



APPLICATION OF FLIPPED CLASSROOM IN INDIAN EDUCATION SYSTEM

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RESEARCH ARTICLE



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Abstract

Teacher Education is rejuvenate in creating a pool of school teachers that will shape the next The traditional classroom has utilized the “I Do”, “We Do”, “You Do” as a strategy for teaching for years. The flipped classroom truly flips that strategy. The teacher uses “You Do”, “We Do”, “I Do” instead. The flipped classroom is fairly new in the teaching field as a strategy for teaching. A flipped classroom is a reverse instructional strategy of traditional method in which students engage with lectures or materials at home, typically through videos or readings, and then use classroom time for interactive activities, discussions, or hands-on work. It provides instructional content outside of the classroom. At home students participate in preparation work including watching videos, PowerPoint’s, and completing readings. After completing the preparation work, students arrive in class ready to start solving problems, analyzing text, or investigating solutions. In this method, students are allowed for more personalized learning and teachers can provide support and guidance during class when students are applying what they have learned. Flipped Classroom Model is a recently emerging pedagogical model that is gaining a lot of attention among educators across the world. It been used by teachers from elementary school to graduate school. As with most strategies, the flipped classroom has a variety of ways to implement in the classroom. In this paper, the researchers have tried to study the application of flipped classroom in Indian educational context.

Keywords: *Flipped Classroom, Education Technology, Instructional strategy*

Introduction

Educational Technology refers to the use of technology in education system to analyse, design, implement, and evaluate the learning materials, instructional environment, learners and the learning process in order to improve teaching and learning method. In education, there is active involvement of radio, television, computers, machines, films, and now the Internet and multimedia, in providing education and educational material to students. This is referred to as educational technology. Any advancement of technology has a impact on the methodology of education in the current scenario. Flipped Classroom is a new method of instruction in Indian education system using technology in teaching-learning. A flipped classroom is an innovative instructional methodology that inverses the traditional method of learning by giving subject materials, often online, outside of the classroom. In this model, students listen to the lectures or materials at home, through videos or other sources, and then use the classroom time for interaction, activities, discussions, or hands-on work. This allows the students to become familiar themselves with the content before coming to the class at their own pace as students can review the materials as needed. During the class, instead of traditional lectures, the time is reserved for the development of a more productive and meaningful learning. Students can participate in discussions, problem-solving, interactive activities, collaborative projects or hands-on projects that reinforce their knowledge. This strategy allows for more individualised learning and teachers can focus on providing guidance and support during class when students are applying what they have learned. The flipped classroom encourages more effective learning and can improve student activity and understanding of the material. It is student-centered learning process. Teachers can guide in a more personalized way during class, addressing individual student interests and can provide a more interactive learning environment. As a result, the flipped classroom allows for in-class time to be utilized in a more meaningful and productive manner, making it a more beneficial and useful model for students. By shifting the focus from passive learning to active involvement and participation, the flipped classroom can enhance student engagement in the learning process. The student-centered learning environment has become more popular and useful.

Objectives: The objectives of this paper are:

1. To understand the concept of flipped classroom.
2. To identify the scopes of application of the flipped classroom in Indian educational context.
3. To analyze how, through using technology, the proficiency of educators may be increased.

Methodology: The researchers have used secondary data from the available resources to meet the research objectives. The researchers have used qualitative and empirical analysis methods with the help of existing literature.

Content

Modern instructional methodologies are mostly either teacher-centered or student-centered. As a traditional teaching model, the lecture method is teacher-centered, in which a teacher delivers information to students in a systematic way. In the traditional lecture model, students hold an extremely passive role in the learning process. It can be a negative impact for the student. In addition, there are large number of students in a classroom in India, which prevents the ability to ask questions of all students to assure comprehension of the presented lecture. Because of these barriers with the traditional lecture method of teaching, many teachers are looking for a new instructional strategy. An alternative learning model that is student-centered is a flipped classroom. A flipped classroom is an instructional strategy which is extremely opposite to traditional method of teaching. In this model of instruction, students first listen to the contents or materials at home through online video lectures or regarding and then use the classroom time for interaction, activities, discussions, or hands-on work. The class time is reserved for an interactive and more meaningful educational experience.

Jacob Bishop & Matthew. Verleger (2013) has defined Flipped classroom “as an educational technique that consists of two parts: interactive group, learning activities inside the classroom, and direct computer-based individual instruction outside the classroom”.

For example, a teacher suggests a video lecture to students to watch before the class. During the class time, instead of giving lecture, the teacher can conduct activities that reinforce the concepts, such as problem-solving sessions or group projects. This helps the students to apply what they learned at home and receive immediate feedback from the teacher.

This concept is originated in the early 2000s as teachers were searching for productive and innovative strategies to increase student involvement and active learning. In the year 2000, Baker had used the term “The Classroom Flip Model” for the first time and interpreted that this model can be used successfully (Baker, 2000). He observed that students do not come to the class to be prepared and they do not seem to get engaged with the class lecture taught. So, he suggested that before the classroom session the teachers should let the students access the learning material in an online platform. It achieved remarkable popularity through the work of Jonathan Bergmann and Aaron Sams, two high school teachers, who started to record their lectures and posting them online for students to watch at home. This method permitted the students to study the material at their own pace, freeing up classroom time for interactive activities, discussions, and hands-on learning. The idea of a flipped classroom model is rooted in constructivist learning theories, which strengthen student-centered education and active learning. In traditional teaching method, where a teacher teaches in classroom and homework is done at home, the flipped classroom fosters group discussion, classroom collaboration and understanding of the subject matter. This strategy has been broadly accepted across various educational levels. It is a flexible and adaptable strategy of teaching that can be conducted in the classroom to fulfil the various needs of students.

Application

Educators and Policy makers are searching for new instructional strategies to make the school system more productive, meaningful and active for the learners. The developments happening in the technology and the changing interests and needs of the learners, it is necessary to modify the traditional methods of teaching. The new method should be student-centric and involve the students in the learning process. Several studies on the Flipped Classroom Model have reported on the impact of this model on different characteristic like student involvement, motivation, learning outcomes etc (Srinivasan and Kumar, 2020). Flipped classroom is the latest model that can bring together pedagogical and technological method to make the study more interesting and impact full for the new learner. Here are some applications of a flipped classroom:

- **Increased Student Involvement** – The implementation of flipped classroom increased student engagement. Regularity and attendance in attending classes and submitting assignments raised over a period of time in Flipped classes compared to traditional classes (Smallhorn, 2017). Students reported satisfying and positive experiences about the flipped classroom. The students have positive perceptions (Unal & Unal, 2017).
- **Active Learning** – Flipped classroom is one of the active way of teaching in modern education system. In this model, students listen to the lectures or materials at home, through videos or other sources, and then use the classroom time in a more active way. Flipped Classroom Model has the potential to create an active learning environment in the classroom. The flipped classroom approach encourages active learning and promotes student engagement, as students come prepared with questions and a foundational understanding of the material.
- **Meaningful Learning** – During the class, instead of traditional lectures, the time is reserved for the development of a more productive and meaningful learning. Students can participate more actively in discussions, problem-solving, interactive activities, collaborative projects or hands-on projects that reinforce their knowledge. This model can improve student activity and understanding of the material which make it more meaningful.
- **Student-Centered Method** – In this model, students listen to the lectures or materials at home. This helps the students to become familiar themselves with the content before coming to the class at their own pace as students can review the materials as needed. Also teachers can guide in a more personalized way during class, addressing individual student interests and can

provide a more interactive learning environment. Overall, it shifts the focus from teacher-centered instruction to student-centered learning.

- Interactive Classroom – In flipped classroom students engage with lectures or materials at home, typically through videos or readings, and then use classroom time for interactive activities, discussions, or hands-on work.
- Apply Knowledge In Classroom – During the class time, instead of giving lecture, the teacher can conduct activities that reinforce the concepts, such as problem-solving sessions or group projects. This helps the students to apply what they have learned at home.

The Indian Scenario

In India the present education system is under huge criticism as it is not able to deliver its learners the relevant knowledge and necessary skills. There is a huge gap in the curriculum design and content delivery method of our education system. In order to achieve this the education system must update the curriculum to keep it more relevant and applicable. To acquire skills students should no more be passive learners but should be allowed to participate in the classroom activity with teacher making it interactive and exploratory. (Mary Beth Gilboy et al., 2014). Flipped classroom is the latest model that can bring together pedagogical and technological method to make the study more interesting and impactful for the new learner. Keeping the above concept in mind a review was carried out in the present study to understand the possibility of implementing flipped classroom model in the Indian context.

- Flipped Classroom in Indian Context – India has gained a huge development digitally in the last decade. According to the data of International Telecommunication Union, it is a massive jump in the number of internet users in the country that was recorded as 7.5% in 2010 to 34.5% in 2018(Srinivasan & kumar,2020). Some top institutions of higher education like IIT's, UGC, NPTEL, CEC were the early contributors to web-based education (Dangwal & Mishra, 2020). According to the data of Economic Times, The Indian School of Business (ISB) was one of the first management schools in the Country to implement the 'flipped classroom' in 2013(Malik & Rani,2023). In 2015, only a few number of people knew about it. But in 2016, policy maker and educators started experimenting on it, because of technological advancements and its awareness. As a result of its ability to create productive and interactive classrooms, it began to receive acceptance from all academic fields. However, with the high penetration of internet services and availability of tools and technology, there is a massive increase in the education system by Indian contributors. These advancement set the stage to implement technology dependent teaching learning methods like Flipped Classroom Model.

Table1: Usage of Flipped Classroom in Different Educational Set Up

EDUCATIONAL SECTOR	% of Usage of Flipped Classroom
MEDICAL HIGHER EDUCATION	20%
ENGINEERING	23%
ENGLISH TERITARY LEVEL	8%
PROSPECTIVE TEACHERS	8%
SECONDARY LEVEL	9%
6 th to 8 th LEVEL	9%
MANAGEMENT	6%
PROFESSORS	3%
CONCEPTUAL	14%

Source: Malik & Rani (2023)

Issues regarding implementation of flipped classroom in India

Though the flipped classroom model has many advantages and applications to make the classroom time more productive and effortful, it has some issues and disadvantages also. It depends on student preparation: Flipped classroom model depends on students pre-planning their classes. If the kid is already a remiss, this method will not help in their learning.

Excessive screen time: Due to the nature of the model, when implementing the flipped method, computers or tablets are used more frequently. This can be excessive screen time for the student.

Increase digital divide issues: Lack of access to the internet or a home computer can prevent students from accessing learning resources. This is the learning challenges that students from low-income homes already face.

Teacher's effort and time: The initial effort and time when preparing flipped class material is greater than in a typical class. On the other hand, the material can be reused in the next year.

Not covering the entire subject: In flipped classes students may not cover the entire subject that required for a test. The depth of the subject can be dictated by the student themselves or the group the student is working with.

Suggestions

In India the flipped classroom is making its way progressively into the classrooms, but only few Medical colleges, engineering colleges and B-schools adopted this model. The flipped classroom model could not be implemented in various parts of India due to lack of educational infrastructure, the budget allotted on the GDP for education, lack of technological infrastructure and

technological device and lack of knowledge. Therefore, We should rethink about our educational policies. We also need to develop our educational infrastructure. The budget allocation must be increased to 6% of the GDP. Otherwise, it will not be possible for getting the technological advancements.

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