ISBN- 978-81-19848-72-0

BLENDED LEARNING EFFECTIVENESS: THE RELATIONSHIP BETWEEN STUDENT CHARACTERISTICS AND OUTCOMES

MS. MANISHA KAKKAR

Assistant Professor, Department Of Commerce

Lucknow Public College of Professional Studies

KEYWORDS

LEARN, BLENDED, ONLINE, EDUCATION

ABSTRACT

School closures have increased the concern over dropouts and youngsters who do not attend school. Concerns include teaching and learning for kids without access to digital devices, special needs kids' continuing education, instructor reach and availability, and accessibility to engaging learning materials.

While some children have been studying at home with the aid of computers, radios, televisions, volunteers, and friends, dropouts and children who are not in school have become a major concern. Even if operationalization presents challenges, tackling these problems for a structure for implementation in order to guarantee its reach at the local level.

This article explores the challenges of effective digital learning, with a focus on how technology will ultimately and blow up learning landscape

1. INTRODUCTION

The COVID-19 epidemic accelerated attempts to provide wider access to digital education by widening the country's digital gap. As India's educational system

develops, it must be robust in the face of a world that is becoming more unpredictable, dynamic, and nonlinear. The use of ICT in education has made a significant impact through strategies like switching from chalkboards to interactive digital whiteboards in classrooms, using students' smartphones or other devices for learning in class, and the "flipped classroom" model.

Since invention is happening so quickly in the world, it is impossible to forecast what the future will hold, which is why it is so important to set up a system where children can learn how to learn. The Education System of the Twenty-First Century Must Prepare Students for Jobs, Technology, and Activities That Have Not Been Educated Yet, Says the OECD (2018). Only when students grow into lifelong learners who can continually adapt to their situations and challenges will this be possible.

The epidemic of the coronavirus illness (COVID-19) has had a substantial effect on a variety of aspects of life, including schooling. Due to the applied lockdown measures when the COVID-19 epidemic spread globally, many educational institutions were forced to stop operations (Schleicher, 2020), which created significant hurdles to the respective administrations to maintain formal education.

Internet connectivity makes online teach available, enabling educators to effectively incorporate trustworthy knowledge while carrying out the necessary modification, distribution, and cooperation (Huang, 2019). Online learning is significant in that it gives students more access to and exposure to curricular information and advice continually, while also fostering immediate academic conversation and sharing (Zubkov, 2020). This helps meet the different learning demands of students. The Saudi Arabian educational system is now actively and continually implementing online learning to support the learning process (Shahbaz & Khan, 2017). Through educators' strategic planning and appropriate tool use, digital and web-enhanced teaching platforms help many educational administrations throughout the world adopt online learning in an efficient way to offer learning content (Agarwal et al., 2021).Blended learning is a cutting-edge hybrid technique that combines both online and offline training, with traditional face-to-face (FTF) learning and online learning delivered concurrently (Cronje, 2020; Gurley, 2018).

In order to offer relevant training programs, educational institutions are increasingly using online and blended learning techniques (Siemens et al., 2015). Previous studies compared the pros and cons of traditional and online teaching

strategies in a variety of educational contexts and with the goal of improving academic performance. However, there have been few research comparing the efficiency of online and blended learning strategies during the COVID-19 epidemic.

Recognizing the differences between blended and online learning is crucial to determining successful instruction and learning processes as more private firms and schools provide training courses online or through hybrid methods .In light of this, studying the advantages of online and blended learning may help close the gap between each method of learning used in teaching and learning .The development of an effective teaching program to enhance learning outcomes must consider the engagement of the learners (Halverson & Graham, 2019).

Both online and blended learning formats place a strong emphasis on student engagement, the learning environment, and the role of the teacher (Halverson, 2016). Epidemic, it would be essential to analyze the important educational change trajectory (Anas, 2020).

2. PRESENT STATUS

When the country was under lockdown due to the COVID outbreak, many pupils were without access to technological devices. Another issue is the lecturers' lack of ICT experience. "No Teacher, No Class" status, between half and two thirds of instructors are comfortable accessing and consuming digital content on smartphones and have some computer skills.

But most are not skilled in computer-aided design and production, interactive software, or advanced, they are concerned about inadequate infrastructure, inadequate resources, and their own lack of experience.

Education should be all-inclusive, thorough, hospitable, enjoyable, and relevant to the needs of the current world. The current curriculum promotes rote memorization and a "coaching culture" places insufficient emphasis on basic abilities, which contributes to the disciplines that are taught to students being rigid and inflexible.

In this regard, as well as the creation of new chances for lifelong learning and creative, adaptable curriculum design frameworks with various entrance and exit points.

Additionally, updated materials like instructor manuals, textbooks, learning content rubrics, and so forth need to be managed

3. SIGNIFICANT OBSTACLES

Within the framework of contemporary technical education in India, there are several prospects for digital learning, but there are also some obstacles. Over the coming years or decades, there may be an improvement in the availability of high-quality ICT-based education in India with reference to the growth of digital education. Urban regions have a long history with digital education, while rural areas still have a long way to go due to the obstacles that need to be addressed.

3.1 ABSENCE OF A STUDENT, TEACHER, OR SCHOOL REGISTRY TO FACILITATE MONITORING INSTRUCTION AND LEARNING

A registry is an information system that is backed by technology that gathers various data points from several areas into one location so that authorized stakeholders may easily access it and track performance. A student registry, for example, would provide the student with a unique ID that they could use for the duration of their studies at all levels. It would also serve as, attendance, test results, grades, and other information. Perhaps every youngster might have a dashboard thanks to DigiLocker.

3.2 DEVICES

The gap in the accessibility of devices during the pandemic has shrunk because to the introduction of tablets and other targeted initiatives, but a sizable group of educators, parents, and kids still lack access to gadgets.As technology develops, devices frequently become obsolete if basic upkeep and upgrades are neglected. Additionally to the cost of buying or purchasing the gadgets, there are significant maintenance costs.

3.3 PAY ATTENTION TO NATIONAL INFRASTRUCTURE AND TECHNOLOGY DEVELOPMENT INITIATIVES THAT RESULT IN DUPLICATION AS OPPOSED TO REUSABILITY

To achieve their own, constrained goals, several organizations, institutions, and groups have been working in isolation to build applications and technology.States spend a lot of money building solutions rather than exchanging concepts or solutions.

This gap between the activities is causing different data systems to be duplicated and created in separate silos.

3.4 DEVELOPMENT OF CAPACITIES—STATE, SCHOOL AND TEACHERS

The technical solutions used need to be continuously improved incrementally; in other words, this is absent. Additionally, ongoing maintenance and upgrading are required.

The capacity of states to develop, put into use, maintain, and manage technology solutions has not received any investment. It is essential to invest in and develop human resources in order to create and execute solutions.

In order for administrators and teachers to efficiently perform their various roles, process automation solutions and dependable technology must be used in schools. The adoption of the aforementioned solutions in classroom interactions requires school-level capacity building once solutions have been adopted.

3.5 TECHNOLOGY IN ASSESSMENTS

Currently, there is not enough technology being used in classroom activities, tests, quizzes, and assessments that are crucial to the development of teacher competence.

This task might be significantly decreased with technology integration and regular tech improvements.

3.6 PARENT ENGAGEMENT

There, a child attends their first school and spends the most of their time with their parents.

Technology may be used to engage parents actively in their child's educational process and improve their ability to support their child's learning.

4. RECOMMENDATIONS

4.1 UNDERSTAND AND USE NDEAR

“NDEAR is a technological framework that aims to make it possible to modify and make compatible existing systems while also offering the building blocks for the creation of new tools and solutions.”

"It is not necessary to start from scratch in order to address India's scale, variety, complexity, and device penetration because solutions and concepts that have been successful in one State/UT may be utilized and modified in another."

4.2 ASK ECOSYSTEM PARTICIPANTS TO VISIT

To achieve the objectives of NDEAR, the Ministry of Education grants ecosystem participants. Participants in the ecosystem will be able to address a variety of needs in education and learning by using this to provide creative, flexible, and contextual solutions. Together, an ecosystem strategy, architecture, and technology foundation will enable exponentially more players to contribute and give solutions.

After then, DIKSHA is composed of several micro services that are reachable via APIs. The services may be accessed via APIs and integrated with external applications to provide DIKSHA with additional contextual and valuable solutions.

4.3 ENSURING THAT THE STUDENT

Fully benefit from technology's many applications. Particularly for tracking enrollment and academic progress of each individual kid, the student registers.

- **Participation in the ecosystem:** spark and revitalize the education ecosystem
- **Gap is challenge number:** it requires making learning materials accessible in both online and offline formats. Additionally, an offline desktop solution allows users to access DIKSHA in locations with limited or no Internet connectivity. Expanding other PM e-VIDYA components and offering consistent access across all media.
- **Teachers and students can take online courses (with digital credentials):** Building skills anywhere, at any time. Online courses make it possible to implement structured learning initiatives aimed at helping students develop or improve particular knowledge and abilities.
- **Content writing:** selected by Central/State agencies that allows educators or other users to do so. Any user can use any device, online or offline, to digital content that has been released by the Education boards. User access across several devices and modes
- **Governance:** enhancing the state education department's capacity and competency. States and specialized to supervise adoption of new technologies, ensure that the strategic transformation objective or objectives

are met, and make sure that all pertinent system components are properly coordinated.

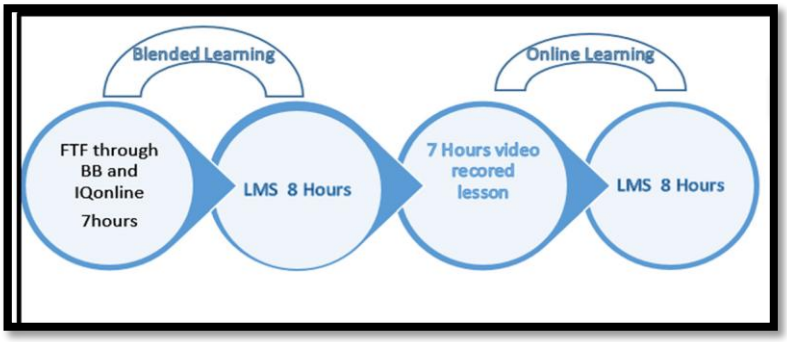

FIGURE 1 ENSURING THAT THE STUDENT

5. PERSPECTIVE ON DIGITAL TECHNOLOGY IN THE FUTURE

In a few decades, the world; learning will no longer be limited by physical boundaries in a single location or by a single teacher or facilitator. Technology will allow all students to have access to the best teachers on the planet. Web 3.0 will make learning more engaging, while Web 2.0 and the Internet have already made information more accessible.

In order to guarantee and optimize the potential that an evidence-based and technologically enabled system offers for universal basic education and to close the digital divide in terms of access and use

6. CONCLUSION

In the last several decades, the expense of school education systems has skyrocketed in response to the increasing demand for high-quality education. The rapid advancement of ICT has in the offer better services to teachers. The concept of "anywhere learning" would be advantageous to students, and India may become a global leader in digital education by utilizing.

7. REFERENCES

- Abubakar, D. & Adetimirin. (2015). Influence of computer literacy on post-graduates' use of e-resources in Nigerian University Libraries. *Library Philosophy and Practice*. From http://digitalcommons.unl.edu/libphilprac/. Retrieved 18 Aug 2015.

- Ahmad, N., & Al-Khanjari, Z. (2011). Effect of Moodle on learning: An Oman perception. *International Journal of Digital Information and Wireless Communications (IJDIWC), 1*(4), 746–752.
- Anderson, T. (2004). *Theory and Practice of Online Learning*. Canada: AU Press, Athabasca University.
- Arbaugh, J. B. (2000). How classroom environment and student engagement affect learning in internet-basedMBAcourses. *Business Communication Quarterly, 63*(4), 9–18.
- Askar, P. & Altun, A. (2008). Learner satisfaction on blended learning. *E-Leader Krakow*, 2008.
- Astleitner, H. (2000) Dropout and distance education. A review of motivational and emotional strategies to reduce dropout in web-based distance education. In Neuwe Medien in Unterricht, Aus-und Weiterbildung Waxmann Munster, New York.
- Barnard, L., Lan, W. Y., To, Y. M., Paton, V. O., & Lai, S. (2009). Measuring self-regulation in online and blended learning environments'. *Internet and Higher Education, 12*(1), 1–6.
- Beard, L. A., Harper, C., & Riley, G. (2004). Online versus on-campus instruction: student attitudes & perceptions. *TechTrends, 48*(6), 29–31.
- Berenson, R., Boyles, G., & Weaver, A. (2008). Emotional intelligence as a predictor for success in online learning. *International Review of Research in open & Distance Learning, 9*(2), 1–16.
- Blocker, J. M., & Tucker, G. (2001). Using constructivist principles in designing and integrating online collaborative interactions. In F. Fuller & R. McBride (Eds.), *Distance education. Proceedings of the Society for Information Technology & Teacher Education International Conference* (pp. 32–36). ERIC Document Reproduction Service No. ED 457 822.
- Cohen, K. E., Stage, F. K., Hammack, F. M., & Marcus, A. (2012). *Persistence of master's students in the United States: Developing and testing of a conceptual model*. USA: PhD Dissertation, New York University.

- Coldwell, J., Craig, A., Paterson, T., & Mustard, J. (2008). Online students: Relationships between participation, demographics and academic performance. *The Electronic Journal of e-learning, 6*(1), 19–30.
- Deci, E. L., & Ryan, R. M. (1982). Intrinsic Motivation Inventory. Available from selfdeterminationtheory.org/intrinsic-motivation-inventory/. Accessed 2 Aug 2016.
- Delone, W. H., & McLean, E. R. (2003). The Delone and McLean model of information systems success: A Ten-year update. *Journal of Management Information Systems, 19*(4), 9–30.
- Demirkol, M., & Kazu, I. Y. (2014). Effect of blended environment model on high school students' academic achievement. *The Turkish Online Journal of Educational Technology, 13*(1), 78–87.
- Eom, S., Wen, H., & Ashill, N. (2006). The determinants of students' perceived learning outcomes and satisfaction in university online education: an empirical investigation'. *Decision Sciences Journal of Innovative Education, 4*(2), 215–235.
- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *Internet and Higher Education, 7*(2), 95–105.
- Goyal, E., & Tambe, S. (2015). Effectiveness of Moodle-enabled blended learning in private Indian Business School teaching NICHE programs. *The Online Journal of New Horizons in Education, 5*(2), 14–22.
- Green, J., Nelson, G., Martin, A. J., & Marsh, H. (2006). The causal ordering of self-concept and academic motivation and its effect on academic achievement. *International Education Journal, 7*(4), 534–546.
- Guskey, T. R. (2000). *Evaluating Professional Development*. Thousands Oaks: Corwin Press.
- Hadad, W. (2007). *ICT-in-education toolkit reference handbook*. InfoDev. from http://www.infodev.org/en/Publication.301.html. Retrieved 04 Aug 2015.

- Hara, N. & Kling, R. (2001). Student distress in web-based distance education. *Educause Quarterly. 3*(2001).
- Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. E. (2001). *Instructional Media and Technologies for Learning* (7th ed.). Englewood Cliffs: Prentice-Hall.
- Hofmann, J. (2014). Solutions to the top 10 challenges of blended learning. Top 10 challenges of blended learning. Available on cedma-europe.org.
- Islam, A. K. M. N. (2014). Sources of satisfaction and dissatisfaction with a learning management system in post-adoption stage: A critical incident technique approach. *Computers in Human Behaviour, 30*, 249–261.
- Kelley, D. H. & Gorham, J. (2009) Effects of immediacy on recall of information. *Communication Education, 37*(3), 198–207.
- Kenney, J., & Newcombe, E. (2011). Adopting a blended learning approach: Challenges, encountered and lessons learned in an action research study. *Journal of Asynchronous Learning Networks, 15*(1), 45–57.
- Kintu, M. J., & Zhu, C. (2016). Student characteristics and learning outcomes in a blended learning environment intervention in a Ugandan University. *Electronic Journal of e-Learning, 14*(3), 181–195.
- Kuo, Y., Walker, A. E., Belland, B. R., & Schroder, L. E. E. (2013). A predictive study of student satisfaction in online education programs. *International Review of Research in Open and Distributed Learning, 14*(1), 16–39.
- Kwak, D. W., Menezes, F. M., & Sherwood, C. (2013). Assessing the impact of blended learning on student performance. *Educational Technology & Society, 15*(1), 127–136.
- Lim, D. H., & Kim, H. J. (2003). Motivation and learner characteristics affecting online learning and learning application. *Journal of Educational Technology Systems, 31*(4), 423–439.
- Lim, D. H., & Morris, M. L. (2009). Learner and instructional factors influencing learner outcomes within a blended learning environment. *Educational Technology & Society, 12*(4), 282–293.

- Lin, B., & Vassar, J. A. (2009). Determinants for success in online learning communities. *International Journal of Web-based Communities, 5*(3), 340–350.
- Loukis, E., Georgiou, S. & Pazalo, K. (2007). A value flow model for the evaluation of an e-learning service. ECIS, 2007 Proceedings, paper 175.
- Lynch, R., & Dembo, M. (2004). The relationship between self regulation and online learning in a blended learning context. *The International Review of Research in Open and Distributed Learning, 5*(2), 1–16.
- Marriot, N., Marriot, P., & Selwyn. (2004). Accounting undergraduates' changing use of ICT and their views on using the internet in higher education-A Research note. *Accounting Education, 13*(4), 117–130.
- Menager-Beeley, R. (2004). Web-based distance learning in a community college: The influence of task values on task choice, retention and commitment. (Doctoral dissertation, University of Southern California). *Dissertation Abstracts International, 64*(9-A), 3191.
- Naaj, M. A., Nachouki, M., & Ankit, A. (2012). Evaluating student satisfaction with blended learning in a gender-segregated environment. *Journal of Information Technology Education: Research, 11*, 185–200.
- Nurmela, K., Palonen, T., Lehtinen, E. & Hakkarainen, K. (2003). Developing tools for analysing CSCL process. In Wasson, B. Ludvigsen, S. & Hoppe, V. (eds), Designing for change in networked learning environments (pp 333–342). Dordrecht, The Netherlands, Kluwer.
- Osgerby, J. (2013). Students' perceptions of the introduction of a blended learning environment: An exploratory case study. *Accounting Education, 22*(1), 85–99.
- Oxford Group, (2013). Blended learning-current use, challenges and best practices. From http://www.kineo.com/m/0/blended-learning-report-202013.pdf . Accessed on 17 Mar 2016.
- Packham, G., Jones, P., Miller, C., & Thomas, B. (2004). E-learning and retention key factors influencing student withdrawal. *Education and Training, 46*(6–7), 335–342.

- Pallant, J. (2010). *SPSS Survival Mannual* (4th ed.). Maidenhead: OUP McGraw-Hill.
- Park, J.-H., & Choi, H. J. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. *Educational Technology & Society*, *12*(4), 207–217.
- Picciano, A., & Seaman, J. (2007). *K-12 online learning: A survey of U.S. school district administrators*. New York, USA: Sloan-C.
- Piccoli, G., Ahmad, R., & Ives, B. (2001). Web-based virtual learning environments: a research framework and a preliminary assessment of effectiveness in basic IT skill training. *MIS Quarterly*, *25*(4), 401–426.
- Pituch, K. A., & Lee, Y. K. (2006). The influence of system characteristics on e-learning use. *Computers & Education, 47*(2), 222–244.
- Rahman, S. et al, (2011). Knowledge construction process in online learning. *Middle East Journal of Scientific Research, 8*(2), 488–492.
- Rovai, A. P. (2003). In search of higher persistence rates in distance education online programs. *Computers & Education, 6*(1), 1–16.
- Sankaran, S., & Bui, T. (2001). Impact of learning strategies and motivation on performance: A study in Web-based instruction. *Journal of Instructional Psychology*, *28*(3), 191–198.
- Selim, H. M. (2007). Critical success factors for e-learning acceptance: Confirmatory factor models. *Computers & Education, 49*(2), 396–413.
- Shraim, K., & Khlaif, Z. N. (2010). An e-learning approach to secondary education in Palestine: opportunities and challenges. *Information Technology for Development, 16*(3), 159–173.
- Shrain, K. (2012). Moving towards e-learning paradigm: Readiness of higher education instructors in Palestine. *International Journal on E-Learning, 11*(4), 441–463.
- Song, L., Singleton, E. S., Hill, J. R., & Koh, M. H. (2004). Improving online learning: student perceptions of useful and challenging characteristics'. *Internet and Higher Education, 7*(1), 59–70.

- Stacey, E., & Gerbic, P. (2007). Teaching for blended learning: research perspectives from on-campus and distance students. *Education and Information Technologies, 12,* 165–174.
- Swan, K. (2001). Virtual interactivity: design factors affecting student satisfaction and perceived learning in asynchronous online courses. *Distance Education, 22*(2), 306–331.
- Thompson, E. (2004). Distance education drop-out: What can we do? In R. Pospisil & L. Willcoxson (Eds.), *Learning Through Teaching* (Proceedings of the 6th Annual Teaching Learning Forum, pp. 324–332). Perth, Australia: Murdoch University.
- Tselios, N., Daskalakis, S., & Papadopoulou, M. (2011). Assessing the acceptance of a blended learning university course. *Educational Technology & Society, 14*(2), 224–235.
- Willging, P. A., & Johnson, S. D. (2009). Factors that influence students' decision to drop-out of online courses. *Journal of Asynchronous Learning Networks, 13*(3), 115–127.
- Zhu, C. (2012). Student satisfaction, performance and knowledge construction in online collaborative learning. *Educational Technology & Society, 15*(1), 127–137.
- Zielinski, D. (2000). Can you keep learners online? *Training, 37*(3), 64–75.