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EFFECTIVENESS OF FLIPPED LEARNING AMONG STUDENTS

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ABSTRACT
The use of the flipped classroom approach is gradually becoming more prevalent in the field of education. The two main categories of educational activities that take place during the school day are teacher-led classroom instruction and homework assignments given to students. According to the survey results, a significant majority of teachers, specifically 96%, indicated their comprehension of the concept of "flipped learning." Furthermore, among these teachers, 78% reported employing this approach outside of the classroom setting. This involved acquiring fundamental knowledge through computer-based assignments like brief video clips, then returning to the classroom to participate in collaborative learning and active problem-solving activities. The survey was recently performed. The primary objective of this study is to assess the influence of learners' effectiveness in the flipped learning environment, with a focus on a diverse group of students at different academic levels. The methodology was subsequently implemented with a sample size of 171 participants, during which the researcher administered questionnaires and gathered data. The results of the study suggest that the graduates exhibited a higher level of proficiency in utilizing the flipped learning platform. Female students have a more pronounced influence compared to their male counterparts, indicating that postgraduate students hold the belief that flipped learning is highly efficacious in attaining their educational objectives. The researcher serves as an impediment to the examination of the efficacy of students' education.

Keywords: flipped learning, student learning outcome, engagement, effectiveness.

INTRODUCTION
Flipped learning has rapidly spread in schools (Tucker, 2012). Traditional education has relied on student homework and teacher-led classroom instruction (Flipped Learning Network [FLN], 2014). Many students learn basic concepts from the instructor through group pedagogy in the classroom and apply them through individual homework assignments. Flipped learning has grown in favor as active learning advocates scrutinize standard teaching approaches (Bonwell & Eison, 1991). The article "Increasing Student Engagement and Retention in E-Learning Environments: Web 2.0 and Blended Learning Technologies" (n.d.) discusses Web 2.0 and blended learning technologies to improve online student engagement and retention. Bishop and Verleger (2013) found that 96% of teachers understood "flipped learning." 78% of teachers used it in their classrooms. Flipped learning has improved academic performance for K–12 pupils, according to a study. Flipped learning reverses traditional schooling by having pupils learn basic skills outside of class using computer-based projects like short videos. They then collaborate and solve problems in class (Bishop & Verleger, 2013). Hoult et al. (2021) found that computer-based learning for direct instruction outside of the classroom optimizes classroom time for active learning. According to King (1993), active learning generally incorporates collaborative and problem-based learning, which allows teachers to become facilitators or guides rather than knowledge providers. Flipped learning uses interactive technology, such as video lectures, to teach (Bishop and Verleger, 2013). A flipped classroom lacks an autonomous definition, according to Street et al. (2015). The current research defines a flipped classroom as one with pre- and post-class activities. Peer learning, active learning, and problem solving dominate class activities. Time in and out of class has also changed. Video technology is becoming more common in educational contexts (Aguinis & Kraiger, 2009), as Abeysekera and Dawson (2015) and DeLozier and Rhodes (2017) found. Strayer (2012) defines a "flipped classroom" as the systematic use of interactive technology in education (p. 172).

Bishop & Verleger (2013, p. 2) characterize a flipped classroom as an innovative teaching strategy that uses asynchronous video lectures and practice problems as homework and active, collaborative problem-solving in class. Without regard to subjects or curriculum, the flipped classroom method can engage a diverse group of students (Bergmann & Sams, 2012). The flipped classroom is versatile. In a flipped classroom, podcasts are assigned as homework to teach academic concepts (Tune et al., 2013). The teacher helps pupils utilize homework information to accomplish a variety of assignments. Small groups may be given the following tasks to encourage peer learning: Mahdi M. Alamri published in 2019 that the flipped classroom paradigm improved peer talks. Student engagement in extracurricular internet chats helped them form strong interpersonal bonds. This technique helped shy students feel more comfortable giving classroom presentations. Sharma et al. (2014) describe how web-guided questions before class provide instruction. The flipped classroom is a popular pedagogical method that reverses the roles of teachers and students. Teachers spend a lot of class time on active learning and student participation, and students are encouraged to use their free time to practice and apply what they've learned. Gwo-Jen Hwang and Chiu-Lin Lai (2051) found that the experimental group used a self-regulated flipped classroom strategy, while the control group used a traditional one. The study was quantitative. This study used a performance assessment and self-efficacy and self-regulation questionnaires. Hoult et al. (2021) and Phillips and Imhoff (1997) found that the learning log correlation analysis showed a substantial association between students' self-assessment ratings and goal-setting and performance evaluation. This outcome is expected because both cohorts of students used similar learning strategies, such as in-class discussions and e-books for independent study, while being in the same settings—the classroom or their homes. Baker (2000) and Lage et al. (2000) suggest a flipped classroom. The top three sources on flipped classrooms for periodontal diagnostics are EBSCOhost (n.d.) and Lee and Kim (2018). The user's text is too unclear for academic rewriting. Flipped classrooms have several benefits. Traditional classrooms allow for more active, participatory, and collaborative learning. Additionally, teachers can spend more time in class providing feedback and monitoring student development. Online lectures allow students to watch at their own pace. Mojtahedi et al. (2020) suggest replacing lectures with workshops in class to improve student involvement, interaction, and collaboration. This supports Flores et al. (2016). Zupanic et al. (2019) state that the current study reviews the literature to fully grasp the problem. Faculty development is crucial to flipped classroom success. Remote learners cannot ask questions or clarify video content without an interactive environment. To give a succinct yet clear video presentation, a lot of effort must be spent on preparation (Wozny et al., 2018). Teachers must receive extensive training in planning and implementing a successful flipped classroom format. Classrooms must accommodate such educational goals to encourage small-group discussions and student-professor engagement. In a large classroom, fulfilling students' demands might be difficult. Instead of focusing on independent learning, classroom exercises should encourage conversation and active learning. Instructors must be active to facilitate learning. Educators must be ready to answer questions, clarify misunderstandings, offer constructive feedback, encourage conversation, promote active learning, and guide pupils. Without proper training, professors may take a passive approach, which may hinder classroom exercises. A delicate balance between actively guiding children and being unobtrusive is crucial. Dallery et al. (2013) found that an academic staff member circulated between groups during the classroom Desktop Publishing (DTP) activity. Dallery et al. (2013) studied Cliff Lee and Soo-Woo Kim's contributions. Flipped learning has spread rapidly in schools (Tucker, 2012). Traditional education has relied on student homework and teacher-led classroom instruction (Flipped Learning Network [FLN], 2014). Many students learn basic concepts from the instructor through group pedagogy in the classroom and apply them through individual homework assignments. Flipped learning has grown in favor as active learning advocates scrutinize standard teaching approaches (Bonwell & Eison, 1991). 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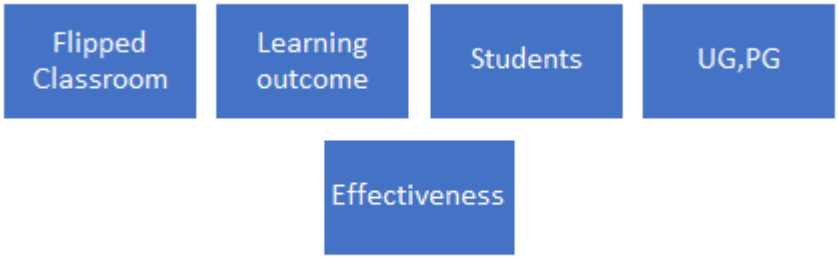
A theoretical framework maps out the interrelationships between the various ideas and factors that make up a particular

CONCEPTUAL MODEL



STATEMENT OF THE PROBLEM

Utilizing video courses as an instructional method is a commendable approach in pursuit of educational objectives. Utilizing video courses as an instructional method is a commendable approach in pursuit of educational objectives. user's text is already academic. The act of engaging with various forms of media, such as texts, photographs, audios, and videos, has a profound impact on enhancing and augmenting one's understanding and knowledge. The comprehension of the students and the promotion of expertise in the subject matter are facilitated. The concept of "higher" refers to a state or position that is situated above or beyond The secondary topic of computer science is seen as more appropriate for assessing the efficacy of a given system. The utilization of flipped learning and blended learning approaches is particularly relevant in the context of computer-intensive subjects. The activities are conducted within standard academic courses. Therefore, the researcher has undertaken the current investigation. The study investigates the efficacy of flipped learning and blended learning approaches. The Impact of Learning on Academic Performance in Computer Science among Students in the Undergraduate Levels **The Influence of Learning on Students' Academic Performance in Management Students The research objectives of this study are to investigate and analyse the factors influencing consumer purchasing behaviour and to examine the impact of marketing strategies on** The influence of learners' efficacy in the flipped learning setting

The present study aims to propose a hypothesis.

The null hypothesis (H0) posits that there are no statistically significant variations in the effectiveness of flipped learning among students.

H1: {Alternate Hypothesis} There is a notable disparity in the efficacy of flipped learning among student populations.

RESEARCH METHODOLOGY

The variables considered in this study are as follows:

The independent factors considered in this study are flipped learning, blended learning, gender, and family.

The topic of discussion is "Parental Qualification." The Influence of Parental Occupation on Children's Development The monthly income of parents

The topics of interest include residential housing, the utilization of electronic devices, and individuals' preferences towards online education.

The dependent variable in this study is the student's accomplishment in the criteria test.

The twelfth standard of the flipped learning model is applicable to students in postgraduate and undergraduate programs.

Experimental designs offer a method for comparing different groups. Nevertheless, it is important to note that the absence of randomization in the design limits its resemblance to a true experimental design. They exercise control over it, however. Not all extraneous variables, which pose a potential danger to the internal validity of the study, The study was conducted to examine the effects of the intervention on the participants. The investigator elected to use the aforementioned approach. The experimental group received instruction through a blended learning approach.The experimental group received instruction through a learning intervention, while the control group was instructed using traditional pedagogical approaches.

RESEARCH DESIGN

employ in order to answer their research question or test their hypothesis. It encompasses the methods, procedures, and techniques that will be used to collect and analyse data, as well as the overall structure and organization of the study. The research design is a crucial aspect of any research project, as it determines the validity and reliability of the findings. Therefore, researchers must carefully consider and select an appropriate research design that aligns with their research objectives and provides the most robust and accurate results. Synthesize the many elements of the research in a cohesive and rational manner, thereby In order to ensure that the researcher adequately addresses the research problem, it comprises the A framework outlining the systematic approach to gathering, quantifying, and examining data aids the researcher in their work. Develop a logical and critical answer to the problem that has been recognized. The research design employed in this studyThe following study is presented herein.

Higher-level academic performers provide the correct responses under the designation "RH."

RL, in this context, pertains to the correct responses provided by individuals who have achieved lesser levels of academic performance. The term "NH" denotes the quantity of pupils in the higher achiever category. The term "NL" denotes the number of students classified as lower achievers. The current study utilized items that exhibited a range of difficulty levels spanning from 30% to 80%. A discrimination index within the range of 0.2 to 0.8 was chosen. The overall quantity of the number of items picked for the final test was 40 for both flipped learning and blended learning.

DATA ANALYSIS

EXPERIMENTAL GROUP DESIGN FOR FLIPPED LEARNING

Group Time: 1; 2; 3

Experimental Group: I

(Flipped Learning)

Pre-test Treatment

Post-test

Control Group: I

(Traditional Learning)

Pre-test Treatment Post-test

EXPERIMENTAL GROUP DESIGN FOR FLIPPED LEARNING

Group Time: 1; 2; 3

Experimental Group II

(Blended Learning)

Pre-test treatment Post-test

Control Group II

(Traditional Learning)

Pre-test Treatment Post-test

For the present study, the investigator has selected 120 samples from four B schools from Tamil Nadu State.

Results of the descriptive analysis

In order to analyse data, one of the measures of central tendency known as The mean and one of the measures of variation known as the standard deviation were computed for the criterion test on computer science (pre-test) and the criterion test on Management studies (post-test) for experimental and control groups **Descriptive Analysis of The Achievement of Ug/Pg Standard Students in Before and After Flipped Learning (Pre-Test And Post-Test)**

S.No	Description	Pre Test	Post Test
1.	Mean	18.00	35.00
2.	SD	3.069	3.18
3.	Low score	3.599	3.22
4.	Highest Score	12	27
5	Median	27	39
6	Mode	25	35
7	Theoretical Mean	17	19
8	Range	15	15
9	N	31	31

The table above shows that the user's median text is scholarly. Data from experiments The table above shows that the experimental data median is Post-test mean is 35.00, much higher than pre-test median of 18. user's text is scholarly. The post-test experimental group is 15. The post-test experimental group contains 26 participants. The experimental group scored highest. The pre-test score was 23, with a minimum of 11. Before the experiment, the group has a range. Test and post-test scores equal 12. The post-test average for the experimental group is 32.03. The experimental group's pre-test mean has a 3.12 standard deviation. The mean is 16.90 and the standard deviation is 3.49. Always, the goal of The post-test results show that experimental group kids performed better academically than pre-test. It is the table above shows Standard pupils' computer science performance. The technique significantly improves flipped learning's scientific discipline. There is evidence that flipped learning has had positive results. Computer science students' academic performance The table above shows that the experimental data median is The post-test group's mean value is 31.50, much greater than the pre-test median of 18. user's text is scholarly. The post-test experimental group is 15. The post-test experimental group contains 26 participants. The experimental group scored highest. The pre-test score was 23, with a minimum of 11. Before the experiment, the group has a range. Test and post-test scores equal 12. The post-test average for the experimental group is 32.03. The experimental group's pre-test mean has a 3.12 standard deviation. The mean is 16.90 and the

standard deviation is 3.18. The technique significantly improves flipped learning's scientific discipline. There may be evidence that flipped learning has had positive results. Management students' academic performance Management students' academic performance (Niranchana Shri Viswanathan, 2023)

Descriptive Analysis of the Achievement of Xi Standard

Students in Computer Science before and After Blended

Learning (Pre-Test and Post-Test)

The data shown in the table indicates a clear observation that the median value of the experimental data is... The post-test group exhibits a mean value of 33, which is much higher than the pre-test group's median value of 17. user's text is already academic. The experimental group in the post-test is 12. The number of participants in the experimental group during the post-test phase is 33. The experimental group achieved the highest score. The pre-test yielded a score of 23, with the lowest recorded result being 10. The experimental group's range in the study was shown to be... The pre-test and post-test scores both amount to 13. The average value of the experimental group in the post-test is the experimental group has a mean value of 32.73 with a standard deviation of 3.32. The pre-test mean score is 16.67, with a standard deviation of 3.82. The post-treatment performance of computer science students in the blended learning group is significantly elevated.

CONCLUSION AND DISCUSSION

The current findings are drawn from the experiment that was done in order to ascertain the The present study aims to investigate the efficacy of The concepts of flipped learning and blended learning are two educational approaches that have gained significant attention in recent years. Flipped learning involves the reversal of traditional classroom activities, where students engage with instructional materials outside of class and then participate in interactive activities during class time, enhancing the academic performance of students in the UG. The academic performance of students in the field of Business environment The researcher devised and

The efficacy of flipped learning and blended learning packages has been established for the PG standard Management curriculum. A group of science students undertook the development and validation process. Flipped learning and blended learning Experiments were conducted involving packages with pupils in the PG.

LIMITATIONS AND FURTHER RESEARCH

The current investigation is exclusively undertaken with pupils in the UG standard within the Tamil Nadu region. A metropolitan metropolis refers to a large urban area that serves as a significant economic, cultural, and political centre within a region or country. This initiative has the potential to be expanded to more cities within the state of Tamil Nadu. The degree of proficiency or competence the distribution of information in the Tamil language exhibits regional variations across different districts. The current investigation is exclusively undertaken within the context of the UG. argued that the given proposition holds merit. In addition to being applicable to higher education, this approach can also be extended to encompass a broader range of students, including those at the PG level and those pursuing arts-related disciplines. The subject matter under discussion pertains to the field of science at the collegiate level

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