FLIPPED CLASSROOM MODEL – A POSSIBILITY IN THE INDIAN HIGHER EDUCATION SYSTEM

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ABSTRACT: Flipped Classroom Model is a recently emerging pedagogical model that is gaining a lot of attention among educators across the world. This study reviews and analyses the definition of Flipped Classroom Model provided by the different researchers, from various perspectives. Data collected from secondary sources and information from existing research papers were examined to analyze the different perspectives on Flipped model. The main aim of this study is to identify the enablers and barriers of implementing Flipped Classroom in the Indian context. The study also examines the new trends and rapid transformation in the digital landscape and provides a comprehensive argument of how Flipped Classroom Model can be a possibility in the current educational landscape.

KEYWORDS: flipped classroom model, higher education, Indian context, enablers, barriers

1. INTRODUCTION

The way we access, and process information has tremendously changed over the last few decades. Knowledge is being shared through a variety of technology tools in different formats from all across the globe. Learning resources and tutorials are available online in abundance and their quantum is on the raise every minute. The way we look at the teaching learning process is gaining new perspectives that should cater to the expectations of the millennials. The education that we provide to this generation must enhance the learning experiences of the students and must meet the needs and demands of the future. Teaching learning methods for effective utilisation of the technology advancements are being discussed and researched across the globe. The reforms we try to work on must make a real effort to envision a future society that is desirable and hence must stay relevant for at least 25 years in time.

The era when education was limited to the classrooms and textbooks is passing by very fast. Knowledge and information are becoming more transparent and are shared across the globe using newer and faster web tools and platforms. Technology assisted learning is gaining momentum and is giving a new dimension to the teaching learning process.

There is also a paradigm shift on what is expected from the students of the present century.   It is the right time to look at a completely new framework for the teaching learning process that completely leverages the advancements in the technology to fulfill the demands posed on the students of 21st century.

The current education system in India is under huge criticism as it is not able to equip its learners with the necessary skills and relevant knowledge that the industry requires. There is a huge gap in the curriculum design and content delivery method of our education system and the expectations from the employees in the global job market. So, there is a compelling need for all educational institutions across the country to serve this demand in order to make the learners as employable in the global setting. In order to achieve this the education system must update the curriculum to keep it more relevant and applicable to the real-world scenario. In this free world, knowledge is easily available, and this changes the purpose of education to acquiring skills than accumulating knowledge. 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)

1.1. Significance of the study
Educators and Policy makers are seeking newer ways of making the school system more effective, meaningful and relevant for the learners of the present and future. There is a compelling need to make modifications to the traditional methods of teaching to accommodate the developments happening in the technology side and the changing needs of the learners.

This calls for a completely new framework that guides the teaching learning process. The new framework should be student centric and engage the learners in the subject of learning.

Several studies have reported on the effectiveness of the Flipped Classroom Model (FCM) on different attributes like student motivation, engagement, learning outcomes etc. Also these studies bring out the facilitators and barriers in transitioning to a new model and reports on the outcomes of implementing FCM.

This paper intends to review the work done so far and to identify the need for further study.

FCM is most often talked about as a possible framework that can bring together the latest technological and pedagogical trends that the new generation can be exposed to with the students taking more responsibility for their learning.

Keeping the above concept in mind a review was carried out in the present study to understand the possibility of implementing FCM in the Indian context.

1.2. Objectives
The main objectives of this study are:
1) To corroborate the global perspectives of FCM
2) To study the feasibility of implementing FCM in the Indian context
3) To gauge the readiness of Indian educators for adopting FCM

1.3. Research Questions
1) What are the various definitions of flipped classroom model?
2) What are the enablers of FCM in Indian Classrooms?
3) What are the barriers of FCM in Indian Classrooms?
4) Are the Indian students ready to experience a change in their learning process?

II. RESEARCH METHODOLOGY

The method of scoping review is used for this study. This method helps to focus on the key areas to answer the research questions from the extensive literature study (Arksey & O'Malley, 2005). Due to an increasing number of literatures on Flipped Classroom Model, there was a need to map the literatures to the research questions that the researcher has set out to answer without the need to look into the vastness of the range of materials available.

2.1 Defining Flipped Classroom Model (FCM)
King (1993) seeded the thought that teachers should no longer be just broadcasters of knowledge that can be otherwise accessible by means of other sources, but should be facilitator who can nudge the students to think independently, forming new ideas and seeing new connections between their existing knowledge and the new knowledge gained. As reported in her work the teacher should transform from being "the sage on the stage" to the "guide by the side" (p. 30)

Later in the year 2000, it was Baker (Baker, 2000) who is first reported to have used the term "The Classroom Flip Model" and explained that this model can be used effectively to eliminate certain pain points of the teachers. He observed that students don't come prepared for the class and they don't seem to get engaged with the content taught in the class etc. So, he suggested that the teachers should let the students access the learning material in an online platform before the classroom session. By doing so, he also thought there would be extra time for taking up the traditional homework in the class, with the teachers available for just in time help
Around the same time Lage (Maureen J. Lage, Lage, Platt, & Treglia, 2000) recorded a similar idea of swapping the activities done inside and outside the classroom. They emphasise the need for matching the teaching styles of the teachers with the learning styles of the students.

Bishop & Verleger (2013) defines Flipped classroom as an educational methodology that involves two parts: classroom time is used for interactive group learning activities, and outside classroom time is used for technology based individual learning. He stresses the need to carefully design the in-class activities using the theoretical framework as a guide to design the same.

Bishop and Verleger further explained that Flipped Classroom brings about a pedagogical change by leveraging the interplay of "two movements" – the technology movement and the ideological movement.

According to Pinnelli and Fiorucci (2015), the Flipped Classroom approach is a response to the demands of the education world for designing student centric learning based on the theories suggested by educationist like Bloom and Vygotsky. They further say that Flipped classroom advocates different teaching methods like peer-assisted learning, collaborative and cooperative learning to maximize the classroom time and promoting ownership in students for their learning.

2.2 FCM and increased student engagement

Student engagement is a complex construct that is related to several factors that includes emotions, behavior, culture and cognition (Kahu, 2013). Flipped Classroom Model through its bite-sized videos and digital resources helps retain student attention. Students could work at their own pace with the materials assigned to them and hence got engaged with the resources void of other distractions (Gilboy, Heinerichs, & Pazzaglia, 2015) Attendance and regularity in submitting assignments improved over a period of time in Flipped classes when compared to traditional classes(Smallhorn, 2017)

Students reported positively with the satisfying experiences when exposed to FCM. This means that FCM has positive influence on students perceptions.(Unal & Unal, 2017)

2.3 FCM and Active Learning

Flipped classroom is one of the effective way of teaching students of the modern education system. (Schmidt & Ralph, 2017) studied the various implementation methods of flipped classroom. All strategies behind flipped classroom implementing the Flipped Classroom Model in different ways are discussed by the researchers.

(Clark, 2015) reported that the learning environment for Mathematics must be active in nature and not passive as found in traditional lecturing method. Researchers also observed that Flipped Classroom Model has the potential to create an active learning environment for learners. Further the researchers analyzed based on pre and post survey data. They also monitored the progress of Flipped Learning on a daily basis with the help of a journal designed for the purpose. The students showed positive influence and response to flipped learning, but the results showed no significant difference between the academic performance of both models.

(Zainuddin & Halili, 2016) studied Flipped Classroom Research and Trends from Different Fields of Study by analyzing 20 articles and papers related to flipped classroom from the years 2013-2015. They noticed that the most common variables studied by most researchers are influence of Flipped Classroom and the challenges in implementing it. They analysed the data using frequencies and percentages. Data analysis revealed that most studies reported positive influence of Flipped Classroom Model on students. But there were some dependencies on the teachers and the technology tools used for implementation. When FCM is implemented with less trained teachers very less effect was noticed.

Active learning is a key component of FCM. Active learning helps improve results. Teachers felt more satisfied and declared their experience as "success". Provides longer retention, better communication, improved mastery and personalized learning(Blau & Shamir-Inbal, 2017)

III. RESULTS AND FINDINGS

3.1 Enablers that makes flipped classroom a possibility

Most of the studies across the globe reports positive influence of FCM in different parameters. There are few highlight of FCM that makes it a better model to adopt.

3.1.1 Dissemination of content knowledge

Teachers are always battling with the vastness of the curriculum and the lack of enough contact time with the students to cover all concepts and topics in the curriculum. It is no longer needed to have more face to face time with the students to cover all concepts. Flipped classrooms allow students to strengthen previous knowledge and master procedural knowledge through bite-size videos that are recommended or created by the teachers and sent to the students using online platforms. Students use their individual learning space to revisit previous knowledge, get familiar with the new knowledge and practice procedural knowledge at their own pace.

Thereafter, classroom time is now free for students and teachers to interact with the real world and authentic problems. (Bergmann & Sams, n.d.)

3.1.2 Redefining the use of classroom time

Teaching-learning process is a social interaction (Voigt, 1994) Social interactions and negotiations should not be considered as a peripheral activity but has to be an integral component of the teaching-learning process.

Teachers interaction with students can happen at the group level and at the individual level in the classroom. Interactions in the classrooms should not be restricted to the teacher and learner interaction. There are ample pieces of evidence to show that learner-learner interaction can be a more important determiner of learners' educational success (Johnson & W., 2007)

The evolution of technology has given us an opportunity to rethink the use of classroom time for sharing and negotiating new ideas and concepts. The classroom provides an environment where the learning happens uninterruptedly by other external distractors. It is unique in the sense that the classroom is a gathering of learners and teachers who are focused on the learning. Therefore, we must make use of the classroom space very effectively in a manner that it provides a long-lasting experience that is otherwise not available to the students at home or any other place. Classroom space provides a suitable environment for collaborative learning as many minds are working on the same concept or problem simultaneously.

Problems, advanced concepts and collaborative activities (Tucker, n.d.) should be carried out in the classroom with the sharing and negotiation of new ideas.

3.1.3 Flipped Classroom Model provides an engaging, effective learning experience to the learners

Student engagement with the concepts is recognized as a significant factor that influence the achievement and learning among learners. There is a common misconception that Flipped Classroom Model advocates elimination of teacher's role in the learning process. Flipped Classroom Model provides a chance for teachers to personalize the encourages the students to self-regulate their learning process (Corno & Mandinach, 1983)

Flipped Classroom Model through its emphasis on self-regulated learning builds the capacity in students to be lifelong learners(O'Flaherty & Phillips, 2015) An important dimension of flipped classroom model is to let students interact with new content in their individual learning space so that they can learn at their own pace and revisit parts of the content that are difficult any number of times without any fear of being judged by the peers or the teachers.

3.1.4 Roles of teachers and students in the context of flipped classroom

With the penetration of open resources available for gaining content knowledge, teachers cease to be the sole custodian of knowledge. Teachers responsibility in a classroom undergoes a role change from a lecturer to a facilitator (Baker, 2000) Teachers should be encouraged and motivated to gaining expertise in the various technology tools that can be used for effective teaching. The web 2.0 tools like Moodle and other MOOC platforms provide easy to use interface for dissemination of knowledge. Such tools also have inbuilt features to monitor and assess learner's engagement and progress with the content assigned. Teachers do not have to create all content of their own. Free you tube videos are an excellent source of content knowledge to provide direct instruction outside the classroom. Students prefer to watch videos than reading content from printed material (Carlisle, 2010)

3.2 Flipped Classroom Model in the Indian context

Digital developments in India have gained a great momentum in the last decade. Overall there 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, according to the data provided by International Telecommunication Union. Indian government has taken necessary steps to digitise the campuses of higher education. This will level the field for all students in terms of internet connectivity. India's initiatives to make web-based resources available for the higher education segment started off in the 1990's. Some top institutions of higher education like IIT's, UGC, NPTEL, CEC were the early contributers to web-based education (Dangwal & Mishra, 2020) However, with the advent of web 2.0 tools and high penetration of internet services, there are is a rapid increase in the web resources created by Indian contributors. These developments set the stage for making it possible to implement technology dependent dynamic and relevant teaching learning methods like Flipped Classroom Model.

IV. CONCLUSION

A detailed study of literature suggests that Flipped Classroom Model has been effective in creating excitement and motivation in students. Most important observation is that Flipped Classroom Model is not just changing the

sequence of teaching but it calls for a mindset change in teachers and students to implement it at a curriculum level. FCM is set out to achieve student centric and relevant learning experience for the learners and the feedback on these parameters has been extremely positive in the many research studies carried out.

Future studies should focus on experiments for larger and longer courses. This will allow us to see if this is a sustainable model and gauge the real efforts involved in implementing it across all groups of learners.

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