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6. Effect of Blended Learning in Higher Education on Teaching Learning Process

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Abstract

This research work based on the experimental work which based on the comparison of traditional learning with blended learning for under graduate science students. The methodology used based on the use of power point presentations, ICT, e-book and videos for teaching. The purposive sampling, control and sample group of students evaluated for subject examination including tests, assignments, group discussions. Null hypothesis is used, and we concluded that there is significant differences between mean of blended learning group (experimental) and control group.

Keywords: Blended learning, Null Hypothesis, Experimental group, e-learning, Control group.

Introduction

At the beginning of e-learning (digitally delivered learning) programs are favored by educational institutions over single mode programs (Harvey Singh, 2003). Student outlining is key factor in the blended learning programs. It is the bridge for learning and programmer expect to walk it. Ten minutes video requires 30-45 minutes to outline by students. They modify their initial video-based outline by adding other course components and write in their own words (William R. Slomanson, 2014). In blended education context, Learning Management System (LMS) can be integrated collaboratively and interactive learning activities which require a strong institutional and strong support. It includes studying learner profile and optimization feedback-like process to Learning Management System to adopt effective blended learning (Sofia Balula et. al., 2014). In blended learning the internet act as an instrument in addition to traditional forms of teaching. It is incorporation of new information and communication technologies which lead to more efficient and effective education. The student attendance, interest in subject may variable

(Maria V. et. al., 2013). Blended learning is used to aid in instruction. Student achievement, positive perceptions of learning increased by the blended learning (Laura Hesse, 2017).

Methodology: The method includes quantitative tests including surprise tests, multiple choice question test, short and long answer test, group discussions, poster presentation, assignments. Control group taught with the method of blackboard teaching and displayed charts. While the experimental group taught with the aid of videos, ICT, e-books, power point presentations.

The sample selected for the research is based on purposive sampling. The B.Sc. Zoology students of L.V.H. College, Nashik is taken as a sample of experimental group.

Null Hypothesis: There is no significant differences between the mean scores of subject examination of group A and group B.

Table: 1 Standard Deviation (SD) for Control and Experimental groups

	Group A	**Group B**
Mean	30.45	24.56
Standard Deviation	3.75	3.14
N	60	60

Analysis: In this, differences between means of two scores (post –test scores of control and experimental group), were statistically analyzed using Z test at significance level 0.05 and 0.01. The result of analysis of the differences in the post –test of control group and experimental group follows:

Table 2: Z-Tests for Control and Experimental group.

Variable	**N**	**Mean**	**SD**	**Z**
Control group	60	24.56	3.14	
Experimental Group	60	30.45	3.75	9.3284

The null hypothesis is rejected. Therefore, we concluded that there is significant differences between mean of blended learning group(experimental) and control group.

Result and Discussion

The result indicated that the experimental group which was exposed to blended learning program showed significant improvement in their academic achievement compared to the control group which was taught through conventional method. Computed Z value is much greater than

1.96 as well as 2.56, the critical values required to reach 5% and 1% level of significance, respectively Blended learning helps students to develop project and time management skills (Spika,2002). Develops stronger sense of community among students than either traditional or fully online courses (Rovai and Jordan, 2004). Blended learning supports for e-learning, available of huge data, time saving and management. The results indicate that some of the student characteristics/backgrounds and design features are significant predictors for student learning outcomes in blended learning (Mugeny et. al. 2017). It is also useful for students to improve the ways of presentation of information and ideas which results into creativity. It is proved by projects and poster presented by the students from experimental group was better than control group.

Conclusion

Thus, we may safely conclude that the differences between the means of two samples cannot be attributed to chance factor. This difference is quite trustworthy and dependable to say that blended learning program is more effective than conventional learning.

Integration of technology in teaching helps the learner to be more individualized.

Blended learning program provide environment to redesign teaching and learning approaches to increased effectiveness, convenience and efficiency.

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