



Effectiveness Of Blended Learning Strategy On The Achievement In Environmental Education Among B.Ed Trainees

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Abstract

The present study Viz., Effectiveness of Blended Learning Strategy on the achievement in Environmental Education among B.Ed trainees is an attempt to study the significant differences in Pre-test scores among the Traditional learning group, E- learning group and Blended learning group, to find out if there are any significant differences in Post-test scores among the Traditional learning group, E- learning group and Blended learning group, to find out if there are any significant differences between Pre-test and Post-test scores of Traditional learning group, E-learning group and Blended learning group, to find out if there are any significant differences in Percentage gain ratio scores among the Traditional learning group, E- learning group and Blended learning group. Mean, Standard Deviation and 't' test were calculated to test the hypotheses. The study reveals that there are no significant differences in Pre-test scores among the Traditional learning group, E- learning group and Blended learning group, there are significant differences in Post-test scores among the Traditional learning group, E- learning group and Blended learning group, there are significant differences between Pre-test and Post-test scores of Traditional learning group, E-learning group and Blended learning group and there are significant differences in Percentage gain ratio scores among the Traditional learning group, E- learning group and Blended learning group.

Key words: Blended learning group, E- learning group, and Traditional learning group.

1.0 Introduction

Blended learning is otherwise called as Hybrid Learning. It is a planned combination of online learning and face to face (F2F) instruction using a variety of learning resources. Blended learning is an educational format that integrates online learning techniques like online delivery of materials through web pages, discussion boards, and email with traditional teaching. The success of a blend depends on the right mix of the elements (online delivery, Interaction, face to face instruction etc.) A good blend would provide optimum role of lively interaction. As the present children are in a technological world, it is necessary to introduce drastic changes in learning process. With the help of these innovative technological teaching methods student teachers i.e. future teachers could shape the young minds of future society better. Implementing a blended learning model in our classroom can be a powerful method to more effectively personalize student learning. But diving into blended learning can be overwhelming, and it can be difficult even to decide where to start. First, it's important to understand exactly what blended learning and, by extension, personalized learning are, and how they relate. While there are a variety of definitions circulating in education technology spaces on these terms, we think these definitions are a good place to begin. Blended learning is an educational approach that has been used in pockets throughout our country's classrooms, but, as an all-encompassing methodology, there is lack. Providing education in a mixed media format of brick-and-mortar attendance with online learning guided by teacher facilitation has been a buzzword embraced by few, misunderstood by many, but the driving force of a new era in education. Some characteristics of a blended learning model include the

role of the teacher, physical location, personalization of the learning, and an online learning format. Hence the investigator has made an attempt to study the influence of Internet Surfing Behavior on the Effectiveness of Blended Learning Strategy among B.Ed trainees.

2.0 Objective of the study

The following objective is stated for the present study

1. To find out if there are any significant differences in Pre-test scores among the Traditional learning group, E- learning group and Blended learning group.
2. To find out if there are any significant differences in Post-test scores among the Traditional learning group, E- learning group and Blended learning group.
3. To find out if there are any significant differences between Pre-test and Post-test scores of Traditional learning group, E-learning group and Blended learning group.
4. To find out if there are any significant differences in Percentage gain ratio scores among the Traditional learning group, E- learning group and Blended learning group.

3.0 Hypotheses of the study

The following hypotheses are stated for the present study

1. There are no significant differences in Pre-test scores among the Traditional learning group, E-learning group and Blended learning group.
2. There are no significant differences in Post-test scores among the Traditional learning group, E-learning group and Blended learning group.
3. There are no significant differences between Pre-test and Post-test scores of Traditional learning group, E-learning group and Blended learning group.
4. There are no significant differences in Percentage gain ratio scores among the Traditional learning group, E- learning group and Blended learning group.

4.0 Methodology

For the present study, the researcher followed the Quasi-Experimental method. The Pre-test and Post-test quasi experimental design was adopted by the investigator. The Blended learning group was taught using blended learning strategy. The total samples for the present study consisted of 99 students from three Colleges of Education. Thirty three B,Ed trainees were selected from each College of Education in Chengalpattu District. Then random selection method was applied to choose the samples in each group and thirty three students were selected from each group by random sampling.

5.0 Results and discussion

Hypothesis – 1

There are no significant differences in Pre-test scores among the Traditional learning group, E-learning group and Blended learning group.

Table 1

**Differences among Pre-test Scores of Traditional Learning Group,
E- Learning Group and Blended Learning Group**

Variable	Group	Mean	SD	'F' Value	Level of Significance
Pre-test Scores	Traditional Learning Group	28.636	3.172	0.320	N.S.
	E-Learning Group	28.758	3.286		
	Blended Learning Group	29.242	3.307		

From the table it is clear that the calculated 'F'- value (0.320) is less than the table value (3.09) at 0.05 level is not significant. Hence, the null hypothesis that "There is no significant difference in Pre-test scores among the Traditional learning group, E- learning group and Blended learning group" is **accepted**. Thus, there are no significant differences in Pre-test scores among the Traditional learning group, E- learning group and Blended learning group.

Hypothesis –2

There are no significant differences in Post-test scores among the Traditional learning group, E- learning group and Blended learning group.

Table 2

Differences among Post-test Scores of Traditional Learning Group, E- Learning Group and Blended Learning Group

Variable	Group	Mean	SD	'F' Value	Level of Significance
Post-test Scores	Traditional Learning Group	30.939a	3.152	83.088**	Sig.
	E-Learning Group	36.333b	3.764		
	Blended Learning Group	40.364c	2.977		

** denotes significant at 1 % level

* Denotes significant at 5 % level

Different alphabets between variables denote significant at 5 % level using DMRT

From the table it is clear that the calculated 'F'- value (83.088) is greater than the table value (4.82) at 0.01 level of significance. Hence, the null hypothesis that "There are no significant differences in Post-test scores among the Traditional learning group, E- learning group and Blended learning group" is **rejected**. Based on Duncan's Multiple Range Test analysis, the student trainees in the Traditional Learning Group, E-Learning Group and Blended Learning Group significantly differ with each other. The Blended Learning Group student trainees have scored high marks in the Post-test (40.364) followed by the E-Learning Group (36.333) and Traditional Learning Group (30.939) respectively.

Hypothesis –3

There are no significant differences between Pre-test and Post-test scores of Traditional learning group, E-learning group and Blended learning group.

Table 3

Differences between Pre-test and Post-test Scores of Traditional Learning Group, E-Learning Group and Blended Learning Group

Group	Pre-test		Post-test		't' Value	Level of Significance
	Mean	SD	Mean	SD		
Traditional Learning Group	28.636	3.172	30.424	3.491	2.030*	Sig.
E-Learning Group	28.758	3.286	34.606	2.936	7.781*	Sig.
Blended Learning Group	29.242	3.307	40.364	2.977	14.356*	Sig.

** denotes significant at 1 % level

* Denotes significant at 5 % level

Traditional Learning Group

Since, the calculated 't'- value (2.030) is greater than the table value (2.03) at 0.05 level of significance. The Post-test means score (30.424) is higher than Pre-test scores (28.636) of Traditional learning group. Hence the null hypothesis that "There is no significant difference between Pre-test and Post-test scores of E-learning group" is rejected. Thus, there is significant difference between Pre-test and Post-test scores of Traditional learning group. The mean values indicate that the treatment of teaching through traditional strategy given to Traditional group led to better test scores on achievement in Environmental Education.

E-Learning Group

Since, the calculated 't'- value (7.781) is greater than the table value (2.72) at 0.01 level of significance. The Post-test means score (34.606) is higher than Pre-test scores (28.758) of E-learning group. So, it is inferred that the B.Ed. trainees belonging to E-learning group gained more marks in the Post-test than the Pre-test. Hence the null hypothesis that "There is no significant difference between Pre-test and Post-test scores of E-learning group" is rejected. Thus, there is significant difference between Pre-test and Post-test scores of E-learning group. It is concluded that the treatment of teaching through online learning strategy led to better test scores on achievement in Environmental Education.

Blended Learning Group

Since, the calculated t'- value (14.356) is greater than the table value (2.72) at 0.01 level of significance. The Post-test means score (40.364) is higher than mean Pre-test scores (29.242) of Blended learning group. Hence the null hypothesis that "There is no significant difference between Pre-test and Post-test scores of Blended learning group" is rejected. Thus, there is significant difference between Pre-test and Post-test scores of Blended learning group. It is inferred that the treatment through Blended learning strategy led to better test scores on achievement in Environmental Education.

Hypothesis –4

There are no significant differences in Percentage gain ratio scores among the Traditional learning group, E- learning group and Blended learning group.

Table 4

Differences among Percentage gain ratio scores of Traditional Learning Group, E- Learning Group and Blended Learning Group

Variable	Group	Mean	SD	'F' Value	Level of Significance
Percentage gain ratio scores	Traditional Learning Group	4.485a	3.938	55.645**	Sig.
	E-Learning Group	15.515 ^b	6.820		
	Blended Learning Group	22.000 ^c	8.803		

** denotes significant at 1 % level

* Denotes significant at 5 % level

Different alphabets between variables denote significant at 5 % level using DMRT

From the table it is clear that the calculated 'F'- value (55.645) is greater than the table value (4.82) at the 0.01 level of significance. Hence, the null hypothesis "There is no significant difference in Percentage gain ratio scores among the Traditional learning group, E- learning group and Blended learning group" is rejected. Thus, there is significant difference in Percentage gain ratio scores among the Traditional learning group, E- learning group and Blended learning group.

Based on Duncan's Multiple Range Test analysis, the student trainees in the Traditional Learning Group, E-Learning Group and Blended Learning Group significantly differ with each other in their Percentage Gain Ratio Scores. The Blended Learning Group trainees have scored high Percentage gain ratio score (22.000) followed by the E-Learning Group (15.515) and Traditional Learning Group (4.485) respectively.

6.0 Conclusion

In today's classroom we have to extensively utilize all the available educational resources to provide quality education. By using ICT in education the learner can receive the content sequent very fast without any Internet Surfing Behavior. As blended learning includes both online delivery of content and face – to – face classroom methods it has both advantages. Not only this, in blended learning freedom of Students are likely to interact more with the instructor and peer students since there are ample opportunities to do so both in class and online Blended learning develops the students skills like time management, clinical thinking and problem solving, and using the internet and computer technology. Even though blended learning has some disadvantages like other methods, students typically have 24/7 online access to course materials. Blended learning is flexible, and can be implemented in a variety of ways. When examining blended learning models, it's important to keep the student needs, teacher comfort, and available resources in mind. Ultimately, blended learning model or models, depending on your preference should boost engagement, give students control over time, place, and pace of learning, and drive towards deeper personalization. While there are many ways to implement blended learning, we're going to focus on three here: station rotation, whole group rotation, and flipped classrooms. As this study shows that student teachers have high Internet Surfing Behavior towards blended learning, this innovative strategy can be strongly recommended in curriculum transaction.

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