PERCEPTION TOWARDS BLENDED LEARNING AMONG B. ED. TRAINEE TEACHERS OF SCIENCE DISCIPLINES

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ABSTRACT

This study investigates the perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines. A sample consists of 64 B.Ed. Trainee Teachers of science disciplines. The research adopts a descriptive survey design for collecting the data using questionnaire. Questionnaire was standardized by using content validity and using the test retest method with a reliability coefficient of 0.82. The results reveal a high level of perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines and there are no significant difference in the Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines with respect to gender and qualifications.

Keywords: Blended Learning, Perception towards Blended, Science Disciplines

1. INTRODUCTION

Today, change is required in every field of life. Education domain is also no exemption to it. It requires change in the way of teaching, learning, assessment and evaluation. The evolution of the digital learning platforms have put the traditional method of teaching – learning in the back seat. However, there are demands for both technology and traditional learning methods which gave birth to "Blended Learning".

Blended Learning is not mere mixture of face to face classroom learning and online, but it refers to a well – planned combination of meaningful activities in both the modes. Teaching through only the traditional method is no longer adequate for the new generations of digital natives. Blended Learning is the combination of face to face classroom learning and computer – based education (Graham, 2005) and it provides many benefits to students (Azizan F.Z. 2010). The study by Kintu and Zhu (2016) investigated the possibility of blended learning in a Ugandan University and examined attitudes towards blended learning. There are many factors which are considered when choosing how to blend in – person and online teaching and learning activities. In blended learning most of the interactions between the teacher and students and the direct delivery of the instruction take place in face to face classroom teaching, while the teaching materials and some additional activities are delivered online (Blended Mode of teaching and learning :concept note, UGC, p.7). Blended learning is a learner centred teaching – learning approach where both teachers and students are actively participate in teaching – learning process. Blended learning has shifted the role of the teacher from knowledge provider to as coach and mentor. It offers a multitude of real – world skills, that directly translate into life skills, from research sills, self – learning , self-engagement, helps to develop a self – driving force, better decision making, offers a larger sense of responsibility and computer literary.

In this study, the researcher wanted to investigate the Perception towards Blended Learning of B.Ed. Trainee Teachers of science disciplines. Perception towards Blended Learning may be defined as the individual sense of view towards operation of Blended Learning. In the present study, Perception refers to the teaching experiences and gaining of various impressions in teaching and learning of Physical Science through Blended Learning, which exist among B.Ed. Trainee Teachers of science disciplines.

2. REVIEW OF RELATED LITERATURE

Some reviews of related literature on Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines were conducted. These are as follows:

Das (2020) found that at the elementary level the attitude of students and teachers towards Blended Learning is favourable and with the help of blended learning process students can increase their interaction with the teachers.

Suartama (2019) studied on development of an Instructional Design Model for Mobile Blended Learning in Higher Education and found that instructional design has feasibility to use in learning. Hence, this model increases the popularity of mobile blended learning.

Robin Castro (2019) made a study on Blended Learning in higher Education: Trends and capabilities and found that there are some common capabilities among digital educational technologies. Digital technologies such as video

capsules and intelligent tutoring systems may improve teaching – learning activities. The insights provided by Educational Technology Capabilities (ETC) helps to identify the best approach in technology – based learning.

Evans, Yip, Chan, Armatas and Tse (2019) found that offering professional development in a blended mode provides teachers with an authentic student perspective, at the same time students have the freedom to learn according to their own pace and time.

Namyssova, et al., (2019) showed an analysis of the pedagogical practices which promote educational leadership skills among students via blended learning course. Faculty and students faced challenges during this blended learning course. Finally, the paper made recommendations for policy and practice in relation to enhancing effectiveness of blended learning courses in higher education. There may be a particular interest among students while implementing blended learning in the early stages in schools.

Galvis (2018) concluded with an analysis of how to achieve the institutional transformation process, including how to articulate the Blended Learning modality with existing pedagogical approaches such that Blended Learning innovations become institutionalized and sustainable.

Vanslambrouck et al., (2018) found that educational institutions have adopted blended learning for various reasons such as providing more flexibility to meet students' learning needs and backgrounds.

Kintu et al (2017) found that blended learning design features (technology quality, online tools and face-to-face support) and student characteristics (attitudes and self-regulation) predicted student satisfaction as an outcome. The results indicated that some of the student characteristics/backgrounds and design features were significant predictors for student learning outcomes in blended learning.

Mozelius and Hettiarachchi (2017) found that there are unexpected complexity of blended learning and the amount of found critical factors and themes. In an endeavour for a holistic multi-stakeholder presentation, found factors and themes have been grouped into 10 Categories of critical factors and 4 Blended learning perspectives.

Abeer Ali Okaz (2015) concluded that diversity, gender, cultural and personality differences among students have made University teaching a more challenging job than in previous years. Some of the teachers favoured Blended Learning but some not for it. This study also discussed about what blended learning is, its pros and cons, and finally provided some hands on experience and classroom activities to help instructors to integrate blended learning in higher education.

After going through those aforesaid reviews of related literature, it is very clear that Blended Learning is very important in this digital era and to have a right perception towards it.

3. OBJECTIVES OF THE STUDY

The following objectives are laid down for the present study:

1. To study the level of Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines.

2. To study the significant difference in the Perception towards Blended Learning between Male and Female B.Ed. Trainee Teachers of science disciplines.

3. To study the significant difference in the Perception towards Blended Learning between under graduate and post graduate B.Ed. Trainee Teachers of science disciplines.

4. HYPOTHESES OF THE STUDY

The following null hypotheses are formulated which will be tested in the present study:

H_01. There is no significant difference in the Perception towards Blended Learning between Male and Female B.Ed. Trainee Teachers of science disciplines.

H_02. There is no significant difference in the Perception towards Blended Learning between under graduate and post graduate B.Ed. Trainee Teachers of science disciplines.

Research Design

The researcher used the Descriptive Survey Design for the present study.

Sample of the study

The sample of the study consisted of 64 B.Ed. Trainee Teachers of science disciplines of colleges under Ranchi University, Jharkhand, India, were selected as a sample through a random sampling method. Science disciplines consist of B.Ed. Trainee Teachers having physical science, life science, mathematical science and computer science as their pedagogy in their two years of B.Ed. course under Ranchi University.

Tools used

To know the level of Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines, a self-made questionnaire containing 20 items was used. The items of the self – made questionnaire comprised of 5 point scale: Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree with a score of 1 2, 3, 4 and 5 respectively.

It was standardized by using content validity and using the test retest method with a reliability coefficient of 0.82. The maximum score possible on this scale was 100.
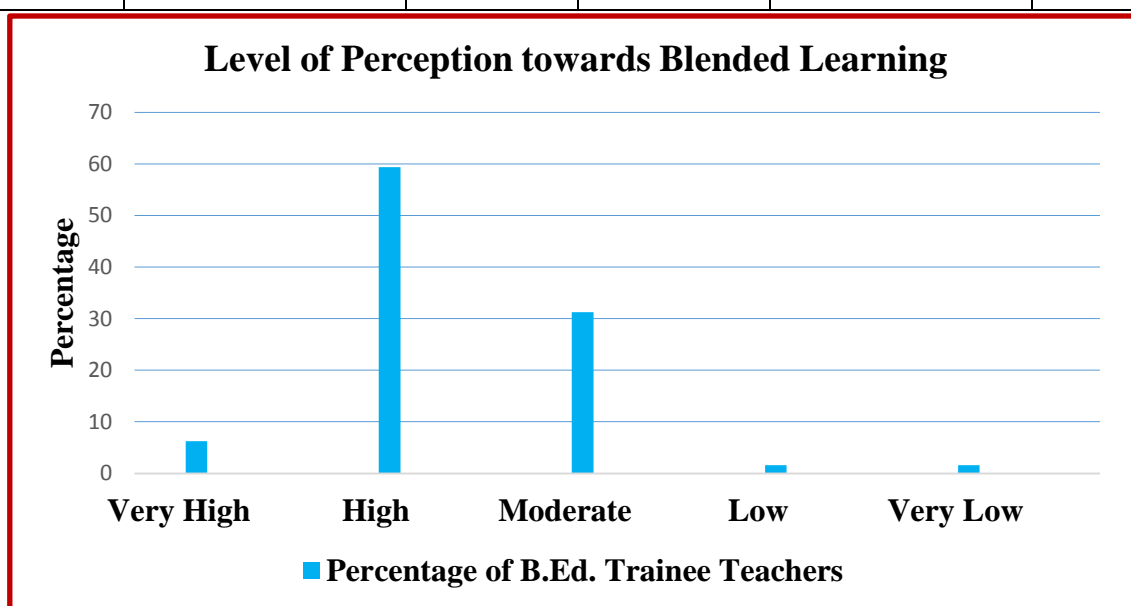
5. DATA ANALYSIS AND INTERPRETATION

Objective 1:

To analyse the objective one descriptive statistics like mean and percentage are used to find out the level of Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines. The mean value of the level of Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines is calculated and the results are given in the table 1.

Table 1: Level of Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines

Variable	Level of Perception towards Blended Learning	No. of B.Ed. Trainee Teachers	Percentage of B.Ed. Trainee Teachers	Mean Value (M) of Perception towards Blended Learning	Remarks
Perception towards Blended Learning	Very High (85 - 100)	4	6.25	70.31	High
	High (69 - 84)	38	59.38		
	Moderate (53 – 68)	20	31.25		
	Low (37 – 52)	1	1.6		
	Very Low (20 - 36)	1	1.6		
	Total	64	100		

Figure 1: Level of Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines

From the data in Table 1 and figure 1, it is clear that there are five levels of Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines. The levels are 'very low' with scores of 20- 36, 'low' with scores of 37 - 52, 'moderate' with scores of 53-68, 'high' with scores of 69 - 84 and 'very high' with scores of 85 – 100. There are 1.6% B.Ed. Trainee teachers of science disciplines in the very low level, 1.6% in the low level, 31.25%

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in the moderate level, 59.38% in the high level and 6.25% in the very high level of Perception towards Blended Learning. . The mean value of the level of Perception towards Blended Learning among B.Ed. Trainee teachers of science disciplines is 70.31.

It can be interpreted that there is a high level of Perception towards Blended Learning among among B.Ed. Trainee Teachers of science disciplines. From the figure 1, it is clear that 59.38 Percentage of B.Ed. Trainee Teachers of science disciplines have high level of Perception towards Blended Learning. From the mean value of Perception towards Blended Learning, it can be said that the level of Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines is at high level. So, having a high level of Perception towards Blended Learning, B.Ed. Trainee Teachers of science disciplines can learn better in Blended mode.

Objective 2:

To find out the result of Objective 2 i.e. the significant difference in the Perception towards Blended Learning between Male and Female B.Ed. Trainee Teachers of science disciplines, the mean values of Perception towards Blended Learning of Male and Female were calculated separately. Thereafter, a significant difference between the two means of Perception towards Blended Learning was calculated by using t – test. The results are given below in Table 2.

Table 2: Perception towards Blended Learning between Male and Female B.Ed. Trainee Teachers of science disciplines.

Variable	Qualification	N	Mean	SD	df	Calculated 't' value	Table value of t	Significance Level
Perception towards Blended Learning	Male	30	70.1	13.59	62	0.98	2.0	Not Significant at 0.05 Level
	Female	34	70.5	7.69				

The results in Table 2 indicate that there are 30 Male B.Ed. Trainee Teachers and 34 Female B.Ed. Trainee Teachers. The mean scores of Perception towards Blended Learning of Male and Female B.Ed. Trainee Teachers of science disciplines are 70.1 and 70.5 with standard deviations of 13.59 and 7.69 respectively. The calculated t value is 0.98 which is less than the table value at 0.05 level of significance. Thus, the null hypothesis that is 'There is no significant difference in the Perception towards Blended Learning between Male and Female B.Ed. Trainee Teachers of science disciplines' is accepted. It can be interpreted that there is no significant difference in the Perception towards Blended Learning between Male and Female B.Ed. Trainee Teachers of science disciplines. In other words, we can say that both Male and Female B.Ed. Trainee teachers of science disciplines have almost equal Perception towards Blended Learning as there is no much difference in their mean scores and they like Blended Learning.

Objective 3:

To find out the result of Objective 3 i.e. the significant difference in the Perception towards Blended Learning between Under graduate and Post graduate B.Ed. Trainee Teachers of science disciplines, the mean values of Perception towards Blended Learning of Under graduate and Post graduate B. Ed. Trainee Teachers of science disciplines were calculated separately. Thereafter, a significant difference between the two means of Perception towards Blended Learning was calculated by using t – test. The results are given below in Table 3.

Table 3: Perception towards Blended Learning between Under graduate and Post graduate B.Ed. Trainee Teachers of science disciplines

Variable	Qualification	N	Mean	SD	df	Calculated 't' value	Table value of t	Significance Level
Perception towards Blended Learning	Under Graduate	33	69.73	6.33	62	0.93	2.0	Not Significant at 0.05 Level
	Post Graduate	31	70.93	14.15				

The results in Table 3 indicate that there are 33 Under graduate and 31 Post graduate B.Ed. Trainee Teachers of science disciplines. The mean scores of Perception towards Blended Learning of Under graduate and Post graduate B.Ed. Trainee Teachers of science disciplines are 69.73 and 70.93 with standard deviations of 6.33 and 14.15

respectively. The calculated t value is 0.93 which is less than the table value at 0.05 level of significance. Thus, the null hypothesis that is 'There is no significant difference in the Perception towards Blended Learning between Under graduate and Post graduate B.Ed. Trainee Teachers of science disciplines' is accepted.

It can be interpreted that there is no significant difference in the Perception towards Blended Learning between Under graduate and Post graduate B.Ed. Trainee Teachers of science disciplines. In other words, we can say that both Under graduate and Post graduate B.Ed. Trainee teachers of science disciplines have almost equal Perception towards Blended Learning as there is no much difference in their mean scores.

We can say the following points from above discussions:

- Irrespective of gender and qualifications, B.Ed. Trainee Teachers of science disciplines agree that Blended Learning helps all learning requirements and styles of teachers and students through a variety of mediums and techniques.
- The Blended Learning is a learner centred instructional strategy and it focusses on learning outcomes of students.
- Blended Mode of teaching – learning of Maths/ Physics/ Chemistry/ Zoology / Botany /Computer Science enables teachers and students for better time management and flexibility.
- Face to face teaching science subjects and using computer operation in the classroom reduce the workload on both teacher and students.
- Teaching skills can be developed through online and the same can be implemented in Face – to – face classroom teaching - learning.
- Face – to – Face teaching with online support is essential to update and improve the knowledge among the students.
- Blended Mode of teaching – learning is more amenable for self and continuous learning and it enhances the institutional reputation.

6. CONCLUSION

From this study, it is concluded that B.Ed. Trainee Teachers of science disciplines have high level of Perception towards Blended Learning and they prefer the blended mode of teaching learning. Gender and qualifications have nothing to do with the Perception towards Blended Learning among B.Ed. Trainee Teachers of science disciplines. Blended Learning helps in improving their performance, enriches their interest of learning, clears their concepts, gives access to vast knowledge of resources, saves their time and energy, provides opportunities to clear their doubts, enhances their technological knowledge, enhances students learning outcomes, improves interaction between teacher and students, increases students' engagement in learning, provides opportunities to share their ideas, and freedom to learn on their own pace. The short comings of face – to – face classroom learning and online learning are removed by Blended Learning. In Blended Learning the importance of face –to- face in – person learning is fully valued. Therefore, it is one of the best approaches of teaching in this modern era.

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