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EFFECT OF FLIPPED CLASSROOM APPROACH ON ACHIEVEMENT MOTIVATION OF SECONDARYSCHOOL STUDENTS

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ABSTRACT

The present study was designed to assess the effect of Flipped Classroom Approach on the Achievement Motivation of Secondary School Students. Pre-test and Post-test experimental design was used. A sample of 100 students studying in class IX of Science stream was selected from one of the Senior Secondary Schools of Chandigarh Administration. Deo-Mohan Achievement Motivation (n-Ach) Scale (2002) was used to assess the AchievementMotivation of students. Self-Designed modules of Science subject using FlippedClassroom Learning Approach were used as instructionalmaterial to the subjects of Experimental Group whereas subjects of Control Group were taught through Traditional Lecture method. Appropriate statistical tools were employed to analyze the results. Results of the study revealed a highly significant effect of Flipped Classroom Approach on the Achievement Motivation of students. Findings of this study suggest that Flipped Classroom approach is a viable new student- centered model which can be employed by teachers and allows students to be more responsible for their own learning.

Keywords: *Flipped Classroom Approach and Achievement Motivation*

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INTRODUCTION

The era when education was limited to the classrooms and textbooks is passing very fast. Knowledge and information are becoming more transparent and are shared across the globe using newer and fast web tools and platforms. Technology

assisted learning is gaining momentum and is giving a new dimension to the teaching learning process. In order to enhance the 21st century skills among students, there is need to incorporate independent, active, self-paced as well as collaborative learning strategies in the pedagogical framework.

Hence, as an alternative approach, the ‘‘Flipped Classroom” concept, as one of the innovative instructional approaches in the teaching learning process, hasemergedasabetter pedagogical model where more of discussion and collaborative inquiry-based learning have replaced traditional classroom lectures. This is otherwise known as “inverted classroom” which provides preliminary learning material to the students and allows students to go through self-paced learning; when they come to class with basic knowledge on the concerned topic and the teacher initiates more active learning through student’s engagement in collaborative learning activities. In Flipped Classroom, students could watch video-lectures etc. and are expected to prepare accordingly. This approach provides students with flexibility in their learning and thus theyaregivenfreedomtochoosewhattheyhavelearntfromalargenumberofresources and to direct their learning at their own pace. Thus, learning is reinforced with meta-cognitive activities such as group discussions during the class. Thus, allotted classroom time is better spent in more teacher-student interaction, clarification of doubts and constructive discussions.

Several studies have confirmed that Flipped Classroom approach exerts more positive impact on students’ learning, performance and outcomes, autonomous learning motivation, knowledge, understanding and applying, teacher- student interaction, communication, creative abilities than the traditional lecture method. Students are more likely to be satisfied with the learning experience and process in flipped classes and can achieve better learning performance and academic results

dueto high achievement motivation as compared to traditional classroom learning.The Flipped Classroom is also explained as creating problem-based learning inside the class and replacing direct instructions in order to provide instructional content to be accessed whenever and wherever it is required by students (Bergmann &Sam, 2012, Hamdan, Mc Knight & Arfstrom, 2013).

OBJECTIVES OF THE STUDY

The present study was undertaken with the following objectives:

(i) To study the Achievement Motivation of Secondary School Students.

(ii) To study the effect of Flipped Classroom Approach on Achievement Motivation of Secondary School Students.

HYPOTHESIS OF THE STUDY

There is no significant effect of Flipped Classroom Approach on Achievement Motivation of Secondary School Students.

MATERIAL AND METHOD

Pre-test and Post-test experimental design was used to assess the effect of Flipped Classroom Approach on the Achievement Motivation of Secondary School students. A sample of 100 students of class IX of science stream was selected from one of the Senior Secondary Schools of Chandigarh Administration.Subjects were assessed on the basis of pre-test scores of Achievement Motivation. On the basis of scores of pre-test, the two groups of 50 students each i.e. Experimental and Control group were equated. Thereafter, the intervention comprising of Modules based on Flipped Classroom Approach was given to the subjects of Experimental group and Control group was taught through traditional Lecture method. Thereafter, post- test was administered on the subjects of both the groups.Appropriate statistical tools were employed to analyze the results.

TOOLS USED

(i) Deo-Mohan Achievement Motivation (n-Ach) scale by Deo and Mohan (2002).

(ii) Self- Designed Modules of Science Subject of class IX using Flipped Classroom Learning Approach.

RESULTS & DISCUSSION

Table1: Measures of Central Tendency of Percent Scores of Achievement Motivation of Subjects of Control and Experimental Groups

Measures ofCentral Tendencies	ControlGroup (n=50)		ExperimentalGroup (n=50)	
	Pre-test	Post- test	Pre-test	Post-test
Minimum	50	54	48	60
Maximum	80	78	80	86
Range	30	24	32	26
Mean	62.86	61.94	60.74	72.38
Standard Deviation	9.15	7.46	9.62	9.11

Median	61	60	60.74	72
Mode	54	55	56	62
Skewness	-0.33	-0.69	-0.54	-0.08
Kurtosis	1.22	0.84	1.05	1.55

AsseeninTable 1, the measures of Central Tendencies i.e. Mean, Median and Mode reveal normal distribution of the curve. The values of Skewness and Kurtosis also reveal the nature of the curve.

Table 2: Showing Significance of difference between Mean Scores of Achievement Motivation of Subjects of Control and Experimental Groups

Experimental and Control Group(n=50)	t-value	
	Pre-test	Post-Post test
	1.12 #	6.26 *

*P<0.01

#P>0.05

The above table reveals no significant difference in mean scores of pre-test of Achievement Motivation of Control and Experimental groups, as the two groups were equated on the basis of pre-test scores of Achievement Motivation. However, there is significant difference (P<0.05) in the mean scores of post-test of

Achievement Motivation of Control and Experimental groups as a result of intervention imparted to subjects of Experimental group in contrast to subjects of Control group.

Table 3: Showing significance of Difference between Mean Scores of Achievement Motivation of Subjects of Control and Experimental Groups

ControlGroup (n=50)	ExperimentalGroup (n=50)
Pre-TestandPost-Test	Pre-TestandPost-Test
0.55#	6.21**

**P<0.01

#P>0.05

Table 3 shows no significant difference in the mean scores of Achievement Motivation of subjects of Control Group, the t-value is 0.55(P>0.05). Since no treatment was given to subjects of control group, the marginal change could be due to demotivating effect from their counterparts being taught through different approach by the same teacher despite the fact that they were trying to learn consciously, hence the insignificant change in mean scores of Achievement Motivation of subjects of control group.Research studies have established that student's attention declines after 10 minutes in a regular didactic classroom, often fluctuating in between, when learners at the end retain only 20 percent of the lecture delivered.

So far as the subjects of Experimental Group were concerned, a highly significant improvement in mean scores of Achievement Motivation was observed, as evident from the t- value of 6.21, which is significant at 0.01 level($P<0.01$). The probable reasons for this significant difference could be the effect of intervention, comprising of modules based on Flipped Classroom Approach, which led to increase in their Achievement Motivation level by increasing their interest in subjects like Science,actively listening to each other during group discussion in classroom, considering the other students' perspective after giving ideas, sharing ideas without fear of derogatory comments, actively involvement in activities, resolving differences of opinion and conflict, ensuring decisions that affect the group members decision democratically. Hence, after the intervention, a significant improvement in Achievement Motivation of students was observed.

A study by Lee & Lai (2017) suggests that Flipped Classrooms improve student's course learning and promote higher-order ability-set acquisition. A study on the landscape of Flipped Classroom research: a bibliometrics analysis by Zhang & Wang, (2024) stated that the Flipped Classroom has relatively short history; it has received a lot of attention and is currently enjoying a high level of overall acceptance. The Flipped Classroom has been further practiced in Medical education and it is looked forward to seeing its application in more subject areas e.g. Linguistics, Mathematics and Computer Science. A study by Liu & Nan (2024) research on Flipped Classroom Teaching Mode stated that Flipped Classroom has certain advantages and challenges as a teaching model. Its successful implementation requires the joint efforts and adaptation for teacher, students, parents and educators.

CONCLUSION

With the move toward student-centred teaching models around the world, the Flipped Classroom approach is a viable new student- centred model which can be employed by teachers and allow students to be more responsible for their own learning. This will free classroom time for more personalized instruction as needed by students. The time to assist students is just one possible benefit of this approach to students. Students can also benefit from the fact that they are able to complete the lectures at their own pace and are able to review as many as they need to become comfortable with material. This could have eliminated several of the issues concerning student access to the materials. Hence,

Flipped Classroom approach has the potential to change the method of delivery of topics. The ability to deliver classes asynchronously is very valuable as time constraints are a common issue among many teachers' due to the sheer volume of the curriculum, and the many co-curricular school activitiesduring the academic year of the school in which the study was located, time lost during class time can be recovered using asynchronous delivery of the material.

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