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STUDY OF THE EFFECTIVENESS OF BLENDED LEARNING METHOD

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Abstract

Education is a dynamic process; the teacher plays an important role in maintaining the continuity of its dynamism. The teaching process affects the learning ability of students. Students' understanding develops through Blended Learning. In the presented research, the effectiveness of the Blended Learning method has been studied by forming experimental and control groups of 40-40 students of class 8th. Only the experimental group was taught through blended method. Data were obtained through statistical calculations by administering a self-made academic achievement test and a questionnaire on interest in studying science. On the basis of calculations, it was found that Blended Learning method has a positive effect on the learning ability of students. Therefore, by using this method students' interest in the subject can be developed.

Keywords: *Learning, Traditional Method of learning, Blended Learning.*

Introduction

Education is a process which helps in the harmonious natural development of man's innate powers and leads to his all-round development; helps them to establish harmony with their environment.

In Blended Learning method, both the teacher and the students remain active in classroom teaching. Being active, it increases children's interest in reading, children appear happy and they have more curiosity towards learning. Children are eager to solve their problems from teachers without hesitation. Imagination and creativity increase in children

through Blended Learning. Children develop the habit of learning together; hence it is important to be active and assess the effectiveness of the learning method.

Research Objectives

The objectives of the research are as follows:

1. To find out the effect of Blended Learning method on the academic achievement of students.
2. To know the impact of Blended Learning method on students' interest in the subject.

Hypotheses

The hypotheses of the presented research are as follows:

1. No significant difference will be found in the educational achievement of the experimental and control group in the pre-test.
2. In the post-test, a significant difference will be found in the educational achievement of the experimental and control group.
3. No significant difference will be found in the educational achievement of the control group in pre-test and post-test.
4. A significant difference will be found in the educational achievement of the experimental group in pre-test and post-test.
5. Students' interest in the subject will develop through Blended Learning method.

Research Method- Experimental method has been used in this study.

Sample and Sampling- In the presented study, an upper primary school of Patna Sadar Block of Patna district was selected through Random Sampling method. 80 students of class 8th of this school were selected through purposive sampling method and two equal groups of them, experimental and control, were formed.

Tool- In the presented research study, the following instruments were used to collect data-

1. Self-Made Educational Achievement Test of Class 8^{th} in Subject- Science on Unit- Metals and Non-metals, Air, Electric Current.
2. Lesson plans based on the method of learning by being blended- To explain the above units, blended method was used in the classroom teaching process with the participation of children.

Variable- In the presented research, the variables have been classified as follows-

Independent Variable: Method of blended learning.

Dependent Variables: Effectiveness of learning – (a) Academic achievement (b) Attendance (c) Interest towards the subject.

Co-variable – Group – (1) Students of experimental group (2) Students of control group.

Statistical Analysis- For statistical analysis in the presented research, mean, standard deviation, significance of difference in mean (t value) were calculated.

Hypothesis No. 01

In the pre-test, no significant difference will be found in the academic achievement of the students of experimental and control group.

Table No. 01

Significance of marks obtained in pre-test in academic achievement of students of experimental and control group.

S. No.	Descriptions	No. of Students	Value of Test Score				Significance level
			Mean	SD	df	t	
1	Experimental	40	18.25	1.78	78	1.92	Significant on 0.01
2	Control group	40	17.48	1.86			Significance level

The mean of educational achievement of students of experimental and control group was found to be 18.25 and 17.48 respectively, standard deviation was found to be 1.78 and 1.86 respectively and t value was found to be 1.92. This value is less than the value of 2.58 obtained at 78 df and 0.01 confidence level. Therefore, from the results obtained from the test, it is known that there is no significant difference in the educational achievement of the students of experimental and control group in the context of pre-test. Hence hypothesis number-01 is accepted.

Hypothesis Number-02

In the post-test, a significant difference will be found in the educational achievement of the students of experimental and control group.

Table Number-02

Significance of marks obtained in post-test in academic achievement of students of experimental and control group.

S. No.	Descriptions	No. of Students	Value of Test Score				Significance level
			Mean	SD	df	t	
1	Experimental	40	28.025	2.04	78	22.73	Significant on 0.01
2	Control group	40	18.225	1.80			Significance level

The mean of educational achievement of students of experimental and control group was found to be 28.025 and 18.225 respectively, standard deviation was 2.04 and 1.80 and t value was 22.73. This value is greater than the value of 2.58 obtained at 78 df and 0.01 confidence level. Hence, from the findings obtained from the test, it is known that there is a significant difference in the educational achievement of the students of experimental and control group in the post-test. Hence, hypothesis number-02 is confirmed.

Hypothesis Number-03

No significant difference will be found in the educational achievement of the control group in pre-test and post-test.

Table Number-03

Significance of marks obtained in pre-test and post-test in educational achievement of students of control group.

S. No.	Descriptions	No. of Students	Value of Test Score				Significance level
			Mean	SD	df	t	
1	Experimental	40	17.48	1.86	78	1.82	Not Significant on 0.01 Significance level
2	Control group	40	18.225	1.80			

The mean of pre- and post-test achievement test scores of the control group was found to be 17.48 and 18.225 respectively, standard deviation was 1.86 and 1.80 and t value was 1.82. This is less than the table value of 2.58 at 78 df and 0.01 confidence level. That is, there is no significant difference in the educational achievement of the students of the control group in terms of pre-test and post-test. Hence hypothesis number-03 is confirmed.

Hypothesis Number-04

A significant difference will be found in the educational achievement of the experimental group in pre-test and post-test.

Table Number-04

Significance of the marks obtained in pre-test and post-test in the educational achievement of the experimental group.

S. No.	Descriptions	No. of Students	Value of Test Score				Significance level
			Mean	SD	df	t	
1	Experimental	40	18.25	1.77	78	22.83	Significant on 0.01 Significance level
2	Control group	40	28.025	2.04			

The mean of educational achievement of pre- and post-test of the experimental group was found to be 18.25 and 28.025 respectively, standard deviation was 1.77 and 2.04 and t value was 22.83. This value is more than the table value 2.58 at 78 df and 0.01 confidence level, that is, there is a significant difference in the educational achievement of the students of the control group in terms of pre-test and post-test. Hence hypothesis number-04 is confirmed.

Hypothesis Number-05

Students' interest in the subject will develop through Blended Learning method.

Table No. 05

Statistical table of interest scores of students towards the subject

S. No.	Descriptions	No. of Students	Value of Test Score				Significance level
			Mean	SD	df	t	
1	Experimental	40	18.95	1.44	78	11.70	Significant on 0.01
2	Control group	40	12.55	3.14			Significance level

The mean of interest of students of experimental and control group towards the subject was 18.95 and 12.55 respectively, standard deviation was 1.44 and 3.14, t value was 11.70. t value was 78 df and at 0.01 confidence level the table value was more than 2.58. Hence, there is a significant difference in the interest of both the groups. The interest of the students of the experimental group towards the subject has developed. Hence hypothesis number-05 is confirmed.

Conclusion

The following are the conclusions obtained from the statistical analysis of the data collected in the presented research study:

1. In the pre-test, no significant difference was found in the educational achievement of the experimental and control groups, that is, the achievement of both the groups is equal.
2. In the post-test, the educational achievement of the experimental group was found to be higher than the educational achievement of the control group.
3. No significant difference was found in the educational achievement of the control group in pre- and post-test.
4. In the post-test, the educational achievement of the experimental group was found to be higher than the educational achievement obtained in the pre-test.
5. The students of the experimental group developed interest in the subject through Blended Learning method.

Suggestion

Based on the research findings, the following suggestions are presented:

1. To increase educational achievement, classroom teaching process should be based on "Blended Learning method" in all schools.
2. Class work should be done by the students under the guidance of the teacher in "Blended Learning Method".
3. Groups of students should be formed in the class and children should discuss in groups and find the solution to the problem. Teachers should also participate in children's discussions.
4. Children should be given the opportunity to ask questions in the class.
5. Every child should be given an opportunity to experiment.
6. Children should be given opportunities to do project work, read books, reference books, newspapers etc.
7. Teachers should use teaching aids regularly and small activities should be conducted.
8. Continuous evaluation of students should be done.

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