20">https://www.tandfonline.com/loi/raer20</a>
12	2020	Training for 'ICT in education via Blended Learning mode: Educators’ Experiences and perceptions	Gomathi jatin Shah	i-manager’s Journal of Educational Technology, Vol. 16 1 No. 4 1 January - March 2020”

Charles (2011) in a review based paper discusses about the definition of computer based offline teaching and different dimensions of the strategy. Different features of multimedia are discussed and how it can be incorporated in normal teaching learning process, suggested in this study.

Jena (2013) conducted a true experimental study 200 students were taken as samples of two Indian elementary schools randomly. Control group was treated in conventional classroom method and experimental group was taught with smart classroom facilities. Achievement test was conducted and result analysis done by chi square test and univariate factor analysis



techniques. In result the investigator found that conventional classroom proven better as instructional strategies.

Sacher et. al (2014) was framed their study to know if and how the blended learning strategies can be used to enhance the effect of students engagement and success among the students. This study was based on Seven Principles of Effective Teaching Practice Framework. Study results fetched with the help of online survey. Results revealed that the web based blended learning strategies are very much useful for academic success.

Subramaniyan (2015) published a review based study. It includes in depth analysis of previous papers to understand the characteristics methodology and pedagogical perspective of blended learning strategies in Indian context. To meet the new challenges of 21st century it was concluded as a result that blended learning strategies are very much useful and could be the future of Indian teaching learning environment. It is a sustainable approach which can reduce the burden of complex curriculum and also an innovative process and can meet the individual need of a student.

Jose (2016) investigated theoretically about the implementation of Ecology of resources model in blended learning environment to create a sustainable and authenticate at educational environment for skilling course in English and found blended learning is very much effective in improving skill in English course.

Lalima and Dangwal (2017) discussed about the diverse mode of computer assisted learning specially blended learning. They found that blended learning technique needs enormous effort positive attitude adequate budget and highly motivated enthusiastic teachers and students for its proper implementation. Advantage and relevancy of adapting blended learning strategies in Indian education system are discussed also. The study also proves that blended learning is the solution of different current education related problem to some extent.

Kundu (2018) conducted his study 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.

Dey and Bandyopadhyay (2018) conducted a comparative true experimental study wheat internet accessible blended learning strategies. Researchers conducted their study with the help of online classes' expert teachers and with audio visual aid. This study reveals that blended learning is very much effective in providing quality education to underprivileged

students. Result also shows that blended learning environment can increase the achievement scores and also helps in well being of all kinds of students

Maheswari and Seth (2019) used 6 dimensional tools to measure the effectiveness of flipped classroom settings which includes content understanding, student's academic performance, within class involvement, cognitive capability, collaboration with peers, and inclination of students with learning environment. In this mix method research work investigators drone result has flipped classroom proven extremely helpful in most of the six dimensional tool to measure the flip classroom conditions.

Nayer and Koul (2019) conducted an experimental study with Indian students in three groups having 40 participants in each group. This study was conducted to investigate different learning tools. Three groups were distributed as: doodling, note taking, doodling and note taking. The group dealing with doodling and note taking both shown higher efficiency in recalling, thus proving blending is the best way for getting positive learning outcome.

Carrim and Dresselhaus (2019) performed a survey based study, where they measured self efficacy of Indian female students who are treated by dialogue education through blended learning mode. 5 point likert scale was used to get the result. Authors found that multicultural background creates a deep impact in the seals efficacy among the female students in India. Also they found blended learning was effective in case of self efficacy.

Shah (2020) discussed about the ICT competence among the teachers and the teacher educators in a specific 'ICT and Education' course. This descriptive paper includes some suggestions by stakeholders about the strategies of successful and useful integration of ICT in classrooms.

## **DISCUSSION**

After content analysis of selected papers it can said that –

- Adequate number of studies related to blended learning and missing in Indian scenario. Many foreign authors investigated the relationship of blended learning with different academic and demographic variables.
- Self efficacy, critical thinking, self paced learning, goal orientation, academic anxiety, academic achievements, attitude towards a subject, demographic variables, task value, motivation, anxiety, students and teacher satisfaction, students engagement ( Powell,

2013; Dizuban, 2005; Deb et. al, 2015; Lee and Liu, 2016) etc are some of the important variables with whom the previous investigators worked with.

- Though some work was done with self efficacy, student's satisfaction and motivation most of the other areas are unexplored still.
- ICT, flipped classroom, doodling etc were used to judge the efficiency of the strategy but different models and their implementation in Indian education system is still lacking.
- Some works done with elementary level students, but study with different level of school, college, university, student teachers, nursing students, management students are lacking in proper number.

## **CONCLUSIONS**

Learning without burden, education for all, free elementary education for all children in India - these concepts and providing quality education to every child can be possible with the implementation of Blended learning. It is a strategy in which full use of limited resources can be possible to set the highest learning outcomes. Blended learning can be useful to increase joy in studying, increasing positive attitude, increase satisfaction level of students. Implementation of blended learning requires preformed learning sometimes learning management system through which it can be easily executed to any educational institution. After publication of NPE 2019, it can be seen that maximum emphasis was given towards implementation of ICT, e-learning and blended learning. Successful implementation of blended learning in any educational institution will need to increase grants, financial help from non government sectors can be involved in successful integration of the system. Media can be used to spread awareness among students and parents regarding dilemmas with Blended Learning. Seminars, discussion forum, awareness program should be arranged for both parents and students in a large number to understand the blended learning strategies and its benefits for students.

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