

An Overview on Blended Learning

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ABSTRACT: *Blended learning is becoming increasingly popular these days. Despite the fact that many studies have been done on online courses, there are few studies specifically on collaborative learning. This paper presents the results of a literature review of 103 journal research articles on collaborative learning. The goal of this study is to look into the state of collaborative learning study and also to categorize this into topics and subcategories based on its content. The articles examined in this paper have been divided into 12 topics. These studies have been found to fall into six categories: concept, strategy, factors, assessment, method, and review. This paper discusses research for each of the categories. Directions for future research were addressed. At all levels in education, learning analytics has become more popular. The purpose of this paper is to look at the students' experiences in blended learning settings. Appropriate data was collected from postgraduate students who are learning programming subjects in a mixed learning environment.*

KEYWORDS: *Blended learning, Learning analytics, Collaboration, Knowledge sharing.*

1. INTRODUCTION

In the area of education, words like online courses, e-learning, blended learning, and others have arisen as a result of the Internet's popularity. Several research studies have been conducted around the globe to investigate the impact of these techniques on student's learning results. Flipped classroom is becoming more famous in India, with many colleges and educational institutions embracing it [1]. Flipped classroom mixes conventional classroom education, in which kids are learning face-to-face by a teacher, with ego online study. Collaborative learning is achieved by effectively combining various delivery modalities, teaching models, and learning styles. The quality of the course materials, the students' attitude and ability to learn in such interactive environments, as well as the convenience of a tools and school experience all play a role in the success of collaborative learning. The attitude of the students toward the work on a given task has a big impact on blended learning. The purpose of this paper is to examine how children understand multicultural education in a computer coding course[2].

1.1. Research gaps:

So far, only a few research in mixed learning environments have been published in the Hindu academic setting. There haven't been systematic studies of students working in mixed environments. Flipped classroom has become more common these days. The method may be utilized as pedagogy in educational settings if the study confirms that the use of blended learning improves work quality, decreases time spent accessing a Pisa to study, and enhances information and programming ability. Students in an increasingly digital and multicultural world will benefit from collaborative learning.

1.2. Proposed study:

Students realized the importance of blended learning when they had trouble accessing study resources and interacting with their course teacher and other classmates. Teachers and students often get 3 to 4 hours of contact each week. A blended educational environment comes in useful for them until they wish to communicate, discuss, and share materials but are not collocated. This article attempts to investigate the outcomes of experiential education through the use of blended learning strategies in a computer coding course in order to solve that specific issue[3].

1.3. Methodology of the study:

In programming labs, the researchers conduct experimental study to test the theory by examining the connections among variables. For this study, the following research hypothesis has indeed been established. There is no link between such a student's current skills set with future support for mixed learning environments. When using a mixed educational environment, there is no significant difference in the level of collaboration between students and faculty.

1.4. Study Variables:

In every study, the control variables reflect the cause of the effect. Learning efficiency is indeed the research's effect, while blended learning technique is the reason. As a result, learning methodology is suggested as a variable for the study. What we measure or what is affected throughout the study is referred to as a dependent variable. The predictor variables causes the dependent variable to react. The dependent variables identified, according to the premise, are degree of cooperation, knowledge sharing, skill set, and future support. Sampling: The sum of all elements with identical features for the purpose for conducting research is referred to as the populace. A sample is a subset of the larger target group that contains data from which conclusions are to be drawn. Both graduate and undergraduate students who have registered in computer science courses are included in study's sample. Individuals that take computer science classes as part of their curriculum submitted samples. For the research, a sample of around 200 pupils was considered. The research was carried out across the course of a. The weekly degree courses between students and faculty were three hours. The professors set up the Google classroom for the class, which even the students were asked to join. The questionnaire was utilized as the primary research. The increase in productivity were measured using a variety of metrics, including problem solving, knowledge sharing, and effective communication. Analytical techniques have been used to evaluate and visualize the data gathered throughout the study. While working in mixed learning environments, students will think carefully and openly debate and clarify their doubts [8]. They may cooperate and downloading and uploading necessary materials at any time as well as from anywhere. Students gain greater control over their work and be more responsible in a mixed learning setting[4].

1.5. Blended Learning Design:

Collaborative learning design is the subject of 29 research articles. Seven research articles, in particular, emphasize the online system, particularly in terms of the online tools utilized. Twenty-two articles offer blended teaching methods, programs, as well as other ideas. Four of the seven

research articles that focus on the online system utilize Moodle as an online platform in blended learning. Mascara and Beercock used the Moodle free source digital learning system's wiki feature for both group database management and project presenting. Jian, ET al. built individualized vocabulary review and assessment features for English teaching using the free software course management system Moodle. Hertsch utilized the YouTube testing system, which provides an alternative to traditional testing, and successfully enrich its course system. Four of them put a greater emphasis on online elements. Derntl and Motschnig-Pitrik presented a tiered architecture for extracting Web-based support from these pedagogical principles in their paper. Méndez and González. Presented a Fuzzy Logic-based controller based on a web application called Control Web for a blended learning approach in an introduction control engineering course. Hubackova, ET al. developed on-line representing knowledge on tutors' or students' requirements, educators' knowledge, teachers' long-term experience, and, of course, ICT students' favorable attitude toward modern technologies. Mayzie and Anderson. Presented empirical study on the modifications in writing skills as a result of utilizing three online writing resources in an EFL blended learning environment: discussion forums, blogs, and wikis[5].

1.6. Blended Learning as a Strategy:

There are 21 research articles that use multicultural education as a method, six of which use multicultural education in medical sciences, two of those are about radiology. Bleaker, ET al. conducted a small-scale research project to develop integrated learning materials for radiography kids studying patient care. In an undergrad radiology intern, Menken ET al. examined if there are differences in learning results following the use of ego. Or obligatory. Use of e-learning modules. There's really one article on nursing education. Pfefferle and coworkers. Developed new didactical and technological e-learning tools for use in nursing school throughout Europe. Clinical medicine is indeed the subject of one article. Makhdoom, ET al. investigated the efficacy of collaborative learning in the study of family medicine as just a clinical medical science. Artificially intelligent imaging is the subject with one paper. Schmidt, et al. created and integrated My Microscope, a new virtual microscopy, into a face-to-face method for teaching micro anatomy in order to improve the learning situation of each individual student. One article. Concentrates on women's health throughout pregnancy and birth. Young and Randal. Discussed how different teaching and learning techniques were combined to produce a curriculum focused on ill-health during pregnancy and childbearing for second-year which was before midwifery students in England. Jian, ET al. customized the open source course management system Moodle to build personalized vocabulary review and assessment functions for English instruction. Utilized the Moodle testing system, which provides an alternative to traditional testing, to successfully enrich its course scheme. Hubackova and companions[6].

1.7. Factors Influencing Blended Learning:

There are 13 research papers which look into collaborative learning aspects, with 8 of them focused on learner factors, and four of them focusing on learners' views of collaborative learning. And. As according Mulan and Mohamed. There was no noticeable difference between pupils who engaged

in blended learning as well as those who did not? At a university inside the south west of England, Glogowska ET al. created a new model of CPD for healthcare professionals based on a blended learning. Weston, et al. explored the correlation between pupils' views of blended learning with their success in such courses. In a mixed learning setting, Taplin et al. examined the monetary value students put on getting access to recorded lectures via the internet. Students' experience in a collaborative learning postgraduate program at a school of nursing were reported in one paper. Deeply integrated as a teaching resource, as according Smyth, ET alphas the potential to contribute to and improve nursing midwifery practice as well as student learning. There really are gender variations in the effect of playfulness on a student's attitude forward towards a technology and their intention to utilize it, according with one study. One study that looked at the connection among individual factors and blended learning satisfaction.

1.8.Evaluation:

In our collection, there are 38 research articles about blended learning assessment, 20 of which examined at the efficacy of collaborative learning and reached the same conclusion: blended learning is successful. DE Schacht and Goleman, for example, examined the impact of blended learning on learners' academic success and discovered that it enhances test scores. Pupils' views of blended learning were examined in eight publications. The bulk of them had positive outcomes. Bentley ET al. for example, investigated at the students' educational experiences and perceptions, but found a high degree of students' satisfaction with the course. Wakefield ET al. discovered that students' views on blended learning differed. Some were enthusiastic, while others felt that e-learning did not fit the learning style or the topic matter. Three articles. Examined particular instruments in a mixed learning setting. By creating and validating an objective assessment instrument, Underpaid and Ylmaz-Soylu. expanded their evaluation of learners' views on blended learning and its execution plan. Barnard, et al. provided evidence for the instrument's validity and reliability, indicating that OSLQ is a reliable measure of ego in online and mixed learning environments. Dias and Diniz. proposed a new model, FuzzyQoI that objectively evaluates the users. Happiness with the LMS Moodle in a b-learning context using fuzzy logic constructs. Three articles. Highlighted the difficulties or problems to be examined. Alabamian and Troudi. raised concerns that must be addressed before using online conversation in mixed courses. Hussain and Huey. presented the issues that arise as a result of the student's feedback, as well as what may be done to address the problems[7].

1.9.Blended learning design:

Despite the advantages of collaborative learning, it must overcome challenges in course design. As a "danger of that out, discordant blend. Irritate both learner and instructor," tackling the question of design is one of the most essential and challenging. Designers, syllabus leaders, and teachers, by these authors, must address various didactical and logistical questions, including how often teachers and students meet face-to-face vs how sometimes they will complete submit assignments, what will be achieved during these face-to-face meetings versus during in the online

interactions, and how o Educators also must ensure that students have exposure to instructional diversity, knowledge outside textbooks, human engagement, and chances for personal agency.

Different approaches to the planning and evaluation of mixed formats in both academic and non-settings have emerged from these different types and pedagogic problems. In this article, we'll look at the two of these models. For instance, Neumeier. Develops a set of parameters for blended design intended at assisting instructors & researchers in addressing and evaluating this complicated educational experience. The author outlines two stages or processes: focus on mode. And integrating model. In the former, another of the modes.is selected for govern the learning experience and course structure. This decision has to be made after just a thorough examination of a learning objectives, students, and infrastructure resources[10]. The allocation of learning material and objectives is done in the integration model, the activities for both modes were organized and ordered, and the optional or compulsory usage of each of these tasks is decided.

1.10. *Defining Blended Learning:*

Flipped classroom is not new, and it's been used for more than 20 years, contrary to popular belief. It was first used in corporate world as a strategy to allow workers to function and learning at the same time, but it also emerged in the academic setting as a result of. The accessibility of digital technology in and outside the classroom, the expansion of the didactical potential of ICT for teaching and learning. And the disciplinary nature of conventional teaching and learning. Because of the issues with fully virtual settings, many people began to reject the "either or view of learning online vs head. And instead developed hybrid spaces to get more satisfactory results. As Laurillard.points out, "the information & communication technology. Aspect is unlikely to contribute to even more than. Of the total strategy," a balance of media is essential for effective teaching and learning[8].

2. DISCUSSION

A blended learning strategy is the creation of a course that combines face-to-face active learning with online learning elements to improve the teaching. Learning process for students and instructors. The interdependent mix of face-to-face and online learning is known as blended learning. It allows people to benefit from the best of all worlds. A student could, for example, take classes in a traditional classroom setting and then supplement the curriculum with interactive digital coursework. Keep in mind that goal of blended learning is to combine the strengths of both traditional and online learning methods to provide a more interesting learning opportunity for your students. You'll get the best of all worlds with collaborative learning, which will benefit either learners or educators. It may help kids understand more deeply, reduce stress, and feel more satisfied. Improvement of teaching their students' engagement. Blended learning gives kids more opportunities to interact with professors and instructors. Flipped classroom aims to equip students with technology and study using a range of tools and methods, such as Pot, virtual classrooms, and video lectures. Flipped classroom increases educational quality and knowledge retention while also making teaching more efficient and effective[9].

3. CONCLUSION

The goal of a new analysis was to see how the learning model affected student performance. The results of a learning objective test were compared between both the experimental groups. There is a difference in student outcomes, with the exploratory class's average student learning results being higher than control classes. The other discovery was that using multicultural education improved student achievement in information and communications subjects significantly. According to the findings of the study, the learning model contributed more to students' academic achievement than the traditional learning model. Collaborative learning can be used by teachers as an alternative educational model to help students achieve their goals. Teachers should improve their internet and computer literacy in order to implement this model. The school has an important rule that requires teachers to receive training or attend a workshop in order to implement this prototype. This study is still limited to the subject of information and communication; however, it is hoped that more research will be conducted for other courses, and it is also suggested that a concern be brought up about how to blend face-to-face and online guidance professionally. I'd like to thank the principal of SMAN 1 Lantau for allowing me to conduct research there, as well as Drs. Suraya, Muhammad Adri, B.Pd., M. T, Doctors Jafri, M.Ed., Drs.Hanesman, M.M, and Ahmadi Hade, Mom for one 's help with this study.

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