IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

The Role Of Flipped Learning In Enhancing Academic Achievement For Prospective Teachers

Dr.Kalyani.K

Guest Faculty,Department of Education

Bangalore University, Bangalore

Abstract

The flipped learning model is an effective pedagogical model that can create more engagement in learners. In this study, 100 Prospective Teachers were selected from a Teacher Training Institute. Fifty student teachers were randomly assigned as the control and the rest as the experimental group. The researcher priory chose a topic related to educational psychology to conduct—a flipped class conducted with self-prepared audio, video and e-text materials. The in-class activities were performed using the online tool Kahoot to create effective classroom interaction. A Randomised Post-test control group design adapted, finally achievement test conducted. The result revealed Flipped learning model effectively teaches Prospective Teachers educational psychology subjects compared to traditional methods.

Keywords: Flipped Classroom, Kahoot, Achievement and Prospective Teachers.

Introduction

In the higher education sector, there has been a growing demand for more flexible, practical, and engaging teaching methods that address the limitations of traditional lecture-based learning. One innovative approach that has gained traction is the flipped classroom model. Although research on flipped classrooms in higher education is still emerging, understanding student perspectives on this method is crucial.

The flipped classroom shifts direct instruction from a group setting to a personalized learning environment, fostering a more dynamic and interactive educational experience. In this model, educators guide students as they apply concepts and engage creatively with the subject matter throughout the course.

Driven by technological advancements and increasing demands on higher education, there is a clear movement toward flexible, blended, and student-centered learning practices. These approaches aim to overcome the shortcomings of traditional teaching methods (Bettihavas et al., 2016). The rise of flipped

classroom proposals aligns with this trend, offering a way to promote active learning and utilize classroom time for higher-level engagement based on Bloom's taxonomy.

In a flipped classroom, the typical structure of a class is inverted. Instead of attending a lecture and then tackling problems at home, students first engage with study materials outside of class often through videos or readings. During class time, they focus on applying what they've learned through problem-solving, analysis, and discussion. Proponents of this model argue that flipping the teaching and learning process has numerous benefits: it allows students to learn at their own pace, encourages active participation, enhances teacher-student interaction, and empowers students to take control of their learning (Gubbiyappa et al., 2016).

Traditional learning often emphasizes basic cognitive tasks like memorization and comprehension, which typically occur outside the classroom. In contrast, the flipped classroom enables students to complete these foundational tasks beforehand, allowing them to engage in higher-level cognitive activities during class with their peers and instructors.

Flipped classrooms represent a form of blended learning. Instructors create materials such as instructional videos that students watch at home, reserving class time for active learning exercises. These can include quizzes, group work, debates, self-reflection, and case studies, which allow teachers to spend more time interacting with students and facilitate higher-level application projects. This approach not only enhances academic performance but also encourages students to explore their attitudes and beliefs, motivating them to gain knowledge and relevant skills through interaction and reflection.

There are various audience response system tools available for implementing these interactive methods, ranging from premium to freemium options. Examples include Slido, Mentimeter, Kahoot, Poll Everywhere, Zoho, vevox ,and word cloud tools. For this study, "Kahoot" was selected as the audience response system to engage learners effectively. With Kahoot, students can interact with the facilitator and respond to questions, enhancing their involvement in the learning process.

This paper focuses on the flipped classroom model and highlights how the integration of Kahoot has proven beneficial and successful in engaging students in the Bachelor of Education (B.Ed) course.

Statement of the Problem

" **The Role of Flipped Learning in Enhancing Academic Achievement for Prospective Teachers**."

Objectives of the Study:

- To compare the effectiveness of flipped class model and traditional method on achievement of Prospective Teachers .
- To find the difference between the achievement of Prospective Teachers based on Gender and Medium of Instruction learnt through Flipped Classroom Model.

Hypotheses of the Study:

- There is no significant difference in achievement of experimental and control group Prospective Teachers
- There is no significant difference in achievement of male, female Prospective Teachers between experimental group and control group
- There is no significant difference in Kannada and English medium Prospective Teachers ' achievement between experimental and control groups.

Variables of the Study:

Independent Variable:

- Kahoot App based Flipped learning

Dependent Variable:

- Academic Achievement

Moderate Variables:

- Gender(Male/Female)
- Medium of Instruction (English/Kannada)

Research Method: Randomised Subjects, Post-Test only Control Group Design

Sample of the Study

The sample of the study consisted of 100 Prospective Teachers ' studying first semester from Bangalore District. The sample selected through a random sampling technique that included both male and female Prospective Teachers .

Groups	Pre-Test	Treatment	Post-Test
Experimental	-	X	Y_2
Control	-	-	Y_2

Distribution of the sample

Group	Gender		Total	Medium of Instruction		Total
	Male	Female		English	Kannada	
Control	21	29	50	25	25	50
Experimental	25	25	50	25	25	50
Total	46	54	100	50	50	100

Tool used in the study

- The researcher made Achievement test

Data Analysis and Interpretation

Null Hypothesis 1

There is no significant difference between the mean scores in achievement of experimental and control groups Prospective Teachers

Table - 1

Table showing the size (N), Mean (M), Standard Deviation (SD), and 't' values of achievement of Experimental and Control group Prospective Teachers

Variable	N	M	SD	t	Sig
Experimental Group	50	19.22	2.930	9.629	**
Control Group	50	13.60	2.907		

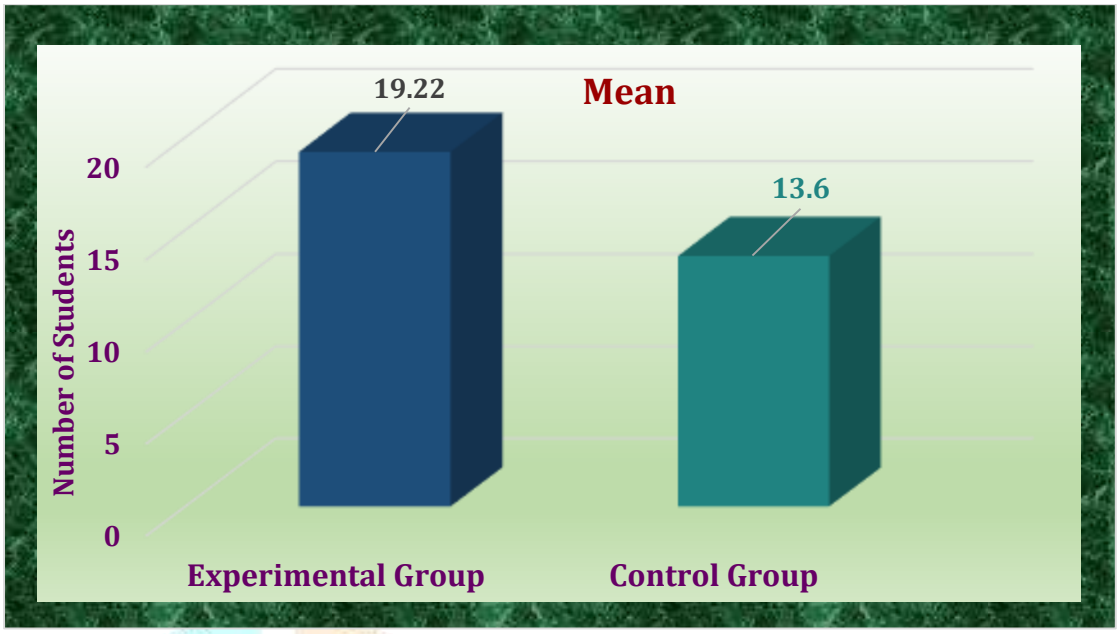
**Significant at 0.01 level

From table 1, we can reveal that the obtained 't' Value 9.629 is greater than the table value 2.626 (df=98) at 0.01 level of significance. Hence the null hypothesis is rejected, and an alternate hypothesis is formulated that there is a significant difference between the mean scores of in achievement of experimental and control groups Prospective Teachers

Further, the table also reveals that the mean score in achievement of the experimental group (M=19.22) is higher than the mean score in the achievement of the control group (M=13.60) Prospective Teachers . This indicates that the intervention applied to the experimental group has led to a statistically significant improvement in academic achievement compared to the control group.

Graph – 1

Bar graph displays the mean scores in achievement Experimental and Control group Prospective Teachers.



.

Null Hypothesis 2

There is no significant difference on achievement of male and female Prospective Teachers between experimental group and the control group.

Table – 2

Table Showing size of the sample, Means, standard Deviation and 't' values of achievement scores between control and experimental group.

Group		N	Mean	SD	t	Sig
Male	Experimental	25	18.36	2.307	6.775	**
	Controlled	21	13.05	3.008		
Female	Experimental	25	20.08	3.265	7.349	**
	Controlled	29	14.00	2.186		

**Significant at 0.01 level

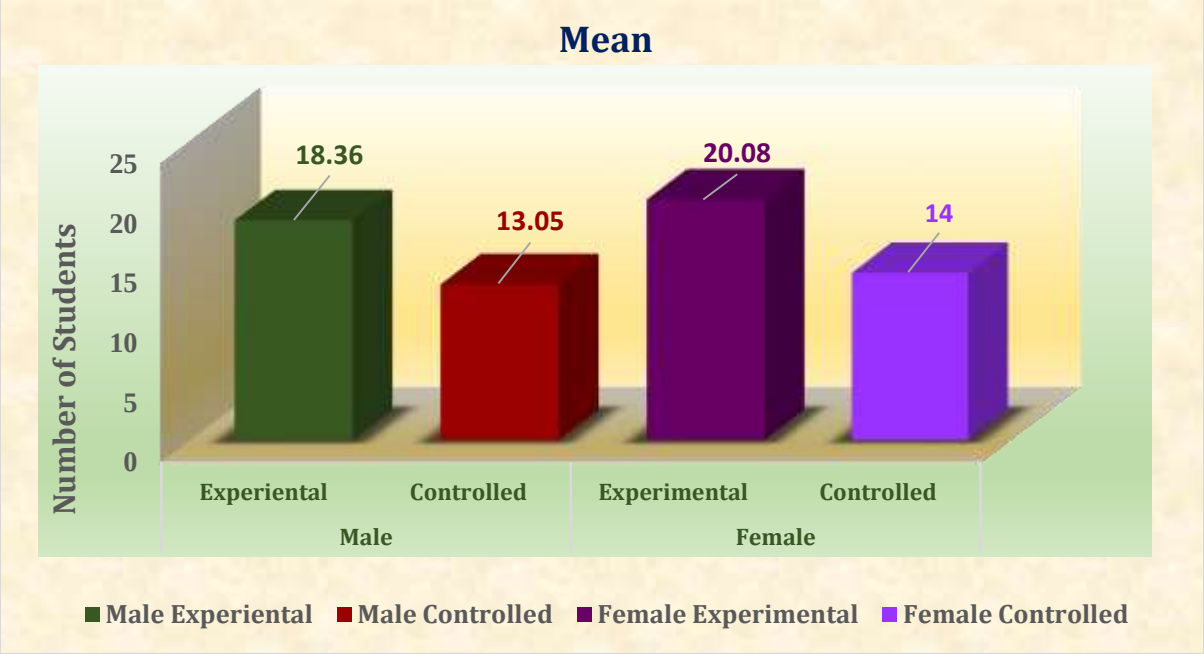
The results in Table 2 reveals that the 't' values for both male (t = 6.775) and female (t = 7.349) groups exceed the critical values (t = 2.690 for males, df = 44; t = 2.678 for females, df = 52) at the 0.01 level of significance. Therefore, the null hypothesis is rejected, indicating a significant difference in achievement scores between the experimental and control groups for both male and female prospective teachers.

Further, the data reveals that male prospective teachers in the experimental group (M = 18.36) achieved higher scores than those in the control group (M = 13.05), indicating a significant improvement in the experimental group. Similarly, female prospective teachers in the experimental group (M = 20.08)

outperformed those in the control group (M = 14.00), suggesting that the intervention had a substantial positive impact on their achievement.

Graph-2

Comparison of Mean Scores Between Experimental and Controlled Groups by Gender



Null Hypothesis 3

There is no significant difference in Kannada and English medium Prospective Teachers ' achievement between experimental and control groups.

Table – 3

Table Showing size of the sample, Means, standard Deviation and 't' values of achievement scores between Kannada and English medium of control and experimental group.

Group		N	Mean	SD	t	Sig
Kannada	Experimental	25	19.82	2.560	6.906	**
	Controlled	25	15.64	2.652		
English	Experimental	25	20.61	2.764	5.684	**
	Controlled	25	16.27	2.657		

**Significant at 0.01 level

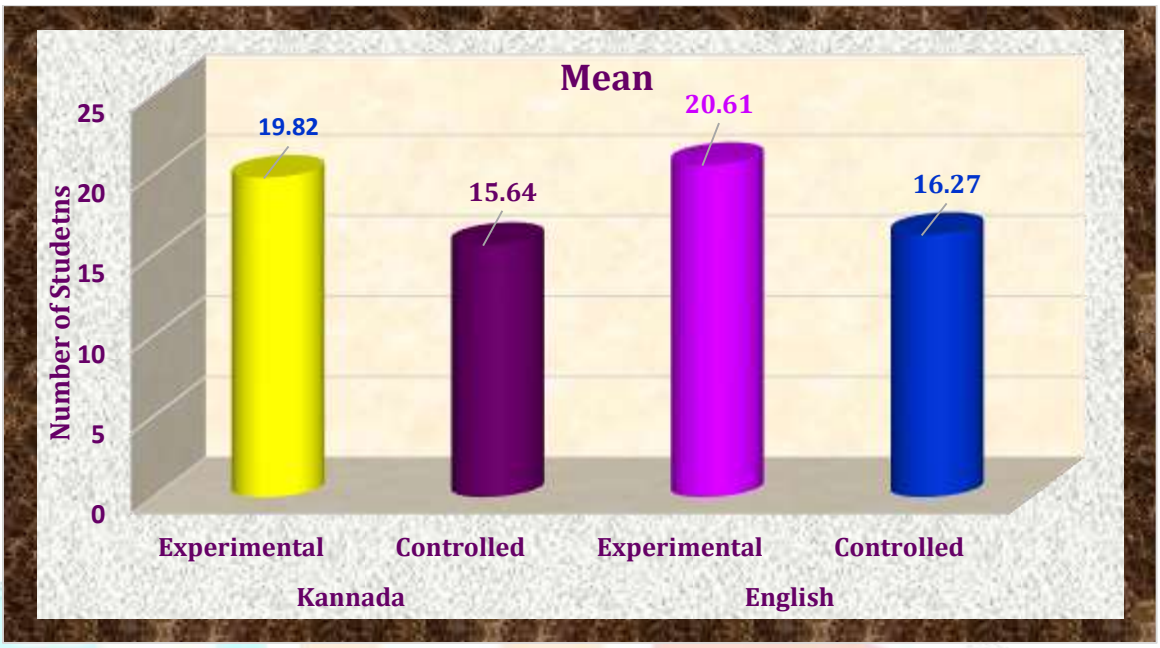
From table 3, we can reveal that the obtained 't' Value 6.906 and 5.684 is greater than the table value 2.678 (df=48) at 0.01 level of significance. Hence, the null hypothesis is rejected. An alternate hypothesis is formulated that there is a significant difference in Kannada and English medium Prospective Teachers ' achievement between experimental and control groups.

The data further indicated that Kannada medium prospective teachers in the experimental group (M = 19.82) scored higher on achievement than those in the control group (M = 15.64), demonstrating that the intervention led to significant improvement. Similarly, English medium prospective teachers in the experimental group (M = 20.61) achieved higher scores than their counterparts in the control group (M =

16.27), confirming the effectiveness of the experimental treatment in enhancing achievement across different mediums of instruction.

Graph-3

Comparison of Mean Scores Between Experimental and Controlled Groups by Medium of Instruction



Educational Implications

The findings indicated that students experienced an improvement in their achievement through the flipped classroom model. This conclusion is supported by a study conducted by Love, Hodge, Grandgenett, and Swift (2014), which found that students using the flipped classroom approach achieved higher results compared to those who learned through traditional methods. Additionally, according to Jalal Nouri (2016), teachers generally have a positive view of the flipped classroom model. The primary reasons cited for this appreciation include students' enjoyment of learning through video materials, the ability to study at their own pace, the flexibility and convenience provided by accessible video lectures, and the overall effectiveness and ease of learning within the flipped classroom framework.

The study also found that both male and female prospective teachers in the experimental group outperformed those in the control group. The flipped classroom model proved effective not only in helping students meet learning objectives but also in more effectively engaging them with the course content. In-class activities utilizing Kahoot were designed to be more student-centered, interactive, and collaborative. This model allowed students to work independently at their own pace and in their preferred environment, and the option to watch and re-watch video lesson materials was particularly beneficial.

It was found that both Kannada and English medium students in the experimental group had higher performance than those in the control group. This improvement can be attributed to the in-class activities that are a key component of the flipped classroom model. The use of Kahoot software for these activities fostered teamwork and involved real-life problems, allowing participants to see themselves as active learners. The results suggest that collaborative processes are crucial for enhancing achievement. It is

believed that equal opportunities, a conducive environment for effective discussions, and the cooperation fostered in problem-solving among pre-service teachers facilitated valuable peer learning experiences.

The recent changes in education have greatly increased the importance of online learning. However, when we look at teaching methods, hybrid models like flipped classrooms bring significant advantages for both general education and teacher training. These models effectively blend the convenience of online learning with the interactive and collaborative benefits of face-to-face instruction, which can lead to better educational outcomes and more effective teacher preparation. By harnessing the strengths of both online and in-person learning, hybrid approaches can create a richer and more engaging learning experience for students.

References

- Barseghian, T. (2011, February 5). Three trends that define the future of teaching and learning. *KQED*. Retrieved from https://www.kqed.org
- Betihavas, V., Bridgman, H., Kornhaber, R., & Cross, M. (2016). The evidence for 'flipping out': A systematic review of the flipped classroom in nursing education. *Nurse Education Today, 38*, 15–21. https://doi.org/10.1016/j.nedt.2015.12.010
- Cabı, E. (2018). The impact of the flipped classroom model on students' academic achievement. *The International Review of Research in Open and Distributed Learning, 19*(3). https://doi.org/10.19173/irrodl.v19i3.3482
- Debbağ, M., & Yıldız, S. (2021). Effect of the flipped classroom model on academic achievement and motivation in teacher education. Education and Information Technologies, 26, 3057–3076. https://doi.org/10.1007/s10639-020-10395-x
- EDUCAUSE. (2012). Things you should know about flipped classrooms. Retrieved from http://creativecommons.org/licenses/by-nc-nd/3.0/educause.edu/eli
- Flipped Learning Network. (2014). What is a flipped learning? Retrieved from http://fln.schoolwires.net/cms/lib07/VA01923112/Centricity/Domain/46/FLIP_handout_FNL_Web.pdf
- Gubbiyappa, K. S., Barua, A., Das, B., Vasudeva Murthy, C. R., & Baloch, H. Z. (2016). Effectiveness of flipped classroom with Poll Everywhere as a teaching-learning method for pharmacy students. Indian Journal of Pharmacology, 48(Suppl 1), S41–S46. https://doi.org/10.4103/0253-7613.193313
- Johnson, L., & Renner, J. (2012). Effect of the flipped classroom model on secondary computer applications course: Student and teacher perceptions, questions and student achievement (Doctoral dissertation, University of Louisville).
- Krathwohl, D. R. (2002). A revision of Bloom's taxonomy: An overview. Theory Into Practice, 41(4), 212–218. https://doi.org/10.1207/s15430421tip4104_2

- Låg, T., & Sæle, R. G. (2019). Does the flipped classroom improve student learning and satisfaction? A systematic review and meta-analysis. AERA Open, 5(3). https://doi.org/10.1177/2332858419870489
- Naik, M. (2023). Assessing the effectiveness of flipped classroom strategy on student performance. European Chemical Bulletin, 12, 2883-2896.
- Tucker, B. (2012). The flipped classroom. Education Next, 12(1), 82-83.