

# BASICS OF FLIPPED CLASSROOM

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## Abstract

### Introduction and aim:

Along with development and usage of technology at Higher Education Institutions, Flipped Classroom Model is becoming more and more popular. Technology and task-based learning are key components of the flipped classroom model. In essence, “flipping the classroom” means that students gain first exposure to new material outside of class, usually via reading or lecture videos, and then use class time to do the harder work of assimilating that knowledge, perhaps through problem-solving, discussion, or debates. The aim of the paper is to show how a Flipped Classroom contributes to student learning. It also states the structure of a flipped classroom. Finally, it gives implications for successfully flipping your classroom.

### Research methodology:

The paper uses descriptive and explanatory research methods.

### Results and implications:

This research illustrates that technology can provide a learner-oriented teaching, which is very convenient and time-consuming.

In a traditional lecture, students are often tensed to capture what is being said at the instant the speaker says it. They cannot stop to analyse what is being said, and they may miss some important points. By contrast, the use of video in a flipped classroom puts lectures under the control of the students: they can watch, rewind, and fast-forward as needed.

### Conclusion:

Flipped classroom can have positive influence on experience of students when thoroughly designed and accurately introduced. Students can enjoy the benefits of improved perception, greater convenience, more active engagement and other benefits that are not present in traditional face-to-face education.

The flipped model puts more of the responsibility for learning on the shoulders of students.

**Keywords:** Flipped classroom, technology, learner-oriented, structure.

**Technology can become the wings that will allow the educational world to fly farther and faster than ever before – if we will allow it”**

Jenny Arledge.

There was time when just the fact of being able to go to school was a privilege. To attend school was prestigious and meant a good future. Later, with the development of democracy, the right to get a free-of-charge education became not only the right, but also the duty. Nowadays not only secondary but also higher education is essential to ensure proper and successful future.

According to The World Bank Group (2001) the world population is growing at the rate of 200 000 people a day and owing to decreased children and maternal mortality, improved environment and medicine advancements the world population is expected to reach 9 billion by 2050 (International institute for Applied Systems Analysis, 2012). With such a rapid rate of population growth one of the components of human life – education – starts

facing such issues as overcrowded schools and scarcity in teaching staff. Meanwhile, researchers have proven the positive impact of education on health, participation in social life, opportunities for employment and general happiness of people (OECD, 2015), making education affordable and accessible to everyone becomes imperative. In this attempt, many educational institutions started introducing technology to the curriculum and classrooms. Technology-enhanced-learning (TEL) presented the world a concept of wide usage of Information Communication Technologies (ICT) to support learning and teaching: universities started providing free wireless access to internet, students are communicating with teachers via e-mail, bringing their laptops to classes to conduct on-going research and perform the tasks (Chan et al., 2006). While ICT adds flexibility and wider access to knowledge for students, it still makes little contribution to deal with the challenges associated with offering education to larger group of people. Distance or Online Learning was offered as a remedy to this issue: Massive Open Online Courses (MOOCs) gained increased popularity over the period of past several years. This type of approach offered learners an opportunity to study at their own pace and manage their time in accordance with their other commitments. Other advantages of online learning included development of sense of responsibility and self-discipline among students (Armstrong, 2013). However, the major disadvantage of this approach was the lack of human interaction. This drawback can significantly impact the learning experience of students, especially taking into account the role of timely feedback in education and the need for personal communication with instructor as well as interaction with peers (ibid).

Blended Learning, an effective combination of face-to-face classroom education with online education can, however, make the most of the benefits of both TEL and Online Learning while minimizing the drawbacks of each. Blended Learning can be defined as the combination of classroom and online education with online part being from 30% to 79% (Online Learning Consortium, 2011, cited in Venable, 2011).

Blended learning is not about implementing the right mix of technologies using the old content, it is about a “fundamental reconceptualization and reorganization of the teaching and learning dynamic, starting with various specific contextual needs and contingencies(e.g., discipline, developmental level, and resources)” (Garrison and Kanuka, 2004).

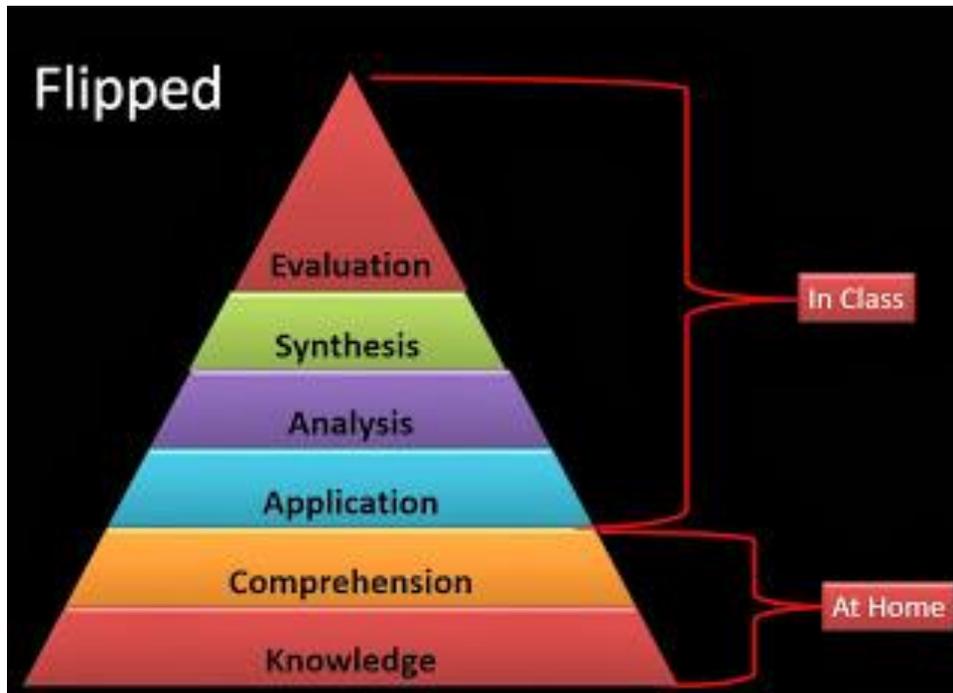
One more model of a hybrid or blended course is so called **flipped classroom**. As technology entered universities and schools more and more, the Flipped Classroom Model has been growing in popularity amongst educational pioneers. Technology and task-based learning are key components of the flipped classroom model.

According to Hawks (2014), a flipped classroom represents the unique combination of constructivist and behaviorist principles, which suggests the answer to the shifted educational paradigm of the era. Behavioral learning theory is based on traditional classroom instruction, while constructivism highlights individual’s personal experience on constructing and understanding knowledge (Hawks, 2014). Therefore, the combination of these two approaches spiced up with modern technology gives us a universal tool to instruct students as individuals ready to interact with the world outside the classroom.

“Flipping the classroom” has become something of a buzzword in the last several years.

In essence, “flipping the classroom” means that students gain first exposure to new material outside of class, usually via reading or lecture videos, and then use class time to do the harder work of assimilating that knowledge, perhaps through problem-solving, discussion, or debates.

In this learning environment, the traditional format of lectures in the class and homework after school is switched or “flipped” around. Instead, the student watches an instructional and lecture video at home and then works on associated tasks or activities in the classroom. The theory is that teachers can better identify each student’s needs during in-class tasks and give individualized instruction. By coming to class prepared to ask questions and solve problems with their peers after viewing the subject matter on their own, the students feel empowered to direct their own learning.



Unlike the traditional classroom model, a Flipped Classroom puts students in charge of their own learning. By providing lectures online, educators give students the opportunity to learn at their own pace. Once a student masters a concept, he can move on. Also, students who need more time to master a concept won't get left behind. This means all students are not working on the same area at the same time in and out of the classroom. In the Flipped Classroom environment, the teacher becomes the guide off to the side, acting as more of a facilitator, helping and guiding small groups and individuals toward learning success.

Flipping the classroom helps the teacher cater for different learning styles. Some of our students are visual learners and need to see the words that they are learning both in written form and as pictures; others are auditory and prefer to listen to the language; some are kinesthetic and need to interact with the language by navigating through the lesson and matching, rearranging and the like; others are analytic and want to see rules and examples; the list goes on and on. By recording a lesson and then enhancing it with text, images, audio, and interactions, you are likely to reach more of your students in a way that appeals and makes sense to them. An added benefit is the fact that students can play, pause, and repeat the lesson as they wish, something that is obviously not possible in a real class setting. This allows them to cover the materials at their own pace and maximize intake while also fostering increased learner autonomy.

The history of creating flipped classroom began in 1993 when Alison King published "From Sage on the Stage to Guide on the Side" In the article, King focuses on the importance of the use of class time for the construction of meaning rather than information transmission. While not directly illustrating the concept of

"flipping" a classroom, King's work is often cited as an impetus for an inversion to allow for the educational space for active learning

Clive Thompson thinks that perhaps the most recognizable contributor to the flipped classroom is Salman Khan. In 2004, Khan began recording videos at the request of a younger cousin he was tutoring because she felt that recorded lessons would let her skip segments she had mastered and replay parts that were troubling her. Salman Khan founded Khan Academy based on this model. For some, Khan Academy has become synonymous with the flipped classroom, however, these videos are only one form of the flipped classroom strategy.

At Colorado's Pike's Peak, veteran Woodland Park High School chemistry teachers Jonathan Bergmann and Aaron Sams stumbled onto an idea. Struggling to find the time to reteach lessons for absent students, they plunked down \$50, bought software that allowed them to record and annotate lessons, and posted them online. Absent students appreciated the opportunity to see what they missed. But, surprisingly, so did students who hadn't missed class. They, too, used the online material, mostly to review and reinforce classroom lessons. And, soon, Bergmann and Sams realized they had the opportunity to radically rethink how they used class time.

Like everything in our universe flipped classroom isn't irreproachable. Here are some of its drawbacks:

1. Some schools and/or students do not have the technology needed for a flipped classroom.
2. There is no guarantee students will watch the online lecture at home and come to class prepared.
3. Having to manage multiple students working on multiple assignments within multiple standards may become time-consuming.
4. Our students have most likely spent years learning in a traditional classroom. Suddenly flipping our classroom without a clear set of expectations might set back our student's success or cause us to give up and return to traditional classroom methods.

**Structure of Flipped Classrooms.** The structure of the course is what determines if it is a flipped classroom.

Before class: Students watch video lectures or perform other activities to expose them to content. Tip: Breaking lectures into smaller conceptual chunks can help students manage content.

During class: Students participate in active learning activities to deepen their understanding of the content. Tip: Brief quizzes to check for understanding helps students and professors identify misunderstandings and ensure that the student is prepared for class.

After class: Students complete homework assignments independently to practice mastery of learned concepts. Tip: Because part of the students' homework is learning the content for the next class, assign students less traditional homework than in a normal class.

Intermittently: Students complete assessments and provide instructor feedback about course and learning activities.

Tip: Request student feedback before major assessments to address issues.

**Questions to Guide Development.** By answering each of these questions, you will create the fundamentals for your flipped class. 1. What should students and I get out of flipping the class? 2. What pedagogy and learning strategies will I use in my class? 3. What are the learning objectives for the class (i.e., what do you want students to be able to do with the information that they learn)? 4. How can I use learning activities to fulfill the learning objectives? 5. What types of activities are best performed inside and outside of class? 6. Will students work in groups or individually on activities? 7. What is the role of the teacher during activities? 8. What is the role of the student during activities? 9. What resources will be available to students inside and outside of class? 10. What is the structure of the flipped class (i.e., what do students do before, during, and after class)? 11. How often does the class need to meet? 12. How will students be assessed? 13. What technology will be used inside and outside of class? 14. How will technology be used to support learning?

**Before and After Class.** A common way to deliver content to students before class is through video lectures. The lectures may be recorded by the instructor of the class specifically for the class (a collection of videos recorded by other people (e.g., Jung Choi's flipped class), or even a MOOC given by another instructor. Consider how long students spend preparing for class before assigning them additional work to be completed outside of class. Make sure that you are not increasing the overall workload of the class. Assigning a few homework problems per week, a semester-long paper, or a project will likely not be too demanding on the student and improve their self-efficacy. Be aware that if students spend too long on outside of class assignments, they might be less prepared for in-class meetings and reduce the quality of class time.

**In-Class Activities.** Below are learning activities that you may use in your classroom to help students better understand the content and learn general and domain-specific skills. These activities may vary by class depending on what is most appropriate for learning during that class period.

**Applications and Extensions.** In applications, students apply what they've learned to solve problems or analyze scenarios. Applications allow students to think about concepts from various, practical points of view. For example, in a math course, ask students to apply formulas to solve problems. In extensions, students derive theoretical extensions of the content that they've learned. These activities encourage students to apply concepts in a novel way and deepen their understanding. For example, if students are taught to solve a specific type of problem, add another component to the problem or change the problem in a manner that requires them to solve the problem in a different way.

**Sequence of Questions.** The instructor helps students break complex problems into smaller parts to solve systematically. For this strategy, it is important to: 1) pick the right problem; 2) break it down; 3) solve incrementally; 4) allow students time to think about the question; 5) don't assign too many large problems; and 6) ask students to contribute more than simple recall of information. For example, a mathematical proof may be a good problem for sequencing.

**Experiential Learning.** In experiential learning, students learn through immersive, hands-on learning experiences. Some examples of experiential learning activities are experiments, demonstrations, trips, labs, and debates. When planning these activities make sure that: 1) students are actively involved in the experience; 2) students have the opportunity to cooperate with their peers; 3) students have time to reflect on the experience; and 4) students have the skills to adequately complete the experience.

**Discussion Activities.** Class discussions may make course content more meaningful and relevant to students by helping them understand diverse perspectives, test assumptions, improve communication skills, and develop a better understanding of their own perspectives. To promote successful discussions, try: 1) setting clear expectations for participation and interaction; 2) beginning with thoughtful questions, quotes, current events, or controversial statements about content; and 3) keeping the conversation from digressing.

**Small Group Problem Solving** Students solve problems in small groups with the help of instructors or TAs. The instructor or TA may also probe the students to explain their answers. Throughout the class or at the end of class, the instructor may review the solutions to the problems and provide formative feedback to the students.

**Forming Groups** 1. Clearly define expectations of group work. 2. Structure groups based on the needs of the project. 3. Create specific roles within groups. 4. Keep groups as small as possible. 5. Group members by ability level (e.g., equivalent GPA).

**Peer Feedback.** The benefits of peer feedback are two-fold: the evaluated students receive feedback about their work and the evaluating students learn from reviewing another student's work. Consider using peer feedback, especially in writing intensive or open-ended-question-intensive courses.

To sum up, above- mentioned methods of structuring flipped classroom show, that this innovative form of lecture is worth using and installing in our reality. They are really efficient, time-consuming and suitable for modern generation.

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