

Practice -1

Flipped Classroom based teaching-learning

In a class lecture of chalk and talk mode, the attention of most students starts to diminish after ten or fifteen minutes, so flipping the class can facilitate keep students focused and learning for the whole period. Flipping the classroom means that students have time to develop and reflect on concepts and increase their knowledge base before coming to class to apply their learning. Faculties can get a sense of where students are having difficulty with the course material or have questions or misconceptions about concepts (possibly through an online assessment or discussion forum) before they come to class. Faculties then adjust what will be done in the class depending on this feedback.

In a flipped classroom students are engaged with lectures or other materials outside of class to prepare for an active learning experience in the classroom. Students engaging with materials online followed by in-class activities using platforms such as Google Meet, Zoom, Google Classroom etc. that involves peer learning or small-group work. There are many activities that can be part of a flipped class such as discussions, debates, clicker questions, Q and A, demonstrations, simulations, etc. Students can control the time, pace and place of learning with the online materials. Many students find it useful to repeat segments of an online presentation when they are having difficulty with a particular concept or when they are studying for the final exam.

One attractive feature of this method is: “Think-aloud pair problem solving” the detailed modalities of which are as follows:

- Students are provided with a set of complex problems that require multiple steps to solve,
- Students are paired up in small groups and are asked to solve the problem. One of them explains their thought process in developing a solution based on what has been learned out of class,
- His partners listens to this process and offers suggestions, or expresses confusion regarding the parts that are difficult to understand,
- After the first problem has been discussed, the students asked to switch roles and begin again.

Practice -2

Coverage beyond syllabus

With the rise in various technological development that are taking place to combat the growing industrial challenges, it is necessary that budding engineers should be exposed and acquainted with these changes so as to perform in tune with the expectations of the industries and to have a strong foundation for pursuing higher studies. To educate the students following a stipulated

curricula and syllabus is not adequate in this regard. Frequent modification and rationalization of syllabus is also not a feasible solution considering different constraints. However, this problem can be appropriately addressed by the course teachers. It is the flexibility of the course teacher to formulate a detailed lecture plan meticulously so that advanced and emerging topics are also taught in synchronization with the fundamental topics so as to enrich the course to the maximum possible extent. Faculty members continuously update their lecture plan and implement the same for mutual benefits.