

# Teaching Management Graduate: Balancing Learning Style And Teaching Methodology With Flipped Classroom

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## Abstract

*Traditional lecture style of teaching is the most common and popular in higher education courses across the world even in 21st century. Students and teachers both are familiar with the traditional lecture method and are generally comfortable with this style. In the technology driven knowledge economy, innovative learning approaches are being introduced. This has evolved new system of teaching and learning in education such as flipped classroom system where the pre learning materials like online audio, video and readings are shared in advance. Students prepare themselves using these materials prior to coming to the class thus in the class time, they can participate in discussions, hands on application, problem solving through games and other engaging and collaborating activities. In this type of setup, the role of the teacher/ instructor changes from deliverer of contents to guiding students through a series of engaging and experiential-learning activities. During the course, students learn how to find answers for questions, they participate in group learning, problem solving thus develop analytical skills. The present research attempts to understand the student's perspective regarding flipped classrooms. Students being an important stakeholder, this research considers their perspectives as the crucial element. This study is conducted amongst students studying in management colleges located in the National Capital Region (NCR) with a sample size of 211 respondents.*

**Keywords:** *Flipped classroom, Learning material, Learning.*

## Introduction

An alternative to the traditional lecture mode of teaching which is actively being practiced and has gained a tremendous amount of attention is the flipped classroom approach. The flipped classroom is trending nowadays in all spheres of education especially in the management field. Flipped classroom approach which is accepted as the most popular and active learning based approach, is a special type of blended learning where responsibility of learning mainly lies on the learner. The role of a teacher is more of a facilitator

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rather than an instructor. Flipped classroom is where the conventional pedagogy like lectures and homeworks are reversed. Management colleges across the world are practicing some or other form of flipped classroom learning approach. In most of renowned management colleges, it is seen that students interact outside class with given course content and concepts, leaving class time free for active learning and lectures are delivered as podcasts or screen casts, discussions, debates, activities etc. When teachers flip the classroom and deliver learning contents before class lecture, not only are they putting students in a position where they can absorb the content, they are also freeing up class time to be used in different ways. This free class time, gives faculty members the opportunity to review materials, identify learning gaps, and pursue them. This helps students a personalized

learning that is hard to happen in a conventional lecture-oriented management classroom. In simple terms, flipping the classroom refers to swapping classroom lecture time for hands-on practice or is spent clarifying and applying knowledge acquired. Berrett (2012) mentioned in his study about Dr. Eric Mazur, a physicist at Harvard University, who has been using flipped classroom method for 21 years. Dr. Eric Mazur named this approach as peer instruction approach.

For many, traditional lecture style is a method that yields positive and better results. Lecture style as a teaching method is not going to be obsolete. However, it certainly is not the best approach for everyone as far as learning style and flexibility are concerned. Management education with gaining demand will not decrease classroom size nor will lower the student-to-instructor ratio. Flipping and moving the lecture to the homework saves time and one-on-one work for the classroom experience makes the lecture model more interesting and productive. Implementing a flipped classroom enables more focused teaching and learning. In most flipped classrooms, the effectiveness of the in-class activities depends heavily on the extent to which students come to class having completed the out-of-class assignments.

Effectively, flipping a classroom brings many benefits. Flipping uses technology to remove passive, one-way lecturing as the only means of teaching. The classroom time is used to solve problems and apply to other contexts, the application of higher order thinking skills. Flipping the class also make differentiating instructions based on students' needs easier because everyone does not necessarily need to do the same task in the class. Flipped classroom is a continuum. If the faculty has replaced lecture time with class activity, then he has begun the process of flipping their classroom. The rationale behind inverted model classroom

teaching, is based on cognitive and educational research displays that the management students learn and retain more when the faculty ask them to use the knowledge during a case or situation analysis that they learn in different ways. Benefits of flipped classroom is having students do hands-on activities in the classroom where the instructor can provide a structured context, and students can get real-time feedback or assistance working with peers and instructional staff. When the faculty members lecture less, both students and the faculty member experiences a profound change. The role of the classroom instructor is redefined from a "lecturer" responsible for delivering the curriculum as a "facilitator" of an active learning environment.

Faculty members who use flipped classrooms approach require a substantial investment of time, starting with the time it will take to produce lecture material as videos recordings. It will also take significant amount of time to develop new learning activities. Effective and regular communication with students are very important in the flipped classroom pedagogy. Some students prefer a more interactive classroom over traditional lecture model, no matter how well the faculty prepares for their class, others will just need to understand why they are doing and what they are doing. Soliciting feedback from students about this innovative approach and understanding of the concept helps in successful completion of any course. It will make students feel that they are the integral part of the education system and will provide useful feedback that may be of utmost use. Faculty members need to strike a balance between what is expected and what is not in the class to find out the learning is happening or not.

The present study focuses on importance of adopting a modern and innovative learning approach. It attempts to improve the understanding of flipped class room approach and also the students'

perception about this approach.

## Literature Review

Flipped class room is an active learning by students beyond classroom followed by class room discussion facilitated by the teachers and instructors in the classroom (Ozdamli, F. & Asiksoy, G.2016). Bishop and Verleger (2013) define flipped classroom to be two level learning viz. classroom learning and technology based learning through computer aided programs which are students centric learning. Both research works by Halili and Zainuddin (2015) and Mull (2012) define that flipped classroom as an integrated learning approach which is mainly students centric self learning through videos, reading articles and pod cast which are distant learning method and thereafter have discussion in the classroom which is facilitated by the teacher According to Hamdan et al. (2013) in the flip class room approach students' learning is supplemented through modern technology of learning over and above class room learning with the support of teachers. Since the educators in different countries use flipped classroom with various innovative methods, hence flipped classroom concept has become flipped classroom approach. It is emphasized that different learning methods can be used in this new approach (Flipped Learning Network-FLN, 2014). Research findings of Lord and Camacho (2007) show that majority of teachers find flip learning to be more effective. The need of active learning environment and its incorporation are recognized by most of the faculty members. In this regards, one obstacle is the coverage of the course syllabus whereas another obstacle is delivery of basic knowledge which competes with the application part of that knowledge within specified class time. Today's millennium student need both active and passive learning opportunities within class time.

Two research studies (Frاند , 2000 ; Lage, Platt,

and Tregalia (2000)) confirm that that students of the new millennium are more prone to learn by doing through trial and error process i.e. flipped environment and in class room lecture system. Here, students of economics are taken as the sample. Carlisle (2010) through experimentation in computer class room finds that flipped classroom method is more effective as students find his instructional videos are more interesting compared to learning in the classroom. As it provides more hands on programming time and application of their prior learning in the class room.

The study of Deslauriers, Schelew, and Wieman (2011) in a large-enrolments in physics course, find increased student attendance and higher engagement in the non-lecture section which mainly focuses on practice approach –a characteristics of flipped Class room. Students in the non-lecture section also did perform more than twice as well on the given test compared to those in the lecture section.

On the basis of web lecture to one section of students through technology and to another section on traditional lecture method in one semester of 15 weeks, Day and Foley (2006) find that students in the flipped class section performed better on every course assignment.

Betty et al. (2014) in their linear algebra class of 55 students divided into two sections observe that students within a flipped classroom performe better in flipped classroom.

In a survey of university students on learning environment and activity, Strayer (2007) compares students' learning in two systems and finds that the students "preferred and experienced a higher level of innovation and cooperation in their classroom" in Flipped Classroom. Strayer suggests that students should have a choice as to how they interact with the course content, the activities in class should be less open-ended and more step-by-step, and lastly,

that students be given a significant opportunity to reflect on their own learning.

### Objectives of the Study

The main purpose of this study is to provide insight towards Flipped Classroom with an emphasis on students perceptions. The following are the objectives of the study–

- To study effectiveness of the flipped classroom approach.
- To study the management students' perception of the flipped classroom approach.
- To know whether there exists a significant difference in perception toward use of technology and pre reading materials on the parameters like age, gender, educational qualification and comfort level with technology.

### Hypotheses of the Study

In order to know the significant difference between management students' perception on the flipped classroom approach with reference to three demographic variables and comfort level with Information Technology, following hypothesis have been tested:

**H01:** There is no significant difference in students' perception towards flipped classroom approach between students of different age groups.

**H02:** There is no significant difference in students' perception towards flipped classroom approach among male and female students.

**H03:** There is no significant difference in students' perception towards flipped classroom approach among students with different qualifications.

**H04:** There is no significant difference in students' perception towards flipped classroom approach among the students having different comfort level with Information Technology.

### Research Methodology

This study is based on the survey results of 211 respondents. The self administered questionnaire was circulated to 400 respondents, out of which 216 were received, but due to some missing values in five responses, only 211 of them were considered for the study. The respondents were students perusing various undergraduate and postgraduate management courses in universities and colleges located in Delhi NCR. These students had the experience of attending flipped classes and are aware about the lecture based “Sage on Stage” and Flipped based “ Guide on Side” classroom conduct. The survey was conducted on five point Likert Scale, where 5 means “Strongly Agree” and 1 means “ Strongly Disagree”.

The data were analyzed with the help of SPSS 23. First, demographic data was tabulated as frequency and percentage distribution. Cross tabulation of data was done where there was a need to know the joint distribution of two or more variables. To test the various hypotheses given in the study, independent sample t-test and multivariate analysis ANOVA were used.

### Result and Analysis

Demographic analysis of respondents:

The first part of survey questionnaire gathered demographic information of respondents which includes age, gender, and qualification. Table-1 (in Appendix) shows respondents demographic characteristics in detail.

#### Table 1 in Appendix

The age of the respondents varies between 20 years to 30 years. There were 2% responded between the age of 20 to 21 years and 4% of the respondents were having the age more than 24 years whereas 71% of the respondents were in the age group of

21 to 23 years (Table 1). There were 61% male and 39% female student who shared their opinion on flipped classroom (Table 1 in Appendix). Out of the total number of respondents, 172 i.e. around 81 % of the respondents were perusing a post graduation course in management (MBA/ PGDM) and around 19 % of them were doing under graduation course in management (BBA/BBM) (Table 1).

### **Distribution of respondents with respect to comfort level with information technology**

Most of the students in all age categories rated themselves comfortable with the use of information technology (Table 2). Also, most of male as well as female students were comfortable with the use of information technology.

### **Table 2: Comfort level with Information Technology Opinions of respondents on self paced course.**

### **Table 3: Opinions of respondents on self paced course. in Appendix**

When respondents are asked about, whether they have done any self paced course or not more than 50% of male students and 24% female students have done a few self paced courses and hence are motivated to learn by themselves (Table 3). The research also says that students in the age group of 23 to 24 are more motivated to do self paced course, as almost 50% of the students in the age group of 23 to 24 have done some self paced course as compared to 33% students in the age group of 21-23.

### **Students' perception level of flipped classroom approach**

The questions in the questionnaire were so worded that each one of that indicated students' positive perception. The mean weighted score of all responses was calculated and used to indicate students' perception level. Students' perception level towards flipped classroom approach was 3.62 out of 5 which is above average or on higher side. This

result indicates that management students under study have shown their positive attitude towards flipped classroom approach. They are keen to learn in interactive and technology oriented environment. Students like this innovative approach of learning than traditional lecture style.

### **Hypothesis and Evaluation**

In order to know the significant difference between management students' perception of the flipped classroom approach with reference to three demographic variables and comfort level with Information Technology, following hypothesis have been tested:

**H01:** There is no significant difference in students' perception towards flipped classroom approach among students of different age group.

### **Table 4: Perception towards Flipped Classroom across different age group (ANOVA Results)**

In order to understand whether there is any significant difference in the perception of the students between different age groups, one way ANOVA test was conducted. Respondents were categorized into four age groups viz. 20-21 years, 21-23 years, 23-24 years and >24 years. On using one-way ANOVA, it is found that students perception level towards flipped classroom differ significantly across the four age categories,  $F(2,209) = 3.220$ ,  $p = 0.024$  at 95% confidence interval. This indicates that students have a positive perception towards flipped classroom, but the opinion across different age groups is not same. Students of youngest age group (<21 years) under study have highest positive perception (mean score = 3.9 out of 5) towards flipped classroom approach than older age group (>24 years with mean score = 3.56 out of 5). This gives the clear indication that upcoming younger generation is more adaptive towards adopting new ways of technology oriented learning methods (Table 5 in Appendix )

**Table 5: Average Perception towards Flipped Classroom (Max score 5)**

**H02:** There is no significant difference in students' perception towards flipped classroom approach between male and female students.

Independent sample t-test is performed to test the difference in students' perception levels of male and female employees towards flipped classroom. There were 129 male respondents and 82 female respondents. There was no significant difference in the scores of students' perception levels for male employees ( $M = 3.63$ ,  $SD = 0.36$ ) and female employees ( $M = 3.59$ ,  $SD = 0.45$ ) conditions;  $t(210) = 0.658$ ,  $p = 0.511$  at 95% confidence interval. Both male and female students have almost same high positive perception towards flipped classroom approach and believe that it is more supporting and engaging and results in better learning. This gives the clear indication that upcoming younger generation is more adaptive towards adopting new ways of technology oriented learning methods

**Table 6: Response according as Gender in Appendix**

**Table 7: Results of t-test in Appendix**

**H03:** There is no significant difference in students' perception towards flipped classroom approach between students of different qualifications.

**Table 8: Perception towards Flipped class room according to qualification**

**Table 9: Results of independent t Test between two groups**

Another demographic variable considered was the qualification of the respondents. Respondents under study were under-graduate (39) and post graduate management students (172). Independent sample t-test indicated that there was no significant difference in the scores of flipped classroom perception level for undergraduate students ( $M = 3.57$ ,  $SD = 0.57$ ) and post graduate students

( $M = 3.62$ ,  $SD = 0.34$ ) conditions;  $t(210) = 0.839$ ,  $p = 0.402$  at 95% confidence interval. The average perception of students undergoing both undergraduate and post graduate courses towards flipped classroom approach is strongly positive and students believe that it is useful in retaining learning and motivate them to participate in group work and class participation.

**H04:** There is no significant difference in students' perception towards flipped classroom approach among the students having different comfort level with Information Technology.

In order to test above hypothesis, one way ANOVA test was carried out to know that whether there exists any significant difference in students' perception towards flipped classroom approach among the students having four different comfort levels with Information Technology. The comfort level of the students varies between highly comfortable (**Table 10 in Appendix**) to not at all comfortable. The hypothesis testing indicates that null hypothesis is not rejected,  $F(2,209) = 1.263$ ,  $p = 0.285 > 0.05$  and hence the difference in the perception is not significant (**Table 11 in Appendix**). Students of all category of comfort level with Information Technology are having high positive perception towards flipped classroom approach. This result shows that new generation of young students were keen towards this new learning approach irrespective of their comfort level with Information Technology.

## Conclusion

The research was aimed to understand the how flipped classroom approach was received by students perusing a management course and how they were able to adjust themselves in that environment. The study considered variables like age, gender and educational qualification and also their comfort level with Information Technology to understand

the acceptance of the methods among the students and their learning outcome. The research found that the students were very optimistic about the use of the method and they found it engaging and enabler for learning. They also felt that this method helps in self development which was very important for any management graduate. They also felt that it helped in bringing out the leadership skills and they were keen to adapt new teaching and learning method. The research also found that the perception of students differ on the basis of age group and the younger students were found having strong positive perception as compared to the older one. Whereas there was no significant difference in the perception on the basis of gender or educational qualification and comfort level with Information Technology. This indicated that young students are more open to usage of experimentation with the use of teaching methodology as compared to the elder ones. This also give a the scope of using most new methods at undergraduate level and make teaching and learning more interactive.

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## APPENDIX

**Table 1: Age distribution the Sample**

Demographic Variables		Opinion of respondents on self paced course.	
		Yes	No
<b>Age</b>	20-21 yrs	1	3
	21-23 yrs	54	96
	23-24 yrs	26	23
	Above 24 yrs	5	3
	Total	86	124
<b>Gender</b>	Male	64	65
	Female	23	59
	Total	87	124

**Table 2: Comfort level with Information Technology**

Demographic Variables		Comfortable	Highly comfortable	Moderately Comfortable	Not at all comfortable
<b>Age</b>	20-21 yrs	3	1	0	0
	21-23 yrs	88	24	37	1
	23-24 yrs	26	12	9	1
	Above 24 yrs	5	1	2	0
	Total	122	39	48	2
<b>Gender</b>	Male	47	11	24	1
	Female	75	28	24	1
	Total	122	39	48	2

**Table 3: Opinions of respondents on self paced course**

Demographic Variables		Yes	No
<b>Age</b>	20-21 yrs	1	3
	21-23 yrs	54	96
	23-24 yrs	26	23
	Above 24 yrs	5	3
	Total	86	124
<b>Gender</b>	Male	64	65
	Female	23	59
	Total	87	124

**Table 4: Perception towards Flipped Classroom across different age group (ANOVA)**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.474	3	.491	3.220	.024
Within Groups	31.730	208	.153		
Total	33.204	211			

**Table 5: Average Perception towards Flipped Classroom**

Age	(Max score 5)
21	3.9
21-23	3.58
23-25	3.75
25	3.56

**Table 6: Group Statistics**

Group Statistics	Gender	N	Mean	Std. Deviation	Std. Error Mean
Perception Towards	1	129	3.6322	.35806	.03153
Flipped Classroom	2	83	3.5954	.45162	.04957

**Table 7: Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Perception Towards Flipped Classroom	Equal variances assumed	.644	.423	.658	210	.511	.03680	.05589	-.07339	.14699
	Equal variances not assumed			.626	146.402	.532	.03680	.05875	-.07930	.15290

**Table 8: Group Statistics**

	Educational Qualification	N	Mean	Std. Deviation	Std. Error Mean
Perception towards Flipped Classroom	1	172	3.6288	.34357	.02620
	2	39	3.5703	.57530	.09096

**Table 9: Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Perception towards Flipped Classroom	Equal variances assumed	5.374	.021	.839	210	.402	.05850	.06968	-.07887	.19587
	Equal variances not assumed			.618	45.666	.540	.05850	.09466	-.13208	.24908

**Table 10: Average scores of Comfort level with technology among different age group**

Average Perception Towards Flipped Classroom	Comfort level with technology Among Different Genders			
	Comfortable	Highly comfortable	Moderately comfortable	Not at all comfortable
	3.61	3.80	3.48	3.3

**Table 11: Perception towards Flipped Classroom (ANOVA)**

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.397	2	.198	1.263	.285
Within Groups	32.807	209	.157		
Total	33.204	211			