



# ‘Flipped Classroom Pedagogy for Higher Secondary Classes: A Review on Awareness’

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**Abstract :** The teaching-learning process has been becoming more challenging year by year. The learners are spending their maximum time handling the gadgets and devices. Collaborating traditional methods of classroom delivery with the implementation of *ICT* tools will make the teaching-learning process effective and outcome-based. Instead of teaching the content directly, the teacher should ask the students to prepare the content on their own so that evaluation can be done in the cognitive, affective, and psychomotor domains. Flipped classroom pedagogy can bring that reformation to the teaching-learning process. Every teacher must have the digital literacy to adapt and implement the pedagogical changes accordingly. The discussion method, lecture method, and direct method have to be collaborated with the new technological paradigms. The flipping class technique enables learners to examine and evaluate the content on their own, which helps them develop their analytical abilities. Excessive use of technology by the learners may turn into an interesting ‘*Learning by Doing*’ method, which is called LbDs. Flipping the classroom is none other than setting the Bloom Taxonomy in the reverse order. Implementing the flipped classroom pedagogy has become a necessity today, considering the use of technology by the present generation.

**Key Words:** Flipped classroom, traditional classroom, bloom's taxonomy, cognitive, affective, and psychomotor domains.

## Introduction

As far as the NEP-2020 (*New Education Policy-2020*) is concerned, it has emphasized the multidisciplinary and holistic approach in education to enhance the physical, intellectual, emotional, and moral capacities of a learner. NEP-2020 has adapted the flexibility in the curricula by considering the knowledge and the development of the skill sets of a learner. The policy aims at developing the critical thinking, versatility, adaptability, problem-solving skills, analytical skills, and communication skills of a learner. Keeping in view the new education policy, each teacher must adapt the new pedagogy to make the teaching-learning process effective and outcome-based. NEP-2020 also aims to provide open education and open access to learners during academics. By considering this note, the higher secondary educational institutes must try to create OERs (Open Educational Resources) and provide accessibility for blended mode learning. The concept of a ‘flipped classroom’ is the best option for every teacher to make the class communicative, interactive, active, and approachable. In the present research paper, an attempt has been made to find the pedagogical approach of the teachers who are teaching higher secondary classes.

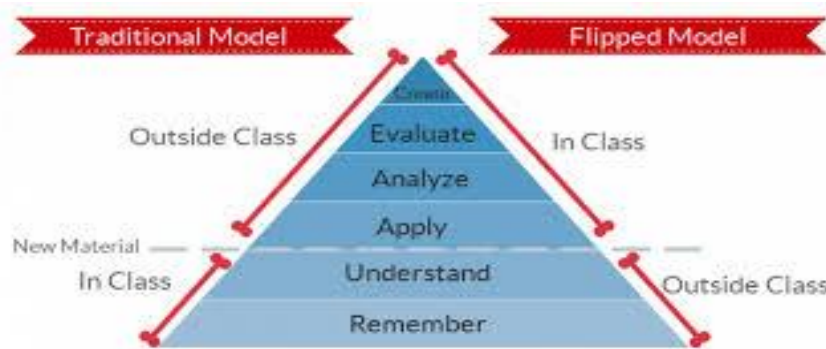
## What is Flipped Classroom Pedagogy?

The flipped classroom method potentially increases the learners’ engagement and performance in which the class time is used to achieve higher-level understanding. The 2015 NMC Horizon Report identified that the flipped classroom model is the most widespread in the United States. (Johnson, Adams Beker, Estrada, & Freeman, 2015). Two high school teachers in Colorado named *Jonathan Bergmann* and *Aaron Sams* pioneered the concept of flipped classes, which stands for flexible environment, learning culture, intentional content, and professional educators. It is defined as:

- 1) A model of delivering instructions that shifts lectures from class time activity to at-home activity and shift homework from at-home activity to in-class critical thinking set of activities.
- 2) 'It is a pedagogical approach in which direct instructions move from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic interactive learning environment where the educator guides students as they apply concepts, and engage creatively in the subject matter.' (Yarbro, Arfstrom, McKnight-2014, P.5)

## The Role of a Teacher in Flipped Classroom Pedagogy

The major role of a teacher in flipped classroom pedagogy is to prepare OERs (open educational resources) in digital form to be given to the students before an actual discussion on the topic in a class. On the other hand, teachers can collect the videos from other professional sources. It is expected that a teacher has to perform the role of an instructor instead of a teacher. Students are expected to watch the videos and come with the content preparation. In the traditional Bloom's Taxonomy, they are expected to apply, analyze, evaluate, and create the content at home after being taught the content in class. Homework turns into class work, and class work turns into homework. The present blended learning method will help the learners understand the content with the help of OERs created by the concerned course teachers. The learners will benefit from different aspects such as knowledge constructivism, analytical discourse, critical thinking, a higher cognitive level, and effective communication between teacher and student. As far as learning management with Bloom's Taxonomy is concerned, the lower level of learning, such as remembering and understanding, happens during classroom teaching, and the higher level of learning, such as evaluating and creating, happens outside of the classroom.



**Figure 1.1: Revised Bloom's taxonomy compared to traditional and flipped classroom methods.** (Image source: [odysseyware.com/blog/](http://odysseyware.com/blog/))

By considering the above Bloom Taxonomy levels in the learning management system, research was done by Selgossan, Hirsh, and Backlund in 2017 on the implementation of flipped classroom pedagogy. They gathered data through interviews, observations, and surveys. Through the research, they came across the overwhelming results of the flipped classroom method, which helped students develop their natural abilities like analytical, problem-solving, thinking, and observation skills.

## Survey Questionnaire for the Present Investigation

A Google Form was circulated among random teachers, including arts, commerce, and science colleges, in some selective districts of Maharashtra, including Kolhapur, Sangli, Ratnagiri, and Nagpur. Twenty-five responses were collected through the questionnaire, which consisted of ten different questions related to study material, continuous evaluation, teaching pedagogy, and learning environment. The following questions were included in the questionnaire:

- 1) Which teaching method do you follow in regular classroom teaching?
- 2) Do you provide extra material to the students regularly?
- 3) Do the students solve and submit the exercise on time?
- 4) Do you prepare the videos by yourself on the content to be taught in your class?
- 5) How often do you ask your students to watch the video on content before teaching in a class?
- 6) Do you evaluate the exercise or homework on time by considering the cognitive, affective, and psychomotor domains?
- 7) Do the students raise their doubts during the class?
- 8) Do you encourage the students to raise their doubts during the class?
- 9) Do you use ICT tools for the effective teaching-learning process?
- 10) Do you get the desired outcomes at the end of the lesson you taught in a class?

## Purpose of the Questionnaire

The main purpose behind circulating the questionnaire through a Google Form was to gather authentic and reliable data for evaluation purposes. It was the investigation regarding the effectiveness and awareness of flipped classroom pedagogy.

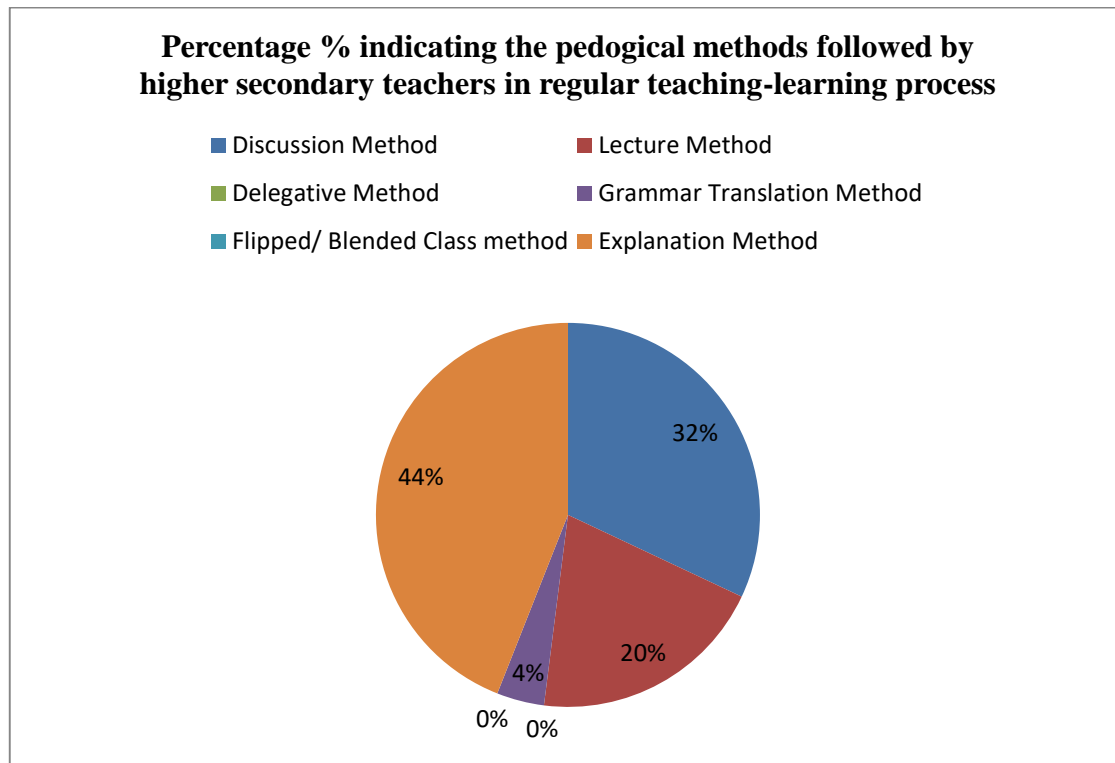
## Research Methodology

For the present research investigation survey method was used to gather the required data for further investigation. The survey was done by providing Google form to the random teachers those are teaching higher secondary classes including arts, commerce and science

## Data Analysis

The teachers who teach the higher secondary classes of arts, commerce, and science gave the responses through a Google form. The first question in the questionnaire was related to the teaching methods that are followed by the teachers during regular

classes, such as the discussion method, lecture method, delegative method, grammar translation method, flipped classroom method, and explanation method. It is observed that 44% of teachers follow the explanation method, whereas 32% of the teachers teach their class with the discussion method. The lecture method is followed by 20% of teachers, and 4% of teachers use the grammar translation method. By looking at the analysis, it is found that a teacher is using neither a flipped class method nor an aware of this pedagogical method. By keeping in view the NEP-2020 that aims at open education, all the teachers must adapt this method to make the class more and more interactive and turn the traditional classroom into a digital classroom.



*Pie chart 1.1: Indicating the % of the higher secondary teacher respondents*

The question regarding providing additional study material to the students was also included in the questionnaire. Out of the total responses, 72% of teachers responded that they provide additional study material to the students for homework. The remaining 28% of teachers provide the material for 'sometimes' and 'rarely'. It seems that the learning engagement of the students is passive largely. The next question was concerning the timely submission of home exercises by the students. It is observed that 72% of students submit the exercises on time, and the remaining 28% postpone the homework. The reasons may be varied, but the flipped method will create an interest in understanding the content by itself.

By keeping in view the creation of study material, a question was added to the questionnaire regarding the creation of OERs (open educational resources) by the teachers to be provided to the students before teaching the topic in a class. In this regard, 64% of teachers responded that they prepare the videos 'sometimes' by themselves. Whereas 20% of teachers responded that, they prepare 'rarely' the videos on their own. Further, it is observed that 12% of teachers responded that they 'never' prepare such study material in digital form. Only 4% of teachers prepare the study material by themselves. The next question was whether the teachers asked the students to watch the video and prepare the content at home. The results found that 56% of teachers ask the students to watch the videos before coming to the class sometimes, and 28% of teachers 'always' ask the students to watch the videos on the topic to be taught in the class. The remaining 16% of teachers 'never' ask the students to watch the videos.

Further, in a survey, it was investigated whether the teachers evaluate the exercise or homework by considering the three domains. As a result, it was found that only 36% of teachers 'always' evaluate the exercise by considering the cognitive, affective, and psychomotor domains. The remaining 56% of teachers evaluate the exercise 'sometimes', and 08% of teachers evaluate the exercise 'rarely'. It is also observed that the maximum number, i.e., 64% of the students, raise doubts during the class. The teacher should prepare the content in such a way that passive students may raise their doubts during the class. It is observed that 96% of teachers encourage the students to raise their doubts during the class. It does mean that they are following the traditional teaching pedagogy. Instead of this, it is expected that students should come with doubts regarding the content by themselves. The teachers were asked the next question regarding the use of ICT tools in the teaching-learning process. Only 28% of teachers 'always' use the ICT tools for classroom teaching, whereas 36% of the teachers use the ICT tools 'sometimes'. In addition, 36% of teachers 'never' use such tools for effective classroom delivery. The last question in the questionnaire was related to the desired outcomes after the classroom delivery. It is observed that 64% of teachers responded regarding the attainment of the objectives. The remaining 36% of teachers responded that they achieve the desired outcomes 'sometimes'. By looking at the above statistical analysis, the following are the major observations noted through the present survey on flipped class pedagogy.



## Observations / Major Findings through Data Analysis:

- 1) Higher secondary teachers need technology-based training on the new pedagogical methods.
- 2) Teachers must change according to the advancement of technology.
- 3) Around 85% of digital illiteracy is observed amongst the select higher secondary teachers through the present survey.
- 4) The workshop on NEP-2020 must be conducted to introduce the nature and structure of the new education policy.
- 5) Introducing the use of ICT tools in the teaching-learning process must be made mandatory, at least for science branch students, to flip the class into effective understanding.
- 6) Turning the technology into the learning gadgets.
- 7) Continuous evaluation of the students must be done by considering the major domains such as cognitive, affective, and psychomotor.
- 8) Motivating the teachers to create OERs (open educational resources) so that the implementation of a flipped classroom will be possible with the desired outcomes.
- 9) Creating awareness about the flipped classroom pedagogy amongst higher secondary teachers.
- 10) Neither of the randomly selected teachers is aware of the flipped class pedagogy.

## Conclusion

In the present study, an attempt has been made to understand whether the higher-secondary teachers are aware of the flipped classroom pedagogy. It was found that 100% of the respondent teachers randomly selected from government-aided higher secondary schools were neither aware of the concept of the flipped classroom method, nor did 90% of the teachers have an expected digital literacy. By looking at the changing scenario of the education system, has emphasized the use of technology to the maximum extent to make learning interesting and effective. The required training regarding effective use of technology must be provided to the higher secondary teachers because it has become a need of the present era. Developing awareness of implementing flipped classroom pedagogy will bring about didactic changes in the teaching-learning process in higher secondary classes.

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