

Flipped Classroom : An Effective Teaching

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Abstract

The use of learning technologies , specially multimedia provide varied facilities for students' learning that are not possible with other media. Pedagogical literature has proved that individuals have different learning styles .Flipped classroom is a pedagogical approach which means that activities that have traditionally taken place inside the classroom take place outside the classroom and vice versa. The flipped classroom environment ensures that students become more active participants compared with in the traditional classroom. The purpose of this paper is to fulfill the needs regarding the references on the use of the flipped classroom approach in education . The contribution of the flipped classroom for education is discussed in relation to the changes in students' and instructors' role. Subsequently flipped classroom applications in various disciplines of education are illustrated .This paper includes steps and examples of flipped classroom, reasons of using the methodology , advantages and disadvantages. The study concludes about effectiveness of Flipped classroom.

KEYWORDS : flipped classroom, inverted classroom, blended learning, active learning

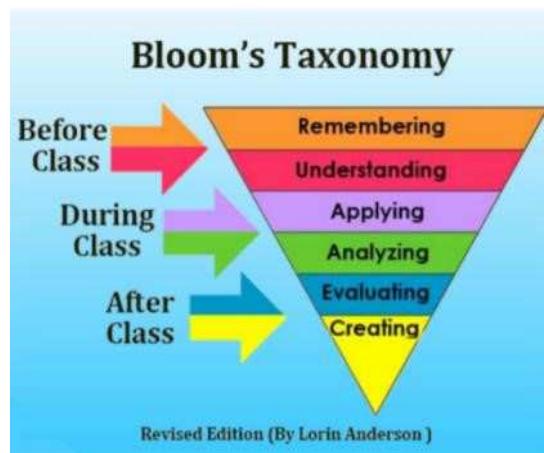
Introduction :- Flipped learning is a methodology that helps teachers to prioritize active learning during class time by assigning students lecture materials and presentations to be viewed at home or outside of class. One of the most exciting advancements in the modern classroom is flipped learning . **Cousera's definition of flipped classroom where they define the flipped classroom as “.... a form of blended learning , a term that refers to any form of education that combines face to face instructions with computer mediated activities.”**

Flipped teaching is a pedagogical approach to blended learning where classroom activities and homework are interchanged (**Tucker 2012**). A literature survey shows that there are synonymous terms with flipped teaching which have been used in different studies(**Hung 2015**). The term “**inverted classroom**” is used by **Lage and platt (2000)**, ‘ **Just-in-time teaching**' is used by **Novak (2011)**. “ **flipped classroom**” is used by **Bergmman and Sams (2012)** and “ **inverted learning**” is used by **Barker , Quennerstedt&Anerstedt (2013)** in order to explain the same approach.

Razak and Zainuddinmentioned that the use of web 2.0 technology in education can build professional relationships through collaborating coaching and mentoring for social interaction in sharing ideas.

The flipped classroom has been around since the development of **MOOCS** and the online course management system in the 1990's. It has evolved because of a few key contributer who has taken the idea of a flipped classroom and ran with it . Key contributer like **Eric Mazur at Harvard** to **SalmanKhan's** video tutorials **KhanAcademy** have really increased the familiarity and popularity of the flipped classroom.

The study of flipped classroom was based on the theory of **Bloom's revised taxonomy of cognitive domain** . This taxonomy provides six levels of learning . The explanation is arranged from the **lowest level to the highest level**.



1. Remembering

2. Understanding

3. Applying

4. Analyzing

5. Evaluating and

6. Creating

The four pillars of F-L-I-P in which F Stands for FLEXIBLE ENVIRONMENT

L stands for LEARNING CULTURE, I stands for INTENTIONAL CONTENT

and P stands for PROFESSIONAL EDUCATOR

WHY U SHOULD FLIP YOUR CLASSROOM ?

The concept of flipped classroom was first brought up by **Jonathan Bergmann and Aaron Sam's** who were both high school chemistry teachers. In their book : **Flipyourclassroom : Reach every student in every class every day(2012)**, they discussed couple of reasons why teachers should consider flipping :

- Flipping speaks the language of today's students.
- Flipping helps busy students.
- Flipping helps struggling students.
- Flipping helps students of all abilities to excel.
- Flipping allows students to pause and rewind their teacher .
- Flipping increases student- teacher interaction.

- Flipping allows teachers to know their students better .
- Flipping increases student- student interaction
- Flipping allows for real differentiation .
- Flipping educated parents.
- Flipping makes your class transparent .
- Flipping is a great technique for absent teachers .
- Flipping changes classroom management.
- Flipping can lead to the flipped mastery program etc

Student perceptions :-

Students may be more likely to favour the Flipped Classroom approach once they have taken the time to personally participate in this specific type of learning course. Students may initially have certain doubts or fears regarding the use of flipped classroom, including :

- The fear of having to “teach oneself”, as in, having a lack of proper guidance from a designated instructor ,leading to greater pressure on the students to study the content rigorously in order to perform well in the course.
- Obtaining a greater amount of academic work in order to achieve success within the course .
- The fear of obtaining in greater sense of confusion on topics discussed, which may correlate to the heavy focus on group discussion and problem solving activities that flipped classroom encourages.

Flipped classroom is composed of various components, such as :

- video collections
- Power points
- student discussion
- teacher/ student online communication

HOW TO IMPLEMENT A FLIPPED CLASSROOM ?

Jeff Dunn (2014) has wrote a short piece on “**The six step guide to flipping your classroom** ”, which presented 6 easy steps for implementing flipped classroom.

1. **Plan** :- Figure out which lessons in particular you want to flip. Outline the key learning outcomes and a lesson plan .

2. **Record** :- Instead of teaching this lesson in-person, make a video. Make sure it contains all the key elements you'd mention in the classroom.
3. **Share** :- Send the video to your students . Make it engaging and clear. Explain that the videos content will be fully discussed in class.
4. **Change**:- Now that your students have viewed your lesson, they are prepared to actually go more in depth than ever before.
5. **Group** :- An effective way to discuss the topic is to separate into groups where students are given a task to perform. Write a poem ,a play ,make a video, etc.
6. **Regroup** :- Get the class back together to share the individual group's work with everyone .

After the six steps, Review, Revise and Repeat.

With other educational approaches :-

- Flipped learning +Peer instruction
- Flipped mastery learning
- Flipped adaptive learning
- Flipped learning + gamification
- Flipped learning + co-operative learning
- Flipped learning + Inclusive classroom

Examples :-

- **Medical Classroom** :- In classrooms, short videos about the current medical topic , rheumatology, that was being taught in the class were created and uploaded to YouTube or emailed to students for a medical class . The students were to watch the videos before attending lecture.
- **College English Reading** :- The flipped classroom method of teaching was implemented in an English reading course for 16 weeks per semester. Teaching through audio outside of the classroom was utilized through videos paired with information slides. Online resources they also supplied . A study guide was provided for each video so that students could come prepared to class
- **Physics** :- In one instance the flipped classroom technique was implemented in a physics classroom. The pre-lecture videos were not made specifically by the teacher, but instead they were downloaded from other databases like **Ted, YouTube and Khan Academy**.
- **Chemistry** :- In a chemistry class, pre -lecture materials were distributed through **Moodle and YouTube** . In class, students independently completed problems while the professor acted as a guide in case anyone needed assistance.

- **Numerical Methods :-** The flipped classroom is used for a numerical methods course. Pre-owned lecture materials include YouTube videos and textbook materials. The students complete an online quiz via the **CANVAS LMS** at home before coming to class.

Flipped learning has a powerful potential for teacher education :-

Faculties of education have various departments which graduate teachers in various fields. In Turkey, one of these departments is **Computer Education and Instructional Technologies (CEIT)**. Pre-service teachers in CEIT take courses about fields as technical(programming, hardware , software etc .) and pedagogical (educational approaches, instructional design, special teaching methods etc .) and general knowledge(scientific research methods, project management ,information ethics etc.) The graduates of CEIT become information technologies teachers. So, it is important that the pre-approval service teachers learn technology use in classrooms and various instructional approaches . Almost all of the departments have a similar content which are mostly theoretic . Flipped learning let us to change this and our students get an opportunity to not just learn the theoretical content but also practice their knowledge in class time.

What is the core idea for teacher education ?

John Dewey , who is also known as an educational reformer, was invited to **Turkey in 1924** to investigate education system for two months. In his report , he stated “**Teacher education programs need to be designed according to two main purposes . First , these programs should educate teachers in subject matter. Second , these programs should enable these teachers to transfer their knowledge into practice and this should be simultaneously . Teachers need to be educated in terms of enhancing welfare of environment around him and social needs .**” So , the core idea for teacher education that is mentioned by **John Dewey in 1924 and Ken Robinson 2011** is that we need to educate teachers in order to meet the needs of the society .This can be come true if we graduate students not just with knowledge but also teach them then how to use it.

Advantages or benefits of flipped classroom :-

There are various benefits attributed to the idea of utilizing the flipped classroom approach, some including :

- Students can consume lecture materials at their own pace.
- The teacher is present while students apply new knowledge.
- Flipped classroom uses a more application -based approach for students (i.e. hands on and problem solving activities).
- Flipped classroom utilizes student centered teaching model.
- Communication is greatly emphasized in a flipped classroom setting .
- Teachers who flipped their classes noticed improved grades.

- The accessibility of flipped classroom is extremely convenient especially for students that would face difficulties.
- It motivates students.
- It increases achievements of students.
- It helps students to move forward according to individual differences.
- It involves students for doing their work by their own.
- It is not only useful for students but teachers also ,etc.

Demerits or disadvantages :-

- Students may struggle due to their developing personal responsibility.
- Flipped classroom leads to increased computer time.
- Time taking process.
- Required learning atmosphere at home as well .
- Not affordable for every person.
- Required well trained teachers.
- Every person cannot access online work.
- Special training for both the teachers and students as well.
- Bad Network connectivity, etc.

Conclusion:- A flipped classroom is the complete opposite of the way traditional teaching class takes place. In the flipped model (inverted model), students get their lectures at home at their convenience and do the assignments in the classroom. In a flipped model, students get desired lectures in the form of Pre- recorded videos on access those that they understand better over the internet . The lectures are not time bound . Students can access and review the same lecture numerous times. Classrooms are becoming more active , the teacher is turning into a coach and he or she converts the classroom into a studio where students collate ,collaborate what they learn online. In this way we can say that flipped classroom is really an effective teaching methodology.

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