RESEARCH ARTICLE

EFFECTIVENESS OF BLENDED LEARNING STRATEGY ON COMMERCE OUTCOMES AT HIGHER SECONDARY LEVEL

[1,]*Suprabha, K. and [2]Dr. Subramonian G.

Assistant Professor, NSS Training College, Ottapalam, Palakkad - 679 101, India
Principal, Sri Ramakrishna Mission Vidyalaya College of Education (Autonomous), Coimbatore - 641 020, India

ABSTRACT

Blended learning is a mix of pedagogical approach that combines the effectiveness and the socialization opportunities of the classroom with the technological enhancement of online learning. Blended learning increases the interaction between the instructor and the student by integrating formative and summative feedback in order to boost students learning experiences. The objective of the study was to find out the effectiveness of blended learning instructional strategy on commerce outcome at higher secondary level viz; (i) achievement in commerce (ii) attitude towards commerce and (iii) social skills in commerce. The study employs pre-test post-test control group design under the quasi-experimental method. The sample includes 80 students of standard XII, 40 students each in experimental group and control group. The test scores were analysed and compared between the two groups with the statistical techniques of mean difference analysis and ANCOVA. The results of the study revealed that there is significant difference in the mean scores of achievement and social skills in commerce after the intervention of blended learning instructional strategy.

Introduction

An education is not complete without a strong cultural component. Liberal arts and social studies help us to recognize the interconnections that turn information into knowledge. Culture provides a human framework to view the impact of technology. It also gives us the global perspective to live in a world, where communication is determined more by technology than geography. In this information age, education should provide students to technological familiarity, literacy, applicability, communication skills and the ability to learn new subjects. In today's world, computer would be a common place as telephones and dictionaries. To prepare for this world, students need to learn how to work comfortably with all kinds of knowledge tools including books, computers and other information utilities. Blended learning as described by De Zure (2002) refers to the courses that combine face-to-face classroom instruction with online learning. Blended learning involves a shift from a purely classroom interaction, i.e. lecture style mode of instruction to a more student-centred style of instruction. It is a mix of pedagogical approaches that combines the effectiveness and the socialization opportunities of the classroom with the technological enhancement of online learning (Dziuban *et al.,* 2006). Thus the blended learning approach must be student-centred and uses a selection process that, Combining or mixing web-based technology to accomplish an education goal

- Combining pedagogical approaches i.e. constructivism, behaviourism, cognitivism to produce an optimal learning outcome with instructional technology.
- Combining any form of instructional technology with face-to-face structures training.

The present education system calls for learner-centred education and in keeping with this requirement, blended learning is most appropriate.

Need and significance of the study

Today with the advancement of technology, educators would claim that classroom is not necessary for learning and the students around the world have already discovered that learning can happen at any time, any place and in any setting. It is no longer necessary to be in a classroom in front of a teacher to be in a place of learning. Lifelong learning also advocate that learning can occur anytime and anywhere if one wants to learn. It should be come that the learners perceptions of learning to work more independently and having to adopt more active ways of learning and interacting. The trend of decreasing student satisfaction in secondary/higher secondary education context has drawn attention to the concept of student engagement in classroom. One of the important factors for student learning is students' level of engagement with academically purposeful activities. Students' low engagement with academic activities is considered the main reason for

dissatisfaction, negative experience and sometimes dropping out of school. Blended learning intervention strategy have been utilizing in higher secondary education context is an instructional solution for such problem and to improve student engagement in classroom.

Objective of the study

To test the effectiveness of blended learning strategy on commerce outcomes viz;

- Achievement in commerce
- Attitude towards commerce
- Social skills in commerce

Hypotheses of the study

The following hypotheses were formulated for statistical analysis of pre test and post test scores of students' outcome in commerce.

1. There is no significant difference in the mean pre- test post test scores of achievement in commerce between experimental and control groups.
2. There is no significant difference in the mean pre- test post test scores of attitude towards commerce between experimental and control groups.
3. There is no significant difference in the mean pre -test post test scores of social skills in commerce between experimental and control groups.

Methodology in brief

The study employs pre- test post- test non-equivalent control group design under the quasi-experimental method. The instructional strategies- blended learning strategy and constructive teaching strategy were treated as the independent variable whereas the achievement, attitude and social skills in commerce outcome as the dependent variable. The sample includes 80 students of standard XII, 40 students each in experimental and control group, from a Government higher secondary school in Kerala. The two intact groups of 40 students each were matched on their previous achievement in commerce. The digital lesson plan was taught in the experimental group with the help of e-content and in the control group with the existing constructive teaching strategy. The pre -test and post test scores were analyzed and compared between the two groups with the statistical technique of mean differential analysis and inferential analysis.

Analysis and interpretation of data

From the analysis of the data, the results are summed up as follows.

Effect of Blended learning strategy on Achievement in Commerce: The effect of blended learning strategy on achievement in commerce was investigated by comparing the mean pre- test and post test scores on achievement between the experimental and control groups. Statistical indices of mean, standard deviation and t-value of distribution of the pre- test and post test scores on achievement for the experimental and control groups of higher secondary commerce students are indicated in Table 1.

Table 1. Comparison of mean pre -test and post test scores of achievement in commerce for experimental and control groups

Group	Pre test scores			Post test scores			Effect size (Cohen's *d*)
	Mean	SD	Critical Ratio (*t*)	Mean	SD	Critical Ratio (*t*)	
Experimental	18.35	2.08		34.63	2.82		
Control	18.00	2.06	.75	31.25	2.49	5.65*	1.27

N=40; *p<.05

Table 1 shows that there is no significant difference between the mean pre test scores of achievement in commerce ($t=.75$, $p>.05$) for experimental and control groups before intervention. Achievement in commerce is significantly higher for the group taught by the blended learning strategy ($M_1=34.63$, SD=2.82) than that of constructive teaching practices group ($M_2=31.25$, SD=2.49), ($t=5.65$, $p<.05$) after intervention. In terms of effect size (Cohen's $d=1.27$), the advantage of blended learning strategy over constructive teaching strategy in enhancing students' engagement in commerce is large.

Effect of blended learning strategy on students' attitude towards commerce: The effect of blended learning strategy on students' attitude towards commerce was investigated by comparing the mean scores of attitude towards commerce of experimental and control groups, before and after intervention. The investigation comprised of studying statistical constants of testing the significance of difference between the mean scores of pre -test and post test of attitude and calculating the effect size. Statistical indices namely mean and standard deviation of distribution of the pre teat and post test scores of attitude towards commerce for the experimental and control groups of higher secondary commerce students are indicated in Table 2

Table 2. Comparison of mean pre -test and post test scores of attitude towards commerce for experimental and control groups

Group	Pre test scores			Post test scores			Effect size (Cohen's *d*)
	Mean	SD	Critical Ratio (*t*)	Mean	SD	Critical Ratio (*t*)	
Experimental	85.20	20.10		102.78	17.12		
Control	86.15	18.61	.22	97.93	17.15	1.26	3.43

N=40; p>.05

Table 2 shows that there is no significant difference in the mean scores of attitude towards commerce ($t=.22$, $p>.05$) for experimental and control groups before intervention. The mean post test scores of attitude towards commerce for experimental and control groups differ ($M_1=102.78$, $M_2=97.93$), which is not significantly between the groups ($t=1.26$, $p>.05$) after intervention. In terms of the effect size (Cohen's $d=3.43$), the advantage of blended learning strategy over constructive teaching strategy in enhancing students' attitude towards commerce is large.

Effect of blended learning strategy on students' social skills in commerce: The effect of blended learning strategy on social skills in commerce was investigated by comparing the mean scores of social skills between experimental and control groups before and after intervention. The investigation comprised of studying the statistical constants, testing the significance of difference between mean, pre- test and post test scores of social skills and calculating the effect size. Statistical indices namely mean, SD and t-test of the pre- test post test scores of social skills in commerce obtained for the experimental and control groups of higher secondary commerce students indicated in Table 3.

Table 3. Comparison of mean pre- test and post test scores of social skills in commerce for experimental and control group

Group	Pre test scores			Post test scores			Effect size (Cohen's d)
	Mean	SD	Critical Ratio (t)	Mean	SD	Critical Ratio (t)	
Experimental	96.10	5.20		116.78	4.41		
Control	95.10	6.22	.77	104.63	8.21	8.24*	1.84

N=40; *p<.05

Table 3 shows that there is no significant difference in the mean pre test score of social skills in commerce (t=.77, p>.05) for experimental and control groups before the intervention. Social skills in commerce is significantly higher for the group taught by the blended learning strategy (M_1=116.78, SD=4.41) than the other group taught by constructive teaching strategy (M_2=104.63, SD=8.21) (t=8.24, p<.05) after intervention. In terms of effect size (Cohen's d=1.84), the advantage of blended learning strategy over constructive teaching strategy in enhancing social skills in commerce is large.

Findings of the Study

The major findings of the study are;

- There is no significant difference between the mean scores of achievement, attitude and social skills in commerce for experimental and control groups before intervention.
- Mean scores of achievement in commerce after blended learning strategy (intervention) is significantly higher than constructive teaching strategy with large effect (t=5.65, Cohen's d=1.27) among higher secondary commerce students.
- Mean scores of attitude towards commerce after blended learning strategy (intervention) is not significantly higher than that extant constructive teaching strategy but with large effect (t=1.26, Cohen's d=3.43) among higher secondary commerce students.
- Mean scores of social skills in commerce after blended learning strategy (intervention) is significantly higher than that extant constructive teaching strategy with large effect (t=8.24, Cohen's d=1.84) among higher secondary commerce students.

Conclusion

In the present study, the superiority of blended learning strategy over constructive teaching strategy on achievement, attitude and social skills among higher secondary commerce students is evident from the study. During the blended learning environment, students are actively engaged in learning process with the help of computers in a synchronised and asynchronies modes through discussion and sharing of ideas between peers.

Blended learning mode like e-content can be used to support teachers and student efforts to their personal understanding about the specific knowledge, conceptual understanding and application abilities of the concepts learned in commerce.

References

Adams, J. 2013. Blended Learning: Instructional Design Strategies for Maximizing Impact. *International Journal on E-Learning*, *12* (1), 23-44.

Ahmad, A.M. and Jeanne Schreurs, 2012. Constructivism based Blended learning in Higher education. *IJET, 7*. Retrieved from http://www.i-jet.org.

Boyle, T. 2005. A Dynamic, Systematic Method for Developing Blended Learning. *Education, Communication & Information*, *5* (3), 221-232.

Chan, D. and Jia, W. 2013. The effect of human interactions on student performance and satisfaction of blended learning. *Academy of Educational Leadership Journal*, *17* (4), 115-125.

Demirer, V. and Sahin, I. 2013. Effect of blended learning environment on transfer of learning: an experimental study. *Journal of Computer Assisted Learning*, *29* (6), 518-529.

Donnelly, R. 2006. Blended problem-based learning for teacher education: lessons learnt. *Learning, Media & Technology*, *31* (2), 93-116.

De Zure, D. 2002. Learning from change, landmarks in teaching and learning in higher education. Sterling: Stylus Publishing.

Dziuban, C., Hartman, J., Juge, F., Moskal, P. and Sorg, S. 2006. Blended learning enters the mainstream. In C. J. Bonk & C. R. Graham (Eds.), *Handbook of blended learning: Global perspectives, local designs,* (pp. 195-208). San Francisco, CA: Pfeiffer.

Levy, R., Dickerson, C. and Teague, J. 2011. Developing Blended Learning Resources and Strategies to Support Academic Reading: A Student-Centred Approach. *Journal of Further and Higher Education*, *35*(1), 89-106.

Mangal, S.K. and Uma Mangal, 2009. Essentials of Educational Technology. New Delhi: PHI Learning Private Limited.

Oliver, K. M. and Stallings, D. T. 2014. Preparing teachers for emerging blended learning environments. *Journal of Technology and Teacher Education*, *22* (1), 57-81.

Poon, J. 2013. Blended learning: An institutional approach for enhancing students' learning experiences. *Journal of Online Learning & Teaching*, *9*(2), 271-289.

Vaughan, N. D. 2010. A blended community of inquiry approach: Linking student engagement and course redesign. *Internet & Higher Education*, *13* (1/2), 60-65.

****