

FLIPPED CLASSROOM : INVERTED TEACHING

Prof. Meena N. Rasal,

Assistant Professor,

Adv. V. H. College of Education, Nashik.

Abstract

Flipping the classroom, or 'inverted teaching' is a response to the idea that class time can be used to engage students in learning through active learning techniques, rather than through delivering lectures alone. Flipping the classroom is the process of replacing traditional lectures with more student-centered learning strategies, such as active learning, discussions, problem-based learning, and other forms of group work and peer instruction. Content delivery is moved outside of the classroom, for example, through videos, or pre-class readings.

Flipped Classroom

The flipped classroom describes a reversal of traditional teaching where students gain first exposure to new material outside of class, usually via reading or lecture videos, and then class time is used to do the harder work of assimilating that knowledge through strategies such as problem-solving, discussion or debates.

Flip teaching (or flipped classroom) is a form of blended learning in which students learn new content online by watching video lectures, usually at home, and what used to be homework (assigned problems) is now done in class with teacher offering more personalized guidance and interaction with students, instead of lecturing. This is also known as backwards classroom, reverse instruction, flipping the classroom and reverse teaching

The purpose of flipping the classroom is to shift from passive to active learning to focus on the higher order thinking skills such as analysis, synthesis and evaluation (Bloom).

There are many permutations of what a flipped classroom will look like and depends on variables such as class size, resources, support and readiness to change.

In the flipped classroom, the roles and expectations of students and teachers change where:

- Students take more responsibility for their own learning and study core content either individually or in groups before class and then apply knowledge and skills to a range of activities using higher order thinking,
- Teaching 'one-to-many' focuses more on facilitation and moderation than lecturing, though lecturing is still important. Significant learning opportunities can be gained through facilitating active learning, engaging students, guiding learning, correcting misunderstandings and providing timely feedback using a variety of pedagogical strategies,

- There is a greater focus on concept exploration, meaning making and demonstration or application of knowledge in the face-to-face setting.

Feature of the Flipped Classroom

Educational technologies are an important feature of the flipped classroom as they can be used to:

- ❖ capture key content for students to access at their own convenience and to suit their pace of learning (e.g. lecture material, readings, interactive multimedia),
- ❖ present learning materials in a variety of formats to suit different learner styles (e.g. text, videos, audio, multimedia),
- ❖ provide opportunities for discourse and interaction in and out of class (e.g. polling tools, discussion tools, content creation tools),
- ❖ convey timely information, updates and reminders for students (e.g. micro-blogging, announcement tools),
- ❖ provide immediate and anonymous feedback for teachers and students (e.g. quizzes, polls) to signal revision points,
- ❖ capture data about students to analyse their progress and identify 'at risk' students (e.g. analytics)

Traditional vs Flipped Teaching

The traditional pattern of teaching has been to assign students to read textbooks and work on problem sets outside school, while listening to lectures and taking tests in class. In flip teaching, the students first study the topic by themselves, typically using video lessons prepared by the teacher or third parties. In class students apply the knowledge by solving problems and doing practical work. The teacher tutors the students when they become stuck, rather than imparting the initial lesson in person. Complementary techniques include differentiated instruction and project-based learning.

Flipped classrooms free class time for hands-on work. Students learn by doing and asking questions. Students can also help each other, a process that benefits both the advanced and less advanced learners. Flipping also changes the allocation of teacher time. Traditionally, the teacher engages with the students who ask questions - but those who don't ask tend to need the most attention. "We refer to 'silent failers,' " said one teacher, claiming that flipping allows her to target those who need the most help rather than the most confident. Flipping changes teachers from "sage on the stage" to "guide on the side", allowing them to work with individuals or groups of students

throughout the session.

Key Elements of the Flipped Classroom

1. **Provide an opportunity for students to gain first exposure prior to class:** The mechanism used for first exposure can vary, from simple textbook readings to lecture videos to podcasts or screencasts.
2. **Provide an incentive for students to prepare for class:** students completed a task associated with their preparation....and that task was associated with points. The assignment can vary; the examples above used tasks that ranged from online quizzes to worksheets to short writing assignments, but in each case the task provided an incentive for students to come to class prepared by speaking the common language of undergraduates: points.
3. **Provide a mechanism to assess student understanding:** The pre-class assignments that students complete as evidence of their preparation can also help both the instructor and the student assess understanding. Pre-class online quizzes can allow the instructor to practice Just-in-Time Teaching, which basically means that the instructor tailors class activities to focus on the elements with which students are struggling. If automatically graded, the quizzes can also help students pinpoint areas where they need help. Pre-class worksheets can also help focus student attention on areas with which they're struggling, and can be a departure point for class activities, while pre-class writing "guide on the side", allowing them to work with individuals or groups of students throughout the session.

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2. **Provide an incentive for students to prepare for class:** students completed a task associated with their preparation....and that task was associated with points. The assignment can vary; the examples above used tasks that ranged from online quizzes to worksheets to short writing assignments, but in each case the task provided an incentive for students to come to class prepared by speaking the common language of undergraduates: points. In many cases, grading for completion rather than effort can be sufficient, particularly if class activities will provide students with the kind of feedback that grading for accuracy usually provides.
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- 4. Provide in-class activities that focus on higher level cognitive activities:** if the students gained basic knowledge outside of class, then they need to spend class time to promote deeper learning. Again, the activity will depend on the learning goals of the class and the culture of the discipline.

Pedagogy of Flipped Classroom:

The flipped classroom is an easy model to get wrong. Although the idea is straightforward, an effective flip requires careful preparation. Recording lectures requires effort and time on the part of faculty, and out-of-class and in-class elements must be carefully integrated for students to understand the model and be motivated to prepare for class. As a result, introducing a flip can mean additional work and may require new skills for the instructor, although this learning curve could be mitigated by entering the model slowly.

Advantages of Flipped Classroom :

- 1. Students have more control:** In a flipped classroom, it is possible for students to have increased input and control over their own learning. By providing short lectures at home, students are given the freedom to learn at their own pace. Students may pause or rewind the lectures, write down questions they may have and discuss them with their teachers and peers in class. This also allow students who need more time to understand certain concepts to take their time reviewing the material without getting left behind, and receive immediate assistance from teachers and classmates.
- 2. It promotes student-centered learning and collaboration:** Flipped classrooms allows class time be used to master skills through collaborative projects and discussions. This encourages students to teach and learn concepts from each other with the guidance of their teachers. By

allowing students to partake in their own learning, they are able to own the knowledge they achieve, which in turn builds confidence. Furthermore, teachers are given the ability to identify errors in thinking or concept application, and are more available for one-on-one interaction.

3. **Lessons and content are more accessible:** By making video lectures available at all times online, students who are forced to miss class due to illness, sports, vacations or emergencies, can catch up quickly. This also gives teachers more flexibility when they themselves are sick and also eliminates makeup assignments.
4. **Access easier for parents to see what's going on:** Unlike traditional classroom models, flipped classrooms give parents 24/7 access to their student's video lectures.
5. **It can be more efficient:** Done properly, in a flipped classroom, kids can have more time to be kids, whether that means more free time, or more academic practice.

Disadvantages of Flipped Classroom :

1. **It can create or exacerbate a digital divide:** One of the most prominent issues is the necessity for students to have access to a computer and Internet in order to view the lectures.
2. **It relies on preparation and trust:** There is also the concern that since flipped classrooms are dependent on student participation, one must trust students to watch the lectures at home. Unfortunately, there is no way to guarantee students will oblige or cooperate with the flipped model.
3. **There is significant work on the front-end:** Additionally, there is a concern that implementing a flipped classroom adds an extra workload on teachers. . Responsibilities include taping and uploading condensed lectures, which take time and skill, and introducing activities in the classroom that will enhance the subject matter as well as motivate students to participate and prepare for class.
4. **Not naturally a test-prep form of learning:** Teachers and students are still required to spend a sizable portion of time preparing for state mandated testing, which in turn interrupts the flipped classroom process.
5. **Time in front of screens-instead of people and places-is increased:** There are some who believe that if every teacher starts flipping their classrooms, students will spend hours in front of a computer watching the lectures. One may argue that this has the potential to cause serious problems to student's learning processes, as not everyone may be as adept to learning through a computer.

Conclusion

As the flipped class becomes more popular, new tools may emerge to support the out-of-class portion of the curriculum. In particular, the ongoing development of powerful mobile devices will put a wider range of rich, educational resources into the hands of students, at times and places that are most convenient for them. At a certain level of adoption, colleges and universities may need to take a hard look at class spaces to ensure they support the kinds of active and collaborative work common in flipped classes.

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