Library Progress International
Vol.44 No. 3, Jul-Dec 2024: P.10224-10233

Print version ISSN 0970 1052
Online version ISSN 2320 317X

Original Article

Available online at www.bpasjournals.com

Student Engagement through Blended Learning: A Study on Learning Experience of Management Students

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How to cite this article: Dhanashree Nagar, Kshama Ganjiwale, Chetan Nagar (2024) Student Engagement through Blended Learning: A Study on Learning Experience of Management Students. *Library Progress International,* 44(3), 10224-10233.

ABSTRACT

Education sector has witnessed enormous changes with the presence of IT enabled learning tools. Application and usage of ICT i.eInformation and Communication Technology in learning process is a commonly followed trend in education sector. Blended learning as the term called is blend of two or more techniques viz. faceto face interaction and online instructions to achieve the learning goals. Instructors usevarious ICT enabled tools for making teaching learning process easy and interesting as well as learner centric.Current study has been carried out to apprehend various ICT tools and techniques used by academicians to augment blended learning experience among the management students. Application of factor analysis has revealed five factors describing the importance of blended learning for management students. Students satisfaction with blended learning has been tested statistically by applying t-test. Results and further scope of study has been discussed on the basis of analysis of data.

Keywords: *Blended learning, ICT tools, Learning experience, Student satisfaction*

Introduction

Covid-19 pandemic has overhauled the entire education sector. Learning has been grown from traditional to virtual classrooms. is no more restricted to traditional classroom teaching. Instead of being lectured, students learn more when the lecture gets transformed into delivery of experience. It also enhances their learning capabilities. Certain approaches such as integrated/ blended learning and experiential learning, with greater technology applicationis now in power to shape the future of education sector. (Ashar, 2020) Information and communication technology (ICT) has made a remarkable presence in all the sectors of economy in past few decades. Education sector too, has witnessed enormous changes with the presence of ICT. Whether it is primary education or higher learning, use of online resources in teaching pedagogy has laid a blend of participative and effective learning. Blended Learning is a modern educational strategy that has replaced e-learning gradually in most educational institutions.(Oweis, 2018).Harriman (2004) in his study describes blended learning as combination of face-to-face interaction and online instructions to achieve the learning goals. It is a learning environment that combines numerous applications to provide an effective learning experience. It is a Teachers use Information Communication Technology (ICT) Tools for making teaching learning process easy and

interesting.(Bhattacharjee and Deb, 2016)ICT is transforming the classrooms into interactive e-learning rooms by bringing in simulations and live projects based on curriculum. Application and usage of ICT tools and techniques in educational settings acts as a substance for change in this domain. (Reeves and Jonassen, 1996 in Pramanik, 2011)Blended learning aims at interactive learning and support independent learning. (Jonassen & Revees,1996)It has been widely accepted by the policy makers and educators that such application from early education itself promotes the global competency skills among the students. It facilitates social mobility among the learners by enhancing their experience through new sets of skills such as blended learning, Massive Open Online Courses (MOOCs), virtual lectures and flipped classrooms. The technology applied in is often intended to generate optimal performances by students. (Oweis, 2018) Enabling ICT techniques such as online training, makes it easy to the instructors to reach and maintain connect with more students on regular basis. Also it helps to improve the quality of administrative activities carried out and efficiency of services delivered. The purpose of implementing blended learning approach in education is to maintain a balance between access to online learning and classroom based interaction. It also intends at using recent technology without abandoning the usual educational situation and classroom presence while focusing on direct interaction in the classroom through the use of computer and internet.

Review of Literature

Kiviniemi (2014) in their study observed that in blended learning, online course delivery and in-person interaction are combined and used as a single course. Their study observed statistically significant increase in student performance while blended learning approach was compared to previous academic performance. Majority of the students preferred the blended mode of learning approach as the student evaluations of the blended approach were very positive. Integration of ICT techniques has impacted hugely in improving quality of education. (Sharma et. al., 2011) Pertinent use of ICT enables transformation of teaching learning process leading to shift in teaching pedagogy as well as course contents. Creative learning experience through ICT helps the learner to generate performance-based knowledge resulting into development of skills and capacity to keep pace with rapid changes taking place in the sector. Instructor can use word, excel, power point, animation, graphics and videos to enhance the delivery of course contents. Green and Whitburn (2016) observed that blended learning is used in variety of disciplines to facilitate the flexible delivery and increase the efficiency. The study evaluated the outcomes of blended learning on the parameters such as student grades and student engagement. Blended learning appeared to be well suited teaching on the condition that face-to-face practical classes are maintained.

Contemporary and latest technologies are contributing to the conclusion of traditional classroom limitations (Shirky, 2008).Only classroom based instructions alone are not sufficient for the institutions. Learning has been shifted from content-centric curricula to competency based curricula. (Oilver, 2002)Higher education institutions are increasing their focus on right blend of technological integration in teaching and learning in order to fulfill students' requirements and provide skills based education. (Bauk, 2014) Blended learning is one of the ways through which educational institutions can prepare themselves for the rising age of advanced education. (Garrison and Kanuka, 2004) It includes different learning (lectures, discussions, simulations etc.) and delivery methods such as live class rooms and use of computer technology. Lee etal. (2009) analyzed four variables named as instructor characteristics, teaching materials, content design and playfulness as learners' acceptance of the e-learning system. Malik (2009) considers use of ICT as one of the elements of e-learning. The main beneficiary of e-learning environment is the learner i.e. student. The student and instructors' acceptance level towards latest technology, their computer proficiency, response from the mentor and amiable interface of the online learning environment are the factors that influence student satisfaction towards blended education. (Malik, 2009)

Davoud (2006) conclude that growth in ICT is a growing pattern to deliver information in education sector. The factors that affect student's satisfaction towards e-learning are student and instructors themselves including interface of e-learning environment and technical assistance. Students feel good and relaxing in learning with new tools. Higher education students are more interested in quality of course contents. The technical flaw in learning interface affects student satisfaction towards growth of e-learning. Papp(2000) explained the attributes like delivery style, course contents, interface, administrative and technical support, students' and teachers' computer efficacy as determinants of satisfaction. A study by Pai-Chen and others (2008) revealed that the critical factors affecting leaner's satisfaction are learner's anxiety for computer, instructor's attitude toward e-learning, flexibility and quality of e-learning course, perceived usefulness and ease of use, and diversity in assessments. Dziubanet.

al. (2013) observed that students participate in highly interactive world, so they prefer active learning environment as they get in their classes. Learners' require creativity and collaboration with variety of instructional models that can be accessed anytime from anywhere.(Ke and Kwak, 2013)

Objectives

1. To find factors associated with blended learning leading to satisfaction among the management students.
2. To analyze the overall satisfaction among the management students based on the factors associated with blended learning.

Research Methodology

- **Type of Study:** This study is descriptive in nature that extracts various factors related to students' satisfaction towards blended learning as a learning technology.
- **Method of Data Collection:** Primary and secondary sources were used for data collection. Extensive literature review provided the base for extracting items for the scale. The primary data has been collected through scale consisting of thirty-two statements associated with students' experience with blended learning technology.
- **Research Instrument:** A structured questionnaire was prepared which was divided into two parts. Part one consists of demographic information of the respondents and part two includes variables associated with blended learning.
- **Sampling Method:** Random sampling method used for the study.
- **Sample Size:**370 questionnaires distributed, however348 responses were found to be suitable for further analysis.
- **Tools for Data Analysis:** Factor analysis, t-test, One-way ANOVA
- **Hypotheses:**
- **$H_0$1:**There is no significant difference between genders towards overall satisfaction based on blended learning techniques.
- **$H_0$2:** There is no significant effect of age groups on overall satisfaction based on blended learning techniques.
- **$H_0$3:** There is no significant difference between level of education towards overall satisfaction based on blended learning techniques.

Analysis and Findings

KMO and Bartlett's test of Sphericity values were checked and found satisfactory at .913. (Table 1).

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.913
Bartlett's Test of Sphericity	Approx. Chi-Square	8914.479
	Df	496
	Sig.	.000

Table 2: Reliability Statistics

Cronbach's Alpha	N of Items
.965	32

Exploratory Factor analysis was performed using a Principal Component Analysis (PCA) and the Varimax with Kaiser Normalization rotation method. Total 66.10 % of variances were explained by five factors (Table 3) named as: Cognitive Process, Skills Building, Team Building, Scholastic Engagements and Technical Competency. The factor description is as follows:

Table 3: Factor Analysis:

Factor Name	% of Variance	Cumulative %
Cognitive Process	15.981	15.981
Skills Building	15.648	31.629
Team Building	13.804	45.433
Scholastic Engagements	10.640	56.073
Technical Competency	10.036	66.109

Factor Description:

Table 4: Cognitive Process

Variables	Factor Loading
Understand the concept in better manner	.772
Helps me to solve the assignments given by instructors	.707
Get diverse information regarding the topics covered in course	.626
Upgrade my learning capabilities	.626
Helps in increased concentration during learning	.591
Improves my problem solving approach	.551
Upgrade my technical competencies and its application	.505
Breaks monotony of lecture delivery method	.456
Help me to improve my productivity during class	.454

First factor is named as **Cognitive Process** consisting of nine variables stating how blended learning is perceived by the respondents. It has been observed that the respondents understood the concept in better manner (.772) when delivered with blended learning. Similarly up- gradation of learning capabilities (.626), technical competencies and its application (.505), increased concentration during learning (.591), improved productivity in classroom (.454) and problem solving approach (.551) are some of the important carriers of blended learning.

Table 5: Skills Building

Variables	Factor Loading
Helpful in developing my professional skills	.725
Helpful in developing my interpersonal skills	.719
Helpful in academic progress	.692
Helpful in developing my subject based skills	.671
One of the best source of taking notes	.570
Helps to solve my course related queries efficiently	.568
Helpful in preparation in notes in my own way	.499

Factor II is named as **Skills Building** consisting of seven variables. It has been observed that blended learning has been proved to be effective in developing professional (.725), interpersonal (.719) and subject based skills (.671) among the respondents. It has also helped in their academic progress (.692). Solving queries efficiently (.568) and self-notes preparation (.499) were another important considerations of blended learning.

Table 6: Team Building

Variables	Factor Loading
Encourage for participative learning	.781
Encourage undertaking group projects assignment	.657
Keeps me technically at the forefront	.603
Inculcates my creative and critical thinking	.585
Help me to acquire activity based learning skills	.542
Enhance individual presentation skills	.537
Help me to understand the application of theory into practice	.422

Factor group III is named as Team Building that consists of seven variables. The most important variables of this factor group are encouragement to participative learning (.781) due to blended learning. Next to that is encouragement to group assignments (.657), technical forefront (.603), inculcation of creative and critical thinking (.585), activity based learning skills (.542) and enhancement in presentation skills(.537)

Table 7: Scholastic Engagements

Variables	Factor Loading
Provide huge resources which are otherwise not available	.728
Class environment becomes more interactive	.656
Feel of face to face interaction with instructor	.621
Scheduled lectures become interesting	.586
Increase my interest in subject	.417

Factor IV is named as Scholastic Engagements that consists of five variables. This group reflected availability of huge resources as the most important variable (.728) leading to scholastic engagements, followed by interactive class environment (.656). feel of face to face interaction (.621), interesting lectures (.586) and increased interest in subject (.417).

Table 8: Technical Competency

Variables	Factor Loading
Innovative teaching learning tech	.737
Keeps me lined up with modern educational trends	.624
Audio along with visual contents help for better learning	.612
Access latest information regarding the topic	.505

Factor group V is Technical Competency which consists of only four variables. These are innovative teaching technology (.737), keeps the respondents lined up with modern educational treads (.624), audio and visual contents leading to better learning (.612) and access to latest information about topics. (.505)

Results of Hypotheses Testing:

- **$H_0$1:** There is no significant difference between genders towards overall satisfaction based on blended learning techniques.
- **$H_0$2:** There is no significant effect of age groups on overall satisfaction based on blended learning techniques.

- **$H_0$3:** There is no significant difference between level of education towards overall satisfaction based on blended learning techniques.

Gender:

Table 9: Group Statistics

Gender		N	Mean	Std. Deviation	Std. Error Mean
Overall	Male	178	122.1798	18.56402	1.39143
	Female	170	121.1706	19.60468	1.50361

Table 9a: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Overall	Equal variances assumed	.920	.338	.493	346	.622	1.00919	2.04607	-3.01511	5.03348
	Equal variances not assumed			.493	342.538	.623	1.00919	2.04864	-3.02031	5.03869

To test the effects of Gender on overall satisfaction based on blended learning techniques, t-test has been applied. The calculated f value 0.920 for overall satisfaction is not significant at 0.338 level with degree of freedom equal to 346. This show that there is no significant difference between genders towards overall satisfaction based on blended learning techniques. In light of this the null hypothesis **$H_0$1:** There is no significant difference between genders towards overall satisfaction based on blended learning techniques not rejected. Gender wise overall satisfaction based on blended learning techniques is perceived similarly.

Age Groups:

Table 10: Group Statistics

	Age_group	N	Mean	Std. Deviation	Std. Error Mean
Overall	18 to 21 yrs	124	118.9516	17.15537	1.54060
	more than 21 to 24 yrs	205	123.1659	19.19640	1.34073

Table 10a: Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper

Overall	Equal variances assumed	.486	.486	-2.007	327	.046	-4.21424	2.09956	-8.34459	-.08389
	Equal variances not assumed			-2.063	282.250	.040	-4.21424	2.04231	-8.23432	-.19416

To test the effects of Age of the respondents on overall satisfaction based on blended learning techniques, t-test has been applied. The calculated f value 0.486 for overall satisfaction is not significant at 0.486 level with degree of freedom equal to 327. This show that there is no significant effect of age of respondents on overall satisfaction based on blended learning techniques. In light of this the null hypothesis **$H_0$2:** There is no significant effect of age groups on overall satisfaction based on blended learning techniques is not rejected. Age wise too overall satisfaction based on blended learning techniques is perceived similarly.

Education Level:

Table 11: Group Statistics

	Education_Level	N	Mean	Std. Deviation	Std. Error Mean
Overall	Undergraduate	122	121.3525	19.48253	1.76387
	Postgraduate	226	121.8673	18.86702	1.25502

Table 11a: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Overall	Equal variances assumed	.038	.845	-.240	346	.810	-.51480	2.14406	-4.73183	3.70223
	Equal variances not assumed			-.238	241.271	.812	-.51480	2.16478	-4.77908	3.74949

To test the effects of level of education of the respondents towards overall satisfaction based on blended learning techniques, t-test has been applied. The calculated f value 0.038 for overall satisfaction is also not significant at 0.845 level with degree of freedom equal to 346. This show that there is no significant effect of level of education of respondents as well on overall satisfaction based on blended learning technique. In light of this the null **$H_0$3:** There is no significant difference between level of education towards overall satisfaction based on blended learning techniques not rejected. Both, undergraduate and postgraduate students have similarity in the perception towards satisfaction based on blended learning techniques.

Discussion and Conclusion

Present study has been carried out to analyze the factors associated with blended learning experience of management students. The study has extracted five factors delivering blended learning experience among management students named as Cognitive Process, Skills Building, Team Building, Scholastic Engagements and Technical competency. Blended learning uses various ICT based techniques to enhance the students' learning

experience. Students' satisfaction is the major outcome of blended learning which depends on various factors. It is a combination of a traditional and e-learning that is designed to promote learning and application-learned behavior (Singh, 2003). It's goal is to provide a face-to-face interaction like experience to the learners. (Finn & Bucceri, 2006).Singh (2003) observed that student satisfaction results from a combination of factors like instructor, technology, class management, interaction, instruction and learning management system. Naaj et. al., (2012) observed that students' satisfaction is associated with the factors such as promotion of group work, instructions and classroom interaction, which is consistent with the present study. Kintu, et.al (2017) in their study on blended learning effectiveness observed that blended learning indulges computer competence, knowledge construction, interactions, learning management system tools and resources and face-to-face support. Learners also reported that blended learning is useful and they have enjoyed of tasks allotted to them. Similarly, some of the outcomes of blended learning were learner participation, team building, learn contents in a better way and also submitted solutions to discussion questions. These findings are also consistent with the factors extracted from the present study.

Further, the study has observed that gender wise there is similarity in perceived satisfaction towards blended learning techniques. The results are not consistent with the study carried out by Naaj, M. et. al (2012) which observed that students of UAE were satisfied with all components, although the level of satisfaction varied according to gender. However, Askar, et.al.(2008), Adas and Abu Shmais, (2011) observed that statistically no significant differences exist between females and males with respect to the satisfaction on blended learning

So (2009) revealed that student satisfaction was positively related to age. This may indicate that higher age students are more satisfied with the course than younger students. But present study rejects this observation and found that statistically, there is no significant effect of age on satisfaction towards the factors of blended learning techniques. The geographical segmentation and courses undertaken by the students could be the possible reasons for variation in the findings.

Further Scope of Studies

Present study has been carried out to understand the factors of blended learning and their effects of students' selective demography. Further the study observed that there is a similarity in perception on the basis of gender, age group and level of education, among the management students towards the satisfaction based of factors of blended learning techniques. A collaborative learning environment is necessary for inculcating innovative pedagogical approaches through the use of ICT in teaching and learning. Further research is required to be carried out to understand if there is any variation in level of satisfaction factor wise and across different demographic characteristics of students. An examination of learner characteristics with factors delivering blended learning environment would help to frame specific strategy to deliver and improve learners' satisfaction. A comparative analysis between blended learning and face to face learning can also be assessed over the similar genders, age groups, level of education or the programmes.

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