

# Psychological Outlook of Students about Impact of Flipped Classroom on Learning Outcome

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## Conflicts of interest

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## Abstract

This study is relevant given how the teaching learning process has shaped up in the Covid 19 Pandemic. As face to face teaching-learning was not possible, institutes switched to online teaching-learning with the help of various platforms such as zoom Microsoft Team, Google Meet etc.

Purpose: the study seeks to identify the significant relationship between flipped classroom and learning outcome of students of management program in higher education. It also aims to study the effectiveness of flipped classroom in contrast to traditional classroom method.

Research Methodology: Two independent samples of 60 students each are taken for the experiment. Group-1 underwent Flipped Classroom Teaching Learning Method and Group-2 underwent traditional Teaching Learning Method. Structured Survey Questionnaire was prepared and sent to these two groups after the end of the curriculum of respective subject and their responses were collected. The collected responses were analysed for the normality and subsequently hypothesis test was applied to 2 sample t test with the SPSS.

Findings: It has been identified that flipped classroom method of teaching learning is positively related to the learning outcome.

Practical implication: this study will contribute to the existing literature about the effectiveness of Flipped Classroom for students of Management program in higher education. It will be helpful in enhancement of teaching Learning and students learning outcome for the respective subjects.

Original Value: The study conducted at Management Institutes with the experimental research for two independent groups and learning outcomes were measured with results and students' feedback.

**Keywords:** Flipped Classroom, Traditional Classroom, Learning Outcome, teaching learning.

## Introduction

Flipped classroom learning method is a "Blended learning method in which direct instruction is moved from the group learning space to the individual learning space, transforming the resulting group area into a dynamic, interactive learning environment where the educator helps students as they apply concepts and participate creatively in the subject matter" (The Flipped Learning Network, 2014).

Jeff Dunn (2014) published an article titled "The 6-Step Guide to Flipping Your Classroom". In the article, he outlined six simple steps for adopting a flipped classroom.

1. Make a strategy: Choose the lesson you'd want to revert to. Create a lesson plan as well as a list of the primary learning objectives.
2. Instead of presenting this topic in person, create a e resource. Make sure it covers all the important topics you'll cover in class.
3. Share: Visual e-resource created to be sent to your students to watch. Make it interesting and easy to understand. Explain that the subject of the visual e-resource will be thoroughly explored in the class.
4. Change: Already your students have seen your lecture, they are better prepared than ever to dig deeper.
5. Group: Dividing students into groups and offering them a task to do is a good way to get them to discuss the topic.
6. Regroup: Regroup the class to share the results of each group's work with the remainder of the class. Make enquiries and go beyond what you've done before.

Active learning is main tactics used as a part of in-class activities. It allows the students to practice the learned concepts during class. They will receive feedback and explanation from their peers and teachers.

## Literature Review

Katsuyuki U. et al. (2018) discussed the concept of 'Grouped Flip Classroom'. Students were

divided into three groups based on their understanding of self-study. Study found that students with high level of understanding show a positive attitude towards group flip classroom and vice-versa.

Mona Lundin, Annika Bergviken Rensfeldt, Thomas Hillman, Annika Lantz-Andersson, Louise Peterson (2018) reviewed the available literature on flipped classroom. Flipped classroom concept familiarizes the students with the course content before the actual lecture. Classroom teaching mainly focuses on advance concept learning, problem solving, critical thinking and case study etc. Flipped classroom helps the deeper understanding of the concepts, more coverage of syllabus and more involvement of students in teaching learning process.

Kasat, K. et al. (2019) in their study emphasised the impact of Flipped Classroom on student engagement in campus. A controlled group of 240 PG students were taken as sample who were studying under the faculty of social sciences. They concluded that the proper use of Flipped Classroom is effective in active learning and student engagement.

Li-Ling Chen (2016) studied the impact of flipped classroom especially for high school students. Flipped classroom positively impacts the student's performance in evaluation. It was found that student's interaction and discussion during the classroom teaching has increased because of flipped classroom. The main problems in adoption of flipped classroom are students less willingness to prepare from home for classroom sessions and creation of the videos by the teachers.

Vasiliki Aidinopoulou, Demetrios G. Sampson (2017) implemented the flipped classrooms in school for teaching learning process. They found that flipped classroom shows a positive impact on students and it ensures effective use of classroom time. It leads to better learning outcomes for any subject. There are few problems in implementation of flipped classroom which includes unprepared students in classroom, low self-motivation among students regarding self-study before commencement of class; students are not

familiar with the flipped classrooms. To overcome these issues, students should be given a proper training of flipped classroom.

Yanjie Song, Morris S. Y. Jong, Maiga Chang and Weiqin Chen (2017) shared views of designing and implanting the flipped classrooms. Flipped classroom ensures optimum use of classroom time. It initiates the interaction from the students in classrooms. Flipped classroom empower students to solve problems on their own. Researchers discussed about SOP<sup>2</sup> model which includes self-study by the students, online group discussion among students and double stage presentation.

Benjamin Garner and Mark Chan (2019) studied the student's perception towards flipped and traditional classrooms. Students show positive inclination towards flipped classroom style of teaching learning process. Flipped classrooms can bring positive results especially in the case of classes with large number of students. Flipped classrooms generally outperform the traditional classes if compared.

### Research Methodology

Study comprised of experimental Research, therefore sample selected was 120 students (60 students in each group). Group-1 underwent Flipped Classroom Teaching Learning Method and another group of 60 students underwent Traditional Teaching Learning Method. Both groups on whom the experiment was performed were comprised of students undergoing Management Program. One subject taught to

both groups and after the end of the teaching their performance was noted, and feedback was taken. A structured Survey questionnaire prepared for collecting feedback of students about how flipped classroom and traditional classroom teaching learning methods impacted their learning outcomes. The received responses tested for Normal distribution, reliability and face validity and accordingly further tested for the hypothesis using 2 sample t tests to check the two means. SPSS 23.0 version was used for analysis purpose.

### Objectives

1. To study the Flipped Classroom Teaching Learning Method in Blended Learnings
2. To identify the Relationship between Flipped Classroom and students learning outcome

### Data Analysis and Interpretation

#### Hypothesis:

H0: Flipped Classroom Learning is negatively related to students learning outcome in

Management Program of Higher Education

HA: Flipped Classroom Learning is positively related to students learning outcome in

Management Program of Higher Education

*Table-1: Flipped Classroom Learning Group t statistics*

GROUP-1	N	MEAN	SD	Standard Error	t-value	df	p-value
F1	60	3.91	1.309	.119	15.665	236	.000
F1	60	3.47	1.326	.120	9.100	236	.000
F1	60	3.92	1.307	.118	15.115	236	.000
F1	60	3.86	1.284	.116	13.978	236	.000
F1	60	3.38	1.363	.124	9.510	236	.000
F1	60	2.26	1.377	.125	4.268	236	.000
F1	60	2.83	1.401	.127	4.973	236	.000

F1	60	2.27	1.412	.128	3.854	236	.000
F1	60	2.40	1.375	.125	4.409	236	.000
F1	60	2.84	1.415	.128	5.910	236	.000
F1	60	2.63	0.728	.066	5.602	236	.000
F1	60	2.73	0.725	.065	5.803	236	.000
F1	60	2.78	0.585	.053	10.496	236	.000
F1	60	2.75	0.522	.047	11.741	236	.000
F1	60	2.65	0.487	.044	10.619	236	.000
F1	60	3.74	1.304	.118	13.626	236	.000
F1	60	3.76	1.289	.117	13.236	236	.000
F1	60	3.42	1.354	.123	9.395	236	.000
F1	60	3.45	1.343	.122	9.688	236	.000
F1	60	3.95	1.268	.115	15.373	236	.000
F1	60	4.40	0.487	.044	23.824	236	.000
F1	60	2.69	1.410	.128	6.231	236	.000
F1	60	2.21	1.385	.126	4.281	236	.000
F1	60	2.66	1.403	.127	6.347	236	.000
F1	60	2.21	1.385	.126	4.426	236	.000
F1	60	4.42	0.445	.040	32.277	236	.000
F1	60	3.92	1.309	.119	15.665	236	.000
F1	60	3.52	1.326	.120	9.482	236	.000
F1	60	3.93	1.310	.119	15.430	236	.000
F1	60	3.92	1.295	.117	15.786	236	.000
F1	60	3.51	1.320	.120	9.302	236	.000
Flipped Classroom		<b>Mean=3.24</b>	<b>S.D.=1.169</b>				

*Table-2: Traditional Classroom Learning Group t statistics*

GROUP-2	N	MEAN	SD	Standard Error	t-value	df	p-value
F2	60	1.55	.858	.069	15.656	197.869	.000
F2	60	1.97	1.098	.091	9.091	224.246	.000
F2	60	1.59	.928	.076	15.106	207.394	.000
F2	60	1.69	.974	.080	13.969	214.810	.000

F2	60	1.85	.980	.080	9.501	209.078	.000
F2	60	1.59	.854	.069	4.259	191.893	.000
F2	60	1.98	1.109	.092	4.964	220.056	.000
F2	60	1.63	.967	.079	3.845	203.629	.000
F2	60	1.70	.910	.074	4.400	199.420	.000
F2	60	1.86	1.002	.082	5.901	207.504	.000
F2	60	1.95	1.038	.086	5.593	225.858	.000
F2	60	2.00	1.101	.091	5.794	219.576	.000
F2	60	1.63	.976	.080	10.487	212.149	.000
F2	60	1.58	.883	.072	11.732	212.329	.000
F2	60	1.60	.900	.073	10.610	203.349	.000
F2	60	1.67	.879	.071	13.617	201.154	.000
F2	60	1.72	.940	.077	13.227	210.393	.000
F2	60	1.89	1.030	.085	9.386	215.548	.000
F2	60	1.88	1.017	.084	9.679	214.954	.000
F2	60	1.62	.934	.076	15.364	211.383	.000
F2	60	1.85	1.005	.083	23.815	190.558	.000
F2	60	1.71	.832	.067	6.222	186.486	.000
F2	60	1.54	.829	.067	4.272	187.893	.000
F2	60	1.67	.778	.062	6.338	179.887	.000
F2	60	1.52	.799	.064	4.417	183.897	.000
F2	60	1.67	.748	.059	32.268	216.075	.000
F2	60	1.55	.858	.069	15.656	197.869	.000
F2	60	1.96	1.105	.092	9.473	224.896	.000
F2	60	1.57	.904	.073	15.421	203.925	.000
F2	60	1.56	.857	.069	15.777	199.015	.000
F2	60	1.97	1.105	.092	9.293	225.307	.000
Traditional Classroom		<b>Mean=1.73</b>	<b>S.D.= .942</b>				

### Result and Discussion

As t value is positive implies hypothesised mean is less than Sample mean.

Since the p-value is .000, which is less than the alpha level of .05, the null hypothesis should be rejected.

According to these results, the alternative hypothesis should be accepted. The difference

between the two-population means is statistically significant ( $3.24 > 1.73$ ). It proves that Flipped Classroom teaching learning method is positively related to learning outcomes.

In this study, we looked at the effectiveness of flipped classroom and how students felt about it when it came to teaching certain pharmacological topics. Active learning was incorporated into our flipped Classroom design using business case studies, problem solving, student interactions, and facilitator interactions. The mean scores in our study show a considerable improvement in the flipped classroom teaching learning method. Based on the outcomes of the students' input on the flipped class format, the students assessed their learning experience favourably overall.

## Conclusion

As hypothesized, mean is less than the sample Mean and p value is less than the nominal value of 0.05, which shows that the difference between the two-population means is statistically significant.

Alternate hypothesis Flipped Classroom Learning is positively related to students learning outcome in Management Program of Higher Education is accepted.

Students were generally pleased with the approach, notably the utility of the online modules, which provided quick access to self-paced learning resources

In this review study, positive changes were reported. According to studies, in a flipped classroom, management students reported more satisfaction, less boredom, and a higher work value.

Change in Students' knowledge and skills with the flipped classroom compared to traditional classroom lectures yielded mixed results. Studies reported good impacts in areas such as student learning outcomes, while others found no differences.

One technique to ensure that class time is focused on assimilation rather than information transmission is to use a flipped classroom.

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