



BLENDED INSTRUCTION: EXPLORING ITS POTENTIAL FOR ENGAGING STUDENTS IN LEARNING

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Abstract

This work compared two methods of instructions such as blended and traditional instruction to see their influence on engagement in learning of 50 regular students of BA first semester on a course developed in psychology. The 25 students of experimental group were taught by blended instructions (70% online and 30% traditional) and 25 students of control group were taught through traditional instructions (face-to-face lecture method in a traditional classroom). The students' post-test scores on engagement in learning were examined by applying t-test to find out if there were significant differences between the experimental and control group. Findings of the study indicated blended instructions to be effective in improving engagement of students in learning than traditional instructions.

Keywords: *Blended Learning, Engagement in Learning*



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1. Introduction

The growing economy of India has led to many digital developments too. Now people in rural areas also have access to computer and internet than only in the urban areas. As people spend most of their time on internet, it will be good if internet is utilized for teaching-learning as well. However, everyone, particularly teachers and students are not completely ready to integrate online learning systems in their education. Besides, it has also been proved recently that exclusive online learning systems or traditional learning approach equally enhance performance of students as none of them is better (Murphy & Stewart, 2015; Dogra & Dutt, 2016a; Wrenn, 2016). Thus, in this case, blended learning is a good choice because it delivers education in a traditional way plus some part of the course is delivered by employing latest technology. However, the significant part of the course is delivered online while rest of the part is taught to students in a traditional classroom. There are no stringent standards for blending online and traditional components of learning as it can be blend in many ways, for instance, blend of online and F2F (face-to-face) component is prevalent, while some teachers

or researchers blend different learning philosophies, teaching-learning models or theories of teaching and learning for providing efficient learning environment to students.

In addition, blended learning provides freedom to students for collaborating with their peers and also facilitates them to have collective learning experience which gives them satisfaction and then success in the particular course. The use of technology in the classroom has improved their attitude also towards teaching and learning. Blended learning emphasizes on communication between teacher and learner which has been improved by using online learning systems coupled with real communication in a real classroom which facilitate students with the best learning environment. Effective communication between student-teacher establish good relations, make them easy to understand each other and the concepts they are learning and in this way improves their engagement with the content or course and thus their achievements are enhanced as well.

2. Definitions Of Blended Learning

Blended learning is not a new term as it dates back to its origin years ago when apart from giving instructions through lecture method, practical training was also provided to the students as it used to be a part of the course. Therefore, lecture was blended with training method for teaching students. However, it was not given a term, blended learning then and now it has been termed as blended learning after the expansion of e-learning and online learning systems worldwide. The meaning of blended learning varies because it depends upon the element which is mixed. For example, Driscoll (2002) proposed four different meanings of the term blended learning:

1. Blended learning blends various modes of online learning technologies for accomplishing the goal of education. For instance, audio/video communication tools or virtual classroom is mixed with traditional classroom tools.
2. It blends pedagogical philosophies or learning such as constructivism, cognitivism to produces best outcomes of learning.
3. It combines any form of technologies related to instructions such as film, videotape with traditional lecture method employed by teachers.
4. To blend technology of instructions along with job activities for giving stable influence of learning as well as working (p.1).

Blended learning has also been described as “pedagogical approach that combined effectiveness and socialization opportunities of the classroom with technologically enhanced active learning possibilities of the online environment” (Dziuban, Hartman and Moskal,

2004). Finally, Oliver and Trigwell (2005) enlisted a number of ways by which a blend can be formed. These are:

1. Mixing e-learning with traditional learning
2. Mixing e-learning with face-to-face instructions
3. Mixing media
4. Mixing contexts
5. Mixing theories of learning
6. Mixing learning objectives
7. Mixing pedagogies

In addition, Allen, Seaman and Garrett (2007) stated that blended learning combines online and face-to-face in certain proportions such as 30-79% of the course content is taught through online learning and rest of the part is delivered via face-to-face mode in a traditional classroom. Thus, blend can be formed in any way by mixing any theory of learning, methodologies, learning objectives, media of learning or even pedagogies of learning. Blended learning is actually a mixing of strengths of different learning environments or methodologies where its weakness is removed and blend gives a new strength that improves teaching-learning and students' learning outcomes as well by providing effective learning environment. For the present study, meaning of blended learning by Allen et al. (2007) was utilized where 70% of the content was delivered online while remaining 30% was taught via traditional learning. Traditional learning is defined as instructions which are delivered in a traditional classroom made up of brick and mortar via real face-to-face interaction between teacher and students similar to traditional lecture method.

3. Engagement In Learning

Student engagement is the most researchable topic nowadays because it is correlated with students' achievement (Carini, Kuh, Klein, 2006). Engaged students achieve higher than those students who are not engaged with learning or its activities. Teachers are trying their best to engage students in classroom by using new methodologies, by blending technology with traditional teaching methodology.

Engagement in learning is referred to as "how involved or interested students appear to be in their learning and how connected they are to their classes, institutions, and each other" (Axelson and Flick, 2011). Also, Kuh (2009) defined student engagement as "the time and effort spend by students to their activities which are related with desired outcomes of school and what schools and institutions do to prompt students to participate in these activities". There are various aspects of engagement which are measured for determining the engagement

of students in learning, these are behavioral, emotional and cognitive engagement (Fredricks, Blumenfeld & Paris, 2004). Engaged students are completely engrossed in their work whether it is in their classroom or outside classroom. They show more enthusiasm, attention and curiosity in learning when they are engaged.

It is already proved that students who are taught by employing asynchronous mode (Northey, Bucic, Chylinski and Govind, 2013), synchronous mode (Dogra & Dutt, 2016b) of online learning are more engaged than students who learned in a traditional learning environment. Thus, web-enabled learning environment in any form is better for engaging students in their learning. Online learning systems have proven well in engaging students than merely giving instructions by lecture method. Besides, in raising achievements of students, blended learning system has predicted to be better than exclusive online learning or traditional learning (Al-soraiey- Alkahatani, 2010; Tuncay & Uzunboylu, 2011; Lee & Hung, 2015). Therefore, it's important to explore blended learning and its effect on students' engagement. As blended learning has been proved to be efficient in yielding better outcomes of students in terms of their achievement, so it can be equally effective as well in improving engagement of students.

4. Objectives Of The Study

The objective was to study the effect of blended instruction in psychology course on engagement of undergraduate students in learning.

5. Literature Review

Neumann and Hood (2009) evaluated the impact of employing Wikipedia on students' engagement and learning of writing skills in a short course on statistics. The findings indicated that the students who were taught by Wikipedia approach produced higher engagement than the students who used individual approach.

Junco, Heiberger and Loken (2010) examined the impact of using twitter while teaching and learning on college students' engagement and grades. The findings indicated that students who were taught by using twitter were more engaged and they have higher grades also relatively students who were not taught by using twitter.

Poon (2012) investigated the use of blended learning for increasing student learning experience and engagement in a course on property education. The study employed interview and questionnaire technique for analyzing it and findings indicated that blended learning provides good flexibility for student learning experience in regard to the study speed and learning style and it also increases students' engagement as well.

Downing, Spears and Haltz (2014) examined transformation to blended learning course for achieving engagement of students. Findings of the study showed that videos tutorials developed by students enhanced their engagement in the blended learning course.

Tay and Wang (2016) investigated engagement in a blended learning course. The findings of the study indicated that blended learning courses should keep in mind about the characteristics of learner and platform which is used for online instructions for accomplishing higher cognitive, behavioral and social engagement.

The examination of the studies done on blended learning and traditional learning and its impact on engagement in learning indicates that blended learning method of instructions was better in terms of student engagement (Neumann & Hood, 2009; Junko, Heibergert & Loken, 2010; Poon 2012; Downing, Spears and Haltz, 2014). However, studies reviewed above have not indicated if they employed asynchronous or synchronous mode of online part in blended learning because using both of these forms and using either one of them effect students' engagement too. Hence, it triggers to examine it again where an investigator employed a mixture of both asynchronous as well as synchronous forms of online component of blended instruction.

6. Hypothesis

The following null hypothesis was tested:

1. There will be no significant difference in the mean post-test scores on engagement in learning among students taught through blended learning or traditional learning method of instructions.

7. Methods And Procedures

The method and procedure has been studied under the following sub-headings:

7.1 Research Design

In this study, an experimental method was employed to investigate the problem along with pre-test post-test control group experimental design. An independent sample t-test was utilized to test the differences between experimental and control group. The independent variable of the study was method of instructions (Blended & Traditional instructions) while dependent variable was engagement of students in learning.

7.2 Sample

The present research was conducted on a sample of 50 students in total. They were undergraduate students studying Psychology in first semester of bachelor of Arts (BA) course at D.A.V College, sector-10, Chandigarh which is affiliated to Panjab University. A total of

25 students were randomly assigned to each of the experimental and control group respectively.

7.3 Instruments

The instruments employed in the present study have been explained further:

7.3.1 Engagement in Learning Index

The standardized tool of engagement in learning index developed by Schreiner and Louis (2006) was utilized. Its reliability was again assessed by giving it to the sample of 40 students from two colleges of Chandigarh and Cronbach Alpha of the scale was 0.71 which proved it to be a reliable instrument for measuring engagement of students.

7.3.2 Blended Course in Psychology

A blended learning course in specific topics of the psychology was developed by an investigator of the study for teaching both experimental and control group. The same course was delivered to both experimental and control group, however, varying in the modes of delivery as experimental group was taught by blended instruction while control group was taught by traditional instruction.

7.4 Procedure

The study consisted of two groups where one group was experimental group and another was control group. 50 students were randomly distributed to both the groups. The experimental group consisted of 25 students who were taught by blended instruction for 15 days whereas control group which constituted 25 students was taught by traditional instruction for 15 days. A course management system software was utilized for the online component of blended learning where students were taught by using both asynchronous as well synchronous forms of online learning whereas for traditional instruction, students were taught in a traditional classroom by employing lecture method of instructions. The dependent variable was computed on the basis of post-test scores achieved by students on engagement in learning index. The data was analyzed by using SPSS.

8. Discussion of Results

The objective of the study was accomplished and hypothesis that there will be no significant difference in the mean post-test scores on engagement in learning among students taught through blended learning or traditional learning method of instructions was tested by applying t-test. Before employing t-test, it was ensured that the data meet all assumptions such as normality and homogeneity of variances. The descriptive statistics was utilized to see the distribution of scores and it was found that mean of pre-test score of experimental and

control group was close and the values of skewness and kurtosis existed within the acceptable limits of normality distribution (Table 1.1).

Table 1.1: A Brief Account of the Descriptive Statistics of Experimental and Control group

Group	Experimental Group (BL)					Control Group (TL)						
	N	Mean	SD	Sk	Ku	N	Mean	SD	Sk	Ku		
Pre-Test Score	25	36.88	6.04	0.444	-0.099	25	36.32	6.16	0.241	-0.650		
Standard Error					0.464	0.902					0.464	0.902

Table 1.1 indicates mean of both groups are quite close to each other, while skewness (Sk) and kurtosis (Ku) values exist within the acceptable limits of normality distribution. In simple words, data (pre-test scores) of the both the groups was normally distributed.

For testing the homogeneity of the variances, Levene's test was applied and it has showed that scores had equality of variances for both the groups on pre-test scores of engagement in learning [Levene's statistic: 0.127, $p=0.723 > 0.05$ alpha level of significance (0.05 was the chosen alpha level of significance for the present study)]. The experimental and control groups were also compared on pre-test of engagement in learning scores to see if both the groups were matched on pre-test scores and t-test was conducted for matching the groups. The result of the t-test indicated no significant differences between the two groups; $t(48) = 0.325, p = 0.747 > 0.05$ level of significance. It reveals that both the groups were equal on pre-test of engagement in learning.

In addition, descriptive statistics was also employed to study post-test scores on engagement in learning and the results showed that mean post-test score of experimental and control was different and the values of skewness and kurtosis lied within the acceptable limits of normality distribution [skewness and kurtosis of blended learning group = 0.078, 0.077, skewness and kurtosis of traditional learning group = 1.208, 1.521, (Table 1.2)]. In a nutshell, the post-test scores on engagement in learning were normally distributed.

Table 1.2: A Brief Account of the Descriptive Statistics of Experimental and Control group

Group	Experimental Group (BL)					Control Group (TL)						
	N	Mean	SD	Sk	Ku	N	Mean	SD	Sk	Ku		
Post-Test Score	25	53.28	5.1	0.078	.077	25	44.60	8.83	1.208	1.521		
Standard Error					0.464	0.902					0.464	0.902

For testing the variances of the total sample, Levene's test was applied and it has showed that scores had equality of variances for both the groups on post-test scores of engagement in

learning. (Levene's statistic: 2.58, $p = 0.114 > .05$ alpha level of significance). Then, t-ratio was computed to study the significance of differences between mean post-test of experimental and control group. The results indicated that group means differed significantly because p value was .000 which is less than 0.05 alpha level of significance. It indicates that both the groups such as experimental and control group were different on post-test scores at .05 alpha level of significance. In other words, blended learning and traditional learning groups were different on post-test scores of engagement in learning; $t(48) = 4.253, p = .000 < .05$ alpha level of significance.

Hence, null hypothesis which states that there will be no significant difference in the mean post-test scores on engagement in learning between students taught through blended learning or traditional learning was rejected as groups of blended instruction and traditional instructions achieved different on engagement in learning post means. After comparing means (Table 1.2) of both the groups, it was found that students who were taught by blended instructions were more engaged in learning comparatively students who were taught by traditional instruction.

9. Conclusion

In probing the potential of blended instruction for engaging students in learning, this study found that engagement of students in learning for experimental group was more than control group as students who were taught by using blended instructions were more engaged than students who were taking instructions in a traditional classroom. The students of experimental group who were taught Psychology course by blended learning method of instructions scored significantly better on engagement in learning than the students of control group who were taught the same course by traditional learning method of instructions. It indicates that using blended learning method of instructions rather than traditional method of instructions can improve engagement of undergraduate students in learning because it gives new technology experience of online learning with virtual presence of teachers coupled with traditional classroom learning with real teachers. This research supports the findings of Neumann & Hood, 2009; Junko, Heibergert & Loken, 2010; Poon 2012; Downing, Spears and Haltz, 2014 where blended learning proved to be better in engaging students with their learning.

10. References

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