

## **Inferential Analysis Of The Moodle Based Flipped Learning On Achievement In Educational Psychology**

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### **ABSTRACT**

Technology in Education is the buzz word in the present day. A lot of technological innovations have happened in the field of education. With these new innovations applied, education has reached the next level. One such innovation is MOODLE based flipped learning. This study aims at studying the effectiveness of MOODLE based flipped learning on achievement in educational psychology. The sample selected for the study includes 99 B.Ed. students. Experimental method of research was used to study the effectiveness. The design used for the study is ‘the pre-test post-test equivalent group design’. Findings of the study revealed that there is significant difference between experimental and control group B.Ed. students on achievement in educational psychology.

**Keywords** – MOODLE, Flipped Learning, B.Ed. students

### **Introduction**

MOODLE is a learning management system which has been introduced into education in the recent days. With an objective to introduce innovation in education, MOODLE has been introduced in education. Flipped learning is yet another innovative technique of teaching that has been introduced to take a classroom away from the normal chalk and talk traditional method. With these two innovations, education is sure to reach new heights.

### **Statement of the Problem**

The investigator has selected the present study with the aim to find out the inferential analysis of MOODLE based flipped learning on educational psychology among B.Ed. Students. Therefore, it has been entitled as “INFERENTIAL ANALYSIS OF THE MOODLE BASED FLIPPED LEARNING ON ACHIEVEMENT IN EDUCATIONAL PSYCHOLOGY”.

### **Objectives of the Study**

Following are the objectives of the study.

- ✓ To find out the effectiveness of MOODLE based flipped learning on achievement in educational psychology among B.Ed. Students.
- ✓ To find out the significant difference of MOODLE based flipped learning on achievement in educational psychology among B.Ed. Students based on various sub-groups of the sample selected for the study.

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## Hypotheses of the Study

The following are the hypotheses of the present study

1. There is no significant difference between the experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in the mean scores of pre-test in educational psychology.
2. There is no significant difference between the experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in the post-test scores in educational psychology.
3. There is no significant difference in the post test scores of experimental group MOODLE based flipped learning) B.Ed. students in educational psychology based on various sub-groups of the sample selected for the study.

## Methodology

Experimental method was used in the present study. The research design selected for the present study was 'the pre-test post-test equivalent group design'

### Sample

Random sampling method was used for the present study. 99 B.Ed students from Sivagangai District of Tamil Nadu were taken as a sample for the present study.

### Tool used for the Study

The tool constructed for the present study are as follows:

- Criterion test on educational psychology for B.Ed Students in the concept of Behavioural Theories of Learning.

## Data Analysis and Interpretation

### Hypothesis 1

There is no significant difference between the experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in the mean scores of pre-test in educational psychology.

**TABLE -SIGNIFICANCE OF DIFFERENCE IN THE PRE-TEST SCORES IN EDUCATIONAL PSYCHOLOGY BETWEEN EXPERIMENTAL (MOODLE BASED FLIPPED LEARNING) AND CONTROL (TRADITIONAL LEARNING) GROUP B.ED. STUDENTS**

Sub Variable	Test	Group	N	Mean	SD	't' value	df	Level of Significance
General	Pre-test	Experimental Group	49	24.16	2.90	0.491	1.98 for df of 97 at 0.05 level	Not Significant
		Control Group	50	24.26	2.32			

It is evident from the above table that the 't' value between the experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students on criterion pre-test is 0.491. It is less than the critical value of 1.98 for degrees of freedom of 97 at 0.05 level. It

is not significant. Hence, the null hypothesis stated as “There is no significant difference between the experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in the mean scores of pre-test in educational psychology” is accepted.

Hence, it is evident that the B.Ed. students from both experimental group (MOODLE based flipped learning) and control group (traditional learning) showed no difference in the pre-test scores. It is interpreted from the above finding that B.Ed. students belonging to both experimental group and control group have equal achievement in the pre-test scores. It further increases the credibility of the selected groups.

## Hypothesis 2

There is no significant difference between the experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in the post-test scores in educational psychology.

**TABLE -SIGNIFICANCE OF DIFFERENCE IN THE MEAN ACHIEVEMENT IN THE POST-TEST SCORES IN EDUCATIONAL PSYCHOLOGY BETWEEN EXPERIMENTAL (MOODLE BASED FLIPPED LEARNING) AND CONTROL (TRADITIONAL LEARNING) GROUP B.ED. STUDENTS**

Sub Variable	Test	Group	N	Mean	SD	‘t’ value	df	Level of Significance
General	Post-test	Experimental Group	49	43.18	2.69	12.690	1.98 for df of 97 at 0.05 level	Significant
		Control Group	50	35.16	3.54			

It is evident from the above table that the ‘t’ value between control group and experimental group students on criterion post-test is 12.690. It is greater than the critical value of 1.98 for degrees of freedom of 97 at 0.05 level. It is significant. Hence, the null hypothesis stated as “There is no significant difference between experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in post-test scores in educational psychology” is rejected. The mean value of experimental group students is 43.18 with standard deviation 2.69 and the mean value of control group students is 35.16 with standard deviation 3.54. The mean value of experimental group students is higher than the control group students. It can be inferred that the experimental group B.Ed. students have performed better than control group B.Ed. students in the post-test scores. It means that the treatment of flipped learning has had a positive effect on B.Ed. students’ achievement in educational psychology.

It is further drawn from the above findings that MOODLE based flipped learning on has had a good effect on the achievement of B.Ed. students in educational psychology.

## Hypothesis 3

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There is no significant difference between experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in the post-test scores in educational psychology based on various sub-groups of the sample selected for the study

**TABLE -SIGNIFICANCE OF DIFFERENCE IN THE MEAN ACHIEVEMENT IN THE POST-TEST SCORES IN EDUCATIONAL PSYCHOLOGY BETWEEN EXPERIMENTAL (MOODLE BASED FLIPPED LEARNING) AND CONTROL (TRADITIONAL LEARNING) GROUP B.ED. STUDENTS BASED ON VARIOUS SUB-GROUPS OF THE SAMPLE SELECTED FOR THE STUDY**

<b>Sub Variable</b>	<b>Test</b>	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>'t' value</b>	<b>df</b>	<b>Level of Significance</b>
Male B.Ed. Students	Post-test	Experimental Group	13	43.15	2.23	6.481	2.074 for df of 22 at 0.05 level	Significant
		Control Group	11	35	3.63			
Female B.Ed. Students	Post-test	Experimental Group	36	43.19	2.87	10.749	1.98 for df of 73 at 0.05 level	Significant
		Control Group	39	35.21	3.56			
Rural Area	Post-test	Experimental Group	21	43.05	2.58	9.391	2 for df of 48 at 0.05 level	Significant
		Control Group	29	34.90	3.56			
Urban Area	Post-test	Experimental Group	28	43.29	2.81	8.248	2 for df of 48 at 0.05 level	Significant
		Control Group	21	35.52	3.56			
Mobile usage per day as below 3 hours	Post-test	Experimental Group	16	34.13	3.69	6.758	2.048 for df of 28 at 0.05 level	Significant
		Control Group	14	42.29	2.92			
Internet usage as below	Post-	Experimental Group	23	43.17	2.96		2 for df of 47 at	

03hours	test	Control Group	26	35.81	3.78	7.627	0.05 level	Significant
Good internet speed	Post-test	Experimental Group	17	42.82	2.67	8.300	2 for df of 34 at 0.05 level	Significant
		Control Group	19	35.57	2.55			

It is evident from the above table that the 't' value between control group and experimental group B.Ed. students on criterion post-test is greater than the critical value at 0.05 level. It is significant. Hence, the null hypothesis stated as "There is no significant difference between experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in the post-test scores in educational psychology based on various sub-groups of the sample selected for the study" is rejected.. It can be inferred that the B.Ed. students in experimental group have performed better than the B.Ed. students in control group in the post-test scores. It means that the treatment of MOODLE based flipped learning has had a positive effect on the achievement in educational psychology of B.Ed. students.

### Findings of the Study

Following are the findings of the present study.

1. There is no significant difference between the experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in the mean scores of pre-test. B.Ed. students from both experimental group (MOODLE based flipped learning) and control group (traditional learning) showed no difference in the pre-test scores. It is found that B.Ed. students belonging to both experimental group and control group have given equal performance in the pre-test scores.
2. There is significant difference between the experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in the post-test scores in educational psychology. MOODLE based flipped learning on has had a good effect on the achievement of experimental group (MOODLE based flipped learning) B.Ed. students in educational psychology.
3. There is significant difference between experimental group (MOODLE based flipped learning) and control group (traditional learning) B.Ed. students in their post-test scores in educational psychology in terms of various sub-groups of the sample selected for the study. The experimental group B.Ed. students have scored better than the control group B.Ed. students as it is evident from the post-test scores in educational psychology. The following variables in experimental group have showed better performance than their counterparts in control group.
  - i. Male
  - ii. Female
  - iii. Rural area
  - iv. Urban area

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- v. Mobile usage as below 3 hours
- vi. Internet usage as below 3 hours
- vii. Good internet speed

### Conclusion

Technology has become the integral part of education. It is with technology several milestones have been laid in the system of education. Out of hundreds of technological innovations, MOODLE was implemented to B.Ed student to study the effectiveness of flipped learning. MOODLE based flipped learning has proved to be effective over the traditional chalk and talk method. Innovations inside the classroom will help students to reach maximum height. Technology can be well utilised so that the students are more interested towards learning.

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