



A Study on Flipping Strategies for Engaging Students in Higher Education

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Abstract

Internet+ era has left no one untouched from using technology be it students or teachers, school education or higher education. In the past decade the focus of education has shifted from so called regular teaching to Flipping classrooms, blended teaching and micro lectures. 'Pedagogy first' approach is closely associated with flipping the classroom in teaching. In this approach various strategies can be used before the topic is taught depending on numerous factors-topic, class time or student strength. There are numerous ways to flip the class. In fact, "every teacher who has chosen to flip does so differently," says Bergmann and Sams (2012)

In this study, a few topics based on Behaviorist Approach were taught to pre service teachers doing a teacher training program. Different ways were used to flip teaching various topics over a period of almost two months. During class time, the teacher educator could facilitate the learning process by helping students work through course material individually and in groups. After two months when the topic was complete the students were given a semi structured questionnaire. The results indicated that the students could gain control of the learning process through studying the topic related material outside of class, using readings, watching video lectures or observation-based research assignments.

Flipping strategies used added value to face-to-face interaction between students and teacher educator. Students explore contents, test their skills and collaborate.

Key words -Flipping Strategies, teacher educator, Higher Education.

Introduction

In the traditional way of classroom teaching, the teacher is usually the pivot of the class and the key disseminator of information. The lessons may be focused on an explanation of content using a lecture style. whereas the student engagement in this may be limited to activities in which students work independently or in small groups on an application task designed by the teacher. The class discussions revolve around the teacher, who controls the course of conversation. The teacher responds to questions while students depend on the teacher for guidance and feedback and it may involve giving students the task of reading from a textbook or practicing a concept by working on a problem set.

In the Internet + era educational technology has made the teacher, administrators and students life more organised, effective, organized and efficient. The pedagogical concept of "flipping the classroom" is an instructional strategy and a type of blended learning which has reversed the conventional learning environment by bringing instructional content outside of the classroom. and usually, it is online. In a flipped

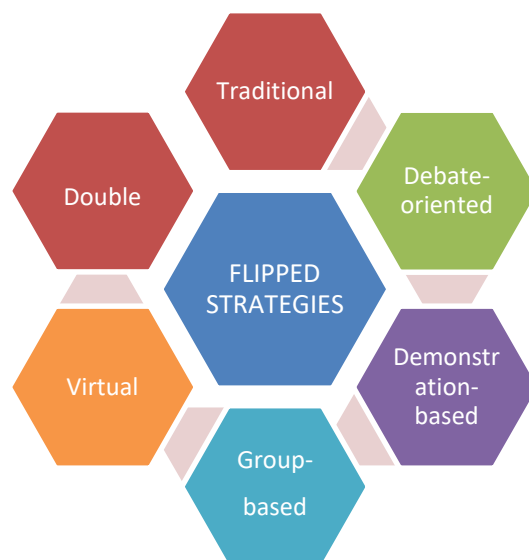
classroom, students look at various online means of the content, carry out research at home while engaging in concepts in the classroom with the supervision of a mentor

Flipping the classroom- an example of one possible type of blended learning-has emerged as the use of learning management systems(LMS) has steadily increased over the last decade.

This pedagogical approach offers students the flexibility to learn at their own pace using electronic resources outside classes, and spares class time for interactive activities, and by doing so, students are likely to be more active, engaged and enthusiastic during learning (O’Flaherty & Phillips, 2015).

However, many faculty members teaching in higher education are not fully aware of the benefits of a flipped classroom, or the advantages of combining online teaching and learning components with the traditional in-class format of instruction. There are many ways of applying this concept in Higher Education.

There are six types of flipped strategies which can be used in the classroom depending on the topic being covered /time /availability of resources.



1. Traditional flipping

This is the standard format in which the students prepare by watching short explanatory or tutorial videos prior to the class.

They then practice key concepts doing exercises or debating, while receiving personalized feedback. After the class students review what they learned and expand their knowledge.

2. Debate-oriented flipping

The teacher assign learning materials like TED talks or other videos to set the ground for face-to-face debate and idea exchange in the classroom.

This flipped approach is an innovative solution to the unmet challenges of traditional education. Flipping the classroom towards debate can be very useful to analyse subjects that require argumentation skills, like political science and certain management courses.

3. Demonstration-based flipping

This model focuses on the process where the teacher records a video of themselves executing activities step by step. The students study this content at their pace and must replicate the procedure in class. They need to get the same result, somewhat similar to the laboratory experiment.

The learning process is later reinforced with tutorial videos students use to review specific steps as much as necessary.

4. Group-based flipping

This model adds value to the learning experience through student interaction.

The students see the video and other resources prior to the class, and work in teams to critically look at the material. This arrangement encourages students to learn from one another. It helps in collaborative learning. It also strengthens soft skills and specific knowledge, as they need to have a firm grasp of the subject in order to explain it to their peers.

5. Virtual flipping

Sometimes flipping the classroom eliminates the need for a face-to-face class. In some education institutes specially at higher education, the teachers share online/video material with their students. They also receive and grade student's assignments through online learning management platforms (LMS) For example Google classroom.

The only face-to-face interaction happens in personal sessions based on the requirement of the students.

6. Double-flipped classroom

The way of flipping is simple, the student is assigned the role of the teacher. The students are required to record their video to show the skills which they have acquired. When a student shows how he/she has performed it reinforces learning.

The flipped methodology provides a contrast to the traditional model.

“We need technology in every classroom and in every student and teacher’s hand, because it is the pen and paper of our time, and it is the lens through which we experience much of our world” – David Warlick, Education Technologist and 21st Century Learning Expert

In view of the impending returns, the effectiveness of the flipped classroom approach has been empirically tested in various courses of different disciplines like mathematics, medical and health, business, economics and various other science subjects. It has also been reported that many of those studies tend to fall short on addressing the underlying mechanisms that helps or improves the efficacy of the flipped approach, because a theoretical framework has not been applied to aid the design or analyses of the study (Abeysekera & Dawson, [2015](#)).

Looking at the process of flipped classroom it is important that one studies the students' level of motivation to undertake extensive work before the classroom which includes reading pre-class materials and watching videos etc. In this study an attempt has been made to examine and enhance the students level of motivation when a flipped approach is used.

Methodology

According to **Self-Determination Theory (SDT)** an individual can feel effective and motivated, there are three basic psychological needs that should be fulfilled

*Need for competence (The feeling of having the ability to complete a task)

*Need for autonomy (The feeling of volition when performing a task)

*Need for relatedness (A sense of belonging and support from a social group)

Studies have shown that fulfilling these three needs would promote students' motivation to learn (Abeysekera & Dawson, [2015](#)).

A study was conducted on 50 pre service teachers doing a four-year teacher training course (Bachelors in Elementary Education) from University of Delhi. During the second year of the degree program these students were taught two topics of a foundation paper (Cognition and Learning) through flipped way for a period of two months.

During this phase, the preservice teachers were exposed to reading related to the topic. They were also given identified video of the topic to see. They searched the topic/information presented on content-rich websites and simulations, and/or online text/readings, youtube, OER. During this phase, the researcher offered the learners choices of video and related online content by sharing some video archives and related online resources like-

- [Khan Academy](#)
- [Youtube Education for Universities](#)
- [Academic Earth](#)
- [videlectures.net](#)
- [webcast.berkley](#)
- [MIT Opencourse](#)

Based on the self-determination theory (SDT) (Deci & Ryan,2002), a semi structured interview was created for students who were asked as a focus group to see the functioning and understanding of the flipped way of learning. Focus groups helps the students to wrk together and also understand the process of flipped learning.

The questions aimed to explore pre service teachers views on flipped classroom sections in four areas

1 Course materials

2 Class activities

3 Assessment

4 Comparison with a traditional teaching method.

Keeping in mind that SDT has been widely used in a large number of studies within the education literature (Guay, Ratelle, & Chanal, [2008](#)) The questions were based on to identifying practical implementation strategies and analysing the qualitative findings and how the use of a flipped classroom approach affects the teaching and learning experiences of pre service teachers

The following research questions were addressed:

- What were the fundamentals of the flipped classroom approach that were helpful in learning processes?
- What were the elements of the flipped classroom approach that were challenging?
- What are practical solutions can you think of to overcome these challenges?

Qualitative responses were collected through five focus-group interviews with 50 students, in every group there were 10 students. This process took two months however the discussions took 15 days after their classes were over. Identity of students was kept confidential.

Results

According to SDT, the results based on the questions asked were as follows

- **Sense of Competence**

The first basic cognitive need is sense of competence. This is effectively fulfilled by the presence of well-designed online materials (e.g. engaging and relevant online videos). The fundamentals of the flipped classroom strategies were helpful in learning processes indicated that all students showed positive attitudes and responses towards their experiences. It helped in increasing their confidence in understanding study /course material for the paper.

- **Sense of Autonomy**

The second basic cognitive need is sense of autonomy. This was fulfilled largely by class materials shared/sent using videos or OER links. The pre service teachers shared that the online materials helped them to learn with independence and there was a flexibility of doing at own pace.

- **Relatedness**

The third basic cognitive need is relatedness. This was fulfilled by allotting more time for human interaction as compared to traditional teaching where less time is available for teacher support and interaction. The students also experienced interest in learning things/topics which further lead to HOTS (Higher Order Thinking Skills)

Using the SDT framework, four themes emerged from group interviews.

The themes expressed the benefits for pre service teachers from flipped classroom strategies which were as under

- It sets a foundation for thorough learning
- Develop their ability for learning autonomously
- Flexibility and enthusiasm in learning
- Enhanced student -teacher interaction
- Interesting way of learning rather than the traditional way

Students Shared

- *I am optimally making use of my travel time. I see the videos before the class and reach fully prepared for the class.*
- *She has bought a data pack on her phone so that she can see all the related material before the classroom discussions*
- *Readings and videos have given me an insight into the topic*
- *I feel confident in taking part in the discussions*

Conclusion

In this study, the paper provided an in-depth and qualitative analysis of potential benefits and challenges when a flipped strategy is implemented in a pre service teacher training course. Flipping strategies used added value than face-to-face interaction between students and teacher educator. Students explore contents, test their skills and collaborate. The results indicated that the students could gain control of the learning process through studying the topic related material outside of class, using readings, watching video lectures before the class. Flipped teaching strategies require teacher educators time, efforts and readiness in preparing/finding out on-line teaching material at the first stage. It also requires the need of continuous learning and updating oneself of Open Educational Resources (OER) and other online content available.

The teacher should also be ready for flipping the classroom through various flipping strategies in this technology era else the classrooms will be dull places and the students will never get an opportunity to discuss, gain confidence and be independent in learning.

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