

## 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.

### 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 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. These are -

1. Traditional flipping

2. Debate-oriented flipping
3. Demonstration-based flipping
4. Group-based flipping
5. Virtual flipping
6. Double-flipped classroom

*“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.

### Method

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 certain topics of a paper through flipped way for a period of two months.

During this phase, the preservice teachers were exposed to and understand concepts during Experiential Engagement. They searched the topic/information presented on content-rich websites and simulations, and/or online text/readings, youtube, OER.. During this phase, I 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.berkeley](#)
- [MIT Opencourse](#)

Based on the self-determination theory (SDT) (Deci & Ryan, 2002), a semi structured interview was created for students which were asked as a focus group. . Focus groups, instead of one-to-one interviews were undertaken to generate deeper and richer data from students with similar backgrounds in terms of age, discipline and the course they attended (Mertens, 2014)

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 via five focus-group interviews with 50 students. This process took 15 days and was done after their classes were over. Identity of students was kept confidential

### Result

The results based on the questions asked were as follows -

According to SDT, the first basic cognitive need-**sense of competence**, could be effectively fulfilled by the presence of well-designed online materials (e.g. engaging and relevant online videos).

*The fundamentals of the flipped classroom strategies that were helpful in learning processes* indicated that all students showed positive attitudes and responses towards their flipped classroom experiences. It helps in increasing their confidence in understanding study /course material.

The second basic cognitive need, **sense of autonomy**, was fulfilled mainly by pre-class materials delivered via technological pedagogy. The pre service teachers shared that the online materials helped them to learn with autonomy and there was a flexibility of doing at own pace.

The third basic cognitive need ,**relatedness** was fulfilled by allotting more time for human interaction as compared to traditional teaching where less time is available for teacher support and interaction. It would also lead to high-order thinking and interest in learning things..

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

- Base and stage for exhaustive learning
- Develop their ability for learning independently
- Flexibility and motivation in learning
- Enhancing Student -teacher interaction

*A student told-I am optimally making use of my travel time. I see the videos before the class and reach fully prepared for the class.*

*Another student told that she has bought pack so that she can see all the related material before the classroom discussions*

*It has given me an insight into the topic.*

*I feel confident in taking part in the discussions*

### Conclusion

This study 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 to 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 or observation based research assignments 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 and other online content available.

The teacher should also be ready for flipping the classroom via 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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