



# “The Effect Of Flipped Classroom Model In Enhancing Academic Achievement In Economics Among Senior Secondary Students.”

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## Abstract

The current educational environment is experiencing a notable change in instructional and learning methods, with the Flipped Classroom Model garnering growing recognition as a potentially effective strategy to improve students' scholastic performance. The present study investigates the effects of adopting the Flipped Classroom Model on the scholastic achievement of upper-level secondary students in the domain of economics. Using an experimental pre-test post-test design, the study aims to examine the potential impact of this novel instructional approach on enhancing students' academic achievements. A homogeneous group of senior secondary students is exposed to both conventional classroom instruction and the Flipped Classroom Model throughout a specified period of instruction. Pre-test and post-test assessments are administered in order to evaluate pupils' understanding and recall of economic principles. The study examines the data, employing statistical techniques to compare the scholastic performance of pupils across different instructional methodologies.

**Keywords:** Flipped Classroom, Academic Achievement, Economics, Senior Secondary Students

## Introduction

The pervasive influence of the digital domain is one of the most prominent and transformative aspects of societal development in the modern era. This influence is supported by the remarkable advancements made in the domains of internet connectivity and mobile device usage. Not only have these innovations revolutionised the way we communicate and access information, but they have also profoundly reshaped our daily lives.

Educators consistently encounter challenges in capturing and sustaining the attention and engagement of students using traditional teaching methods and strategies. Numerous studies have been conducted with the aim of developing novel models, approaches, techniques, and methods for teaching and learning. These endeavours have mostly focused on facilitating active student engagement in the learning process (Areekkuzhiyil, 2016).

In the interconnected global landscape of today, geographical boundaries are largely irrelevant. The advent of the internet and the ubiquitous utilisation of mobile devices have given rise to a worldwide network that enables effortless communication, cooperation, and dissemination of information among individuals situated in diverse geographic regions. This global interconnectivity represents nothing less than a paradigm shift in society, as it enables the rapid dissemination of information, the exchange of ideas, and the cultivation of a genuinely globalised perspective.

The fact that approximately 70% of the world's population currently has access to the internet is a staggering statistic that demonstrates the pervasiveness of this digital transformation. This figure, which is consistently increasing, demonstrates that the digital realm is not the exclusive domain of a select few, but rather an integral part of the daily lives of billions of people around the world.

This transformation is nowhere more apparent than in the domain of education. Traditional education, characterised by brick-and-mortar classrooms and textbooks, is enduring a radical transformation. It is evolving into highly sophisticated technology-driven learning environments that leverage the latest innovations in generative AI and machine learning. These technologies have the capacity to transform the learning process by offering students customised and adaptable learning experiences that cater to their own needs and preferences.

The delivery of learning materials to students in a manner that is not only informative but also engaging and effective has become increasingly inevitable and crucial in light of the transformational context. In a sense, the digital technology that has become so ingrained in our daily lives has become an extension of our cognitive abilities. It is closely related to how we access, process, and remember information. Consequently, educational content must be tailored to the digital native generation. It must be interactive, engaging, and optimised for the digital platforms and devices that are integral to the life of the modern learner.

The digital revolution, fuelled by advances in internet connectivity and mobile technology, has ushered in an era of unprecedented global interconnectivity and transformation across multiple aspects of life, including education. As we navigate this new digital landscape, the challenge and opportunity lay in harnessing the power of technology to create learning experiences that are not only informative but also compelling and effective, ensuring that education remains relevant and engaging in the digital age.

## **Flipped Classroom model**

The methods by which individuals obtain and analyse information have undergone significant transformations in recent decades(**Pradesh & Pradesh, 2020**).

According to the Flipped Learning Network, Flipped Learning is an instructional strategy that involves shifting direct instruction from a collective learning setting to an individual learning setting. As a result, the physical arrangement of the group learning space is transformed into a dynamic and interactive setting, wherein the educator assumes the role of a facilitator, guiding students in the practical application of concepts and fostering a climate of creative involvement with the subject matter. The flipped classroom has been suggested as an instructional approach that has the capacity to augment student learning by reducing the reliance on traditional methods of knowledge transmission. The traditional classroom setting is being substituted by active learning methods that facilitate the absorption of knowledge(**Caviglia-Harris, 2016**).

The flipped classroom model is a variant of blended learning, wherein students are exposed to novel content prior to the class session, generally through an online presentation. Upon a student's arrival in a physical classroom setting, the allocated class time is utilised for the purpose of actively engaging with the subject matter through problem-solving activities and engaging in scholarly discourse. In a conventional educational setting, the acquisition and comprehension of lower order thinking skills, such as recall and comprehension, occur within the confines of the classroom. Conversely, students are generally tasked with engaging in activities that necessitate the use of higher order thinking skills beyond the classroom environment. In contrast, the flipped classroom model entails a reversal of the traditional learning process. Students will engage in the lower level of cognitive tasks prior to class, at their own convenience and pace, within the comfort of their own homes. Upon their arrival to the classroom, individuals will have the opportunity to engage in advanced cognitive processes within a setting that promotes collaboration. The educational approach known as the "Inverted Classroom" is also commonly referred to as the "Flipped Classroom." In the context of a flipped classroom, the instructor disseminates the educational content pertaining to the course topic to students prior to the scheduled class session, thereby enabling them to engage with the material independently. This approach allows for the utilisation of class time to critically examine and analyse problems that are directly related to the aforementioned topic(**Dutta et al., 2020**).

In recent times, there has been a notable global phenomenon of integrating technology into several sectors, including education. This trend has demonstrated significant potential in facilitating and enhancing the process of teaching and learning, particularly in previously inaccessible places(**Kundu et al., 2021**).

The flipped classroom is a pedagogical approach that promotes the acquisition of higher-level cognitive skills among students, as opposed to lower-level cognitive skills. In the future, it is conceivable that an entire course may be effectively delivered through the implementation of a flipped classroom model. The students are actively involved in the process of acquiring conceptual knowledge. The students will be provided with different solutions to the challenges. The provision of individualised attention to pupils within the classroom setting is expected to positively impact their learning outcomes(**Manonmani & Rangaswamy, 2016**).

## **Effect of Flipped Classroom Model in Economics**

Numerous students encounter difficulties when attempting to grasp the concepts of economics, prompting educators to employ information and communication technology as a means to provide economics lessons in a contemporary and captivating fashion. Higher education institutions have witnessed the emergence of global trends that promote a more inclusive blended learning approach, characterised by the utilisation of digital pedagogies to enhance and expedite student learning. These trends have been observed since the late 2000s (Micheal & Wyk, 2018). Technology is employed in diverse manners to facilitate the instruction of economics. The variability in conceptual comprehension among individuals is well acknowledged, as it is evident that students do not universally grasp concepts in a uniform manner. The utilisation of educational technology facilitates individuals in establishing their own learning pace, so undeniably enhancing the quality of education and fostering a deeper understanding of various phenomena. The incorporation of novel technological advancements serves to enhance students' inclination towards acquiring knowledge in the field of economics, offers alternative pedagogical approaches, cultivates a mindset conducive to innovation, and facilitates the acquisition of skills related to information processing and presentation. Furthermore, the research examines the potential of technology to optimise instructional time by shifting direct instruction outside of the traditional classroom setting, so allowing for increased opportunities for student engagement and interaction during in-class sessions. Through the acknowledgement of students' educational requirements and the benefits associated with effective instruction, educators possess the ability to offer students avenues for critical thinking, collaborative discussion, active participation, introspection, and evaluation of subject matter through using technological resources. In the context of a flipped classroom, students engage in a pedagogical approach where they consume instructional films outside of the classroom setting, afterwards leveraging these acquired concepts to foster collaborative discussions with both their peers and instructor during in-class sessions. This interactive process is further reinforced by the completion of assignments and the provision of personalised guidance. The primary objective of this research is to provide assistance to secondary educators and stakeholders in the realm of secondary education. This will be achieved by deepening their comprehension of the effects that different learning and teaching methodologies have on the academic advancement of high school students in the topic of economics. The efficacy of the flipped classroom as a pedagogical strategy necessitates rigorous testing and study. Further research is required to examine and establish the suitability of using a blended learning strategy in the context of social science topics. The academic achievement achieved by these novel blended models must be critically examined in order to assess the practicality of their deployment.

### **Significance of the Study**

The utilisation of technology in contemporary educational settings has significantly transformed the manner in which instructional content is disseminated. When incorporating technology into the educational process, it is imperative to implement intelligent intervention. Regrettably, a significant portion of the time, the process shifted its focus towards a teacher-centered and teaching-centered approach. When examining the learning process, it is important to enhance the interactivity, bidirectionality, and productivity of courses by integrating pedagogical elements. The necessity for a

comprehensive approach capable of addressing these challenges becomes apparent. The flipped classroom model is an instructional approach in which learners engage in low order thinking abilities independently in their private space, with less help. Conversely, during group sessions in the classroom, learners focus on higher order thinking skills and receive guidance and assistance from the teacher. The current situation of economics education in the majority of schools necessitates a comprehensive overhaul, wherein both educators and students should receive training in utilising technology-enhanced, innovative flipped classrooms. Instead of relying on continuous teacher support, it is important for learners to cultivate autonomy in their learning process. In the current era of digital education, learner independent learning sessions are expected to have a significant presence in the learning environment. The investigator intends to enhance learner autonomy and academic accomplishment among students by implementing a flipped classroom paradigm for economics education.

## **Objective of the Study**

### **General Objectives**

The following are the general objectives of the present study.

- To find out the Effectiveness of Flipped Classroom model in teaching Economics among the Higher students of standard IX.
- In order to compare the Gain scores of both the Control group and the Experimental group within the cohort of ninth-grade students.

### **Specific Objectives**

The following specific objectives are framed considering the above main objectives and are.

1. To find out the significant difference if any, in the Achievement in economics between the Control group and the Experimental group students at the Pre-test level.
2. To find out the significant difference if any, in the Achievement in economics between the Control group and the Experimental group students at the Post - test level.
3. To find out the significant difference if any, in the Achievement in economics between the Pre - test and the Post - test of Control group students who were taught by Conventional teaching methods.
4. To find out the significant difference if any, in the Achievement in economics between the Pre-test and the Post-test of Experimental group students who were taught by the Flipped Classroom Strategies.
5. To find out the significant difference if any, in the gain score between the Post-test of Control and Experimental group students.

## **Hypotheses of study**

- 1) Ho 1: There is no significant difference between the mean of pre-test achievement scores of control group and experimental group.
- 2) Ho 2: There is no significant difference between the mean of post-test achievement scores of controls and experimental group.
- 3) Ho 3: There is no significant difference in mean pretest and post-test achievement scores of control group
- 4) Ho 4: There is no significant difference mean pretest and post-test achievement scores of experimental groups.
- 5) Ho 5: There is no significant difference the mean gain score of control and experimental group

## **Methodology**

The experimental design serves as a framework for the methodologies employed to test hypotheses and draw definitive findings regarding the associations between independent and dependent variables. The researcher made the decision to carry out this investigation utilising an experimental design that involved two distinct groups: a Pre-test and Post-test Experimental and Control group design. The researcher randomly selected a sample of 80 children from Jindal Vidya Mandir, located in the Ballari District of Karnataka, to participate in the study. The aforementioned individuals were enrolled in the academic discipline of Economics at Higher Secondary Level.

## **Sample of study**

The present study employed the Convenient Sampling technique to choose the sample. The researcher made the decision to gather data from a sample of 80 students studying at Jindal Vidya Mandir, located at the Ballari District in Karnataka. The entire sample has been divided into two groups, namely the control group and the experimental group, each consisting of 40 participants.

## **Tools used for the study**

- Lesson using Conventional Teaching Strategies
- Lesson using Flipped Classroom Strategies
- Achievement test in Economics, Post Test & Pre-Test

## **Statistical techniques used for the study**

Statistical techniques are employed to fulfil the primary objective of providing descriptive and inferential analysis. The study employed descriptive and differential analysis.

The present study employed descriptive analysis to examine the mean and standard deviation of the variables under investigation. Additionally, other analysis techniques, including the t-test for testing hypotheses, were utilised to investigate the research questions.

## Hypotheses testing

The hypotheses proposed for the current study were evaluated through the application of statistical techniques using SPSS.

**Table 1**

Mean difference of scores within and among groups

	Mean	N	SD	Std.Error Mean
Pre-Test - Control Group	6.85	40	2.537	.401
Pre-Test - Experimental	6.85	40	2.578	.408
Post Test - Experimental	29.93	40	7.502	1.186
Post Test -Control Group	21.40	40	5.022	.794
Post Test -Control Group	21.40	40	5.022	.794
Pre-Test-Control Group	6.85	40	2.537	.401
Post Test -Experimental	29.93	40	7.502	1.186
Pre-Test -Experimental	6.85	40	2.578	.408
Gain Score- Experimental	23.08	40	5.474	.866
Gain Score- Control Group	14.55	40	4.367	.691

**Table 2**

Standard Deviation & Significance difference between mean scores within and among groups

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre-Test-C - Pre-Test -E	.000	1.695	.268	-.542	.542	.000	39	1.000
Post Test -E - Post Test -C	8.525	6.555	1.037	6.428	10.622	8.225	39	.000
Post Test -C - Pre-Test-C	14.550	4.367	.691	13.153	15.947	21.070	39	.000
Post Test -E - Pre-Test -E	23.075	5.474	.866	21.324	24.826	26.659	39	.000
E Gain Score – C Gain Score	8.525	6.349	1.004	6.495	10.555	8.492	39	.000

Table 2 shows that there is a 0.000 mean difference in pre-test scores between the experimental and control groups. The calculated p-value of 1.000 is more than the predefined significance level of 0.05, meaning that there is not enough data to draw the conclusion that the pretest scores of the experimental and control groups differed statistically significantly. Consequently, the null hypothesis (Ho 1) is accepted in this instance.

The experimental group and the control group had a mean difference in post-test scores of 8.525, based on the data shown in Table 2. The p-value of.000 that was achieved is below the pre-established significance level of 0.05, signifying a statistically significant variation in the post-test scores between the experimental and control groups. The null hypothesis (Ho 2) is thus disproved.

The mean difference between the Control group's pre- and post-test scores is 14.550, based on the data shown in Table 2. Because the resulting p-value of.000 is less than the conventional threshold of 0.05, it suggests statistical significance. This implies that the control group's pretest and posttest scores differ significantly from one another. Consequently, it is decided that the null hypothesis (Ho 3) is Rejected.

Table 2 shows that there is an average difference of 23.075 between the experimental group's pre- and post-test scores. The experimental groups' pretest and posttest scores differed statistically significantly, as evidenced by the resulting p-value of.000, which is less than the predefined significance level of 0.05. The null hypothesis (Ho 4) is thus disproved.

The results shown in Table 2 indicates that there is an 8.25 mean difference in gain scores between the experimental and control groups. The p-value of.000 that was achieved is below the pre-established significance level of 0.05, signifying a statistically significant variation in the gain score between the experimental and control groups. The null hypothesis (Ho 5) is thus disproved.

### **Findings of study**

- The effectiveness of the flipped classroom Approach in improving achievement in economics among senior secondary students is favourable.
- There is a lack of statistically significant distinction observed in the mean pre-test achievement scores between the control group and the experimental group.
- There exists a notable disparity in the average post-test achievement scores between the control and experimental groups.
- There exists a notable disparity in the average pretest and post-test achievement scores seen within the control group.
- There exists a notable disparity between the mean pretest and post-test achievement scores of the experimental groups.
- There exists a notable disparity in the average gain score between the control and experimental groups.

### **Conclusion**

The Study tried to find effect of flipped classroom model in enhancing academic achievement in economics among Senior secondary students. From the data collected and statistically analysed, it is evident to understand that there is a positive effect of flipped classroom model on enhancing academic achievement in economics among Senior Secondary students.



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