



Effect Of Blended Learning Environment On The Learning Achievements Of Pupil Teacher And Their Attitudes Towards It's Use.

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Abstract: In 21st century, The world has witnessed revolution and rapid changes in information and communication technology. Blended learning is an approach that based on the philosophy of the integration of two or more method of interaction in teaching learning situations & it also depends upon the pace of learner's interests & motivation. In this present study it revealed that the blended teaching learning approach have an magnificent effect on increasing in the achievements scores & also the interest of the pupil teacher. It shows a positive impact on adopting the blended learning approach among pupil teacher rather than adopting a single method of interactions. while imparting teaching through LMS(Learning Management system) The pupil teacher had shown a positive attitude towards the use of Blended learning approach.

Keywords: *Blended learning, Achievements, Attitudes, Pupil Teacher, LMS.*

1. INTRODUCTION

Blended learning is one of the recently developed teaching strategies, and it is a strategies that incorporates both the direct learning i.e face to face mode & ICT mediated lesson plan using LMS (Learning management system). Blended learning is a learning program which provide educational material and research sources on web, while the guidance of teacher and training sessions provide an essential instructional mean. Blended learning can be defined as the process of blending traditional roles of Teachers with the roles of e-teacher in classes. Thus it is a learning which integrates traditional and electronic learning .The most important features of blended learning include decreasing the cost of learning significantly, face to face interaction, supporting the humanistic aspects and social relations among learners, and between them and teacher, the flexibility required for fulfilment of individual needs using technological equipments for enrichment of knowledge and improving the quality of teaching learning processes. Blended learning is one type of instructional model approaches which is a alternative model of instruction while both face to face and e-learning strategies use. The flexibility that has been seen in the perspective of both teacher and learner in a teaching & learning context. This is a new approach of teaching strategies which based on the principle of self pace , it means learners as per their own pace they can understand the concepts as per their time schedule.

Firstly In this fast growing technological world we should way forward in every aspects. After the COVID 19 Pandemic the central and state government were giving more emphasis on E-learning so that different applications related to online learning portal was launched for both teacher and students i.e DIKSHA ,EDUSAT,CHALKIT etc. The main aim for launching was to giving online training to the teachers and simultaneously giving online teaching to the students for overcoming the disruption in teaching learning process. Secondly those people who are unable to access the face to face education i.e to attend the physical class due to some reasons i.e

1. Geographical isolation from mainland India
2. Problems related to road connectivity and communication.
3. Orthodox mindset of the people
4. Patriarchy society
5. Gender stereotype
6. Financial problems for enrolling in different institutions
7. Jobholder candidates

Look into the Above mentioned problems different university and higher educational institutions are providing the education in blended mode. Blended mode of education is the easiest way that learners are choosing the mode of getting education independently as per their choice. So the flexibility has been seen in this type of instructional approach. Technological advancement and good internet connectivity play a vital role to fulfil the objective of blended learning. Thirdly the philosophy behind the blended learning is that “no one can be debarred from getting quality education that everyone should get education irrespective of different obstacles.

Today blended learning create a new philosophy that incorporate both face to face and online education. The materials related to any subjects is now accessed in few seconds. The availability of study resources is solved. IGNOU play an important role in providing self instructional material freely in online platforms i.e egyankosh. So its time to change our mode of getting education through blended mode. Instructional model is an important component that can affect the effectiveness and efficacy of teaching and learning process. An instructional model serves a good master plan of teaching. Blended learning is a popular instructional approach of teaching and learning. The present study is based on blended learning in which the investigator measures the effect of blended learning on the learning achievement of pupil teacher(integrated BA B.Ed. students) and measure their attitudes after using the blended learning strategies. This blended learning instruction describes a systematic procedure in organizing learning experiences to achieve learning objectives.

2. RATIONALE OF THE STUDY

The major aim of education is to provide quality education to every students of a country. The development of the country depends on quality education. By providing multi method of teaching strategies as per the present requirements of the students. Today Single mode of teaching strategies is so much boring so government is now working on different innovations & initiatives in the field of teaching method. Blended learning is a new approach of method that creates opportunities for the students to explore their ideas Interest as per their pace. In Blended learning strategies, students are acquainted with different ICT mediated lesson and equipments that creates interest within them to have a curiosity to use new initiative in their teaching. The reason behind conducting these study to check whether Blended learning strategies is effective for BA B.Ed. students or not.

The proposed study is important to assess the effect of using blended teaching learning strategy on achievement of integrated B.A B.Ed. students. From this it can be assessed that how the students used as well as experienced the blended learning strategy. Will it have an effectiveness or not? and how blended learning environment influence on the achievements and attitude of pupil teacher. The effect will be checked by conducting the teaching learning strategy in real classroom environment. In this study the investigator is going to assess the effect of blended learning environment on the achievement of pupil teacher and how they utilise the resource material on blended mode and to assess their responses after using this learning strategies. The investigator is used E-learning portal for the students of integrated BA B.Ed. to provide a new teaching and learning strategies and opportunities to acquainted With new environment of teaching.

3. LITERATURE REVIEW

Research in education is a search for acquiring new knowledge, concepts, truths etc. Research is based on inventions as well as innovations. Through R&D we can find new things. Research provides the solutions for the problems in the field of education rather yielding truths. A careful review of educational journals, books, thesis, encyclopaedia, synopsis etc. & other source of information of the problem is essential for any research. By review of literature the researcher becomes familiar with various trends and phases in research in his/her field. It helps the investigator in defining the problems and provides knowledge that has gained in the past.

- 3.1. Judy Drennan & Jessica K (2005).** Conducted a study on factors affecting student's attitudes towards flexible online learning in management education. In this study authors examined the factors affecting the students satisfaction towards online learning . The technology acceptance model was developed to collect data from the students to identify the positive perception of technology as an innovative learning style. The sample of the study is comprises of first year students of management course .The data was analysed using structural equation modelling. The result of the study suggests that students satisfaction is influenced by positive perceptions towards technology and self learning mode.
- 3.2. AL-Ma'ayath (2006).** studied the impact of blended learning and teaching based on CORT(Abbreviation) program for the development of language communication skills among the students at Jordanian university. The sample of study consisted of (78) students divided into two groups ;an experimental group & control group. Results showed significant difference in direct and the study recommended the use of blended teaching for the development of language skills.
- 3.3. Buket and Meryem (2006).** Carried out research on students' view on blended learning environment. This study was conducted for 64 students who belong to computer education and instructional technology and found that students enjoyed taking part in the blended learning environment. It also reveals that the students' achievement levels and the frequency of their participation in online learning forum affected their views about blended learning environment. The study reveals that the dimensions of face to face interaction had the highest score and the results demonstrated the importance of interaction and communication for the success of online learning. And they revealed that their perception of blended learning is highly satisfied.
- 3.4. Akkoyunlu and Soylu (2006).** carried out a research to explore the attitudes of Students towards blended learning setting, through a sample size of (64) male and female students in the department of computer science and teaching methods, in the academic year 2005 2006. Results of the study showed that students enjoyed participating in the setting of blended learning, and that the level of their achievement and participation in discussion improved their attitudes towards blended learning and results also showed that the achievement of the student was better in blended learning settings.
- 3.5. Akkoyunlu and Soylu (2006).** carried out a research to explore the attitudes of Students towards blended learning setting, through a sample size of (64) male and female students in the department of computer science and teaching methods, in the academic year 2005 2006. Results of the study showed that students enjoyed participating in the setting of blended learning, and that the level of their achievement and participation in discussion improved their attitudes towards blended learning and results also showed that the achievement of the student was better in blended learning settings.
- 3.6. Al-awadh and yunis (2011).** conducted a study to investigate the impact of blended learning on the achievement of eighth grades in solving equations unit as well as their attitudes towards learning maths, two pilot schools in Amman educational directorate. Two groups: an experimental (n=75) and control group (n=73) were selected and tools was used to administer the study which include :1-prerequisites exam 2-an achievement test in solving equations and functions ,3-scale of attitude of learning maths , after checking reliability and validity of the scales. The experimental group was taught using blended learning method, while the control group was taught using traditional teaching methods. Post test were applied on the participants of both groups. Results showed the lack of significant impact on achievement of the students in functions and equations solving and attitudes due to teaching method and the achievement level of the students.
- 3.7. Akhila (2013).** conducted a study on blended learning package to mathematics groups .It is found that focused treatment with a blended learning package has enhanced the achievement of students of experimental group in mathematics than the constructivist approach of instruction in the control group. The study reveals that the blended learning package is more effective than constructivism method. So the quality of teaching mathematics and student's achievement is improved by utilizing the blended learning package. This study also reveals that implementation of blended learning package has increased retention of knowledge and interest towards learning mathematics .
- 3.8. Al-Basheer and Al- Hasanat (2013).** studied the impact of blended learning on the improvement of performance of elementary grade students in Arabic listening skills. In order to achieve this objective the researcher choose two schools purposefully, one for males and the other for females. Two classes were selected from each school, one was used as control group, other as an experimental group. The impact of blended learning on the performance of the student was measured through a test developed by the researchers. The results showed the presence of statistically significance difference at the sig. Level of ($\alpha=0.05$) in the results of the post test of the experimental group, as well as differences ascribed to gender. Result showed also the absence of statistically significant differences due to interaction between teaching strategy and gender.

- 3.9. Bani –hamad (2011).** studied to explore the impact of blended learning on achievement and motivation in learning Arabic among third grade students, in comparison to traditional methods. The sample of the study consisted of (44) male and female students, who were chosen purposefully, and divided into two groups : experimental and control group. The experimental group was Arabic using blended teaching, while control group was taught using traditional teaching methods. The experiment continued for the whole semester. Results of ANCOVA analysis showed statistically significant differences in achievements due to the teaching variable strategy and on behalf of the experimental group. Results showed also statistically significant differences in motivation towards learning Arabic and on behalf of experimental group as well.
- 3.10. Bani-doumi and Al-zoubi (2011).** conducted a study to investigate the impact of blended learning on the achievement of fourth grades in math and their motivation towards learning. The sample of the study consisted of (71) male and female students, distributed into 4 classes. The achievement test was used and the motivation scale after being tested in terms of reliability and validity. Means , standard deviations, ANCOVA and t-test were used for data processing. Results showed significant difference between the means of participants of the experimental and control groups in the achievement exam on behalf of the experimental group. No significant differences were found between males and females in the achievement exam. Results showed significant differences between the scores of the two groups of the study in the motivation scale on behalf of the post test. A significant difference was found between the performance of participants of the two groups in the motivation scale and on behalf of the experimental group.
- 3.11. Dauod and mahamoud (2013).** conducted a study to examine the impact of blended teaching on the achievement of 5th grades in chemistry and their attitudes towards blended learning in Mosul. Two secondary schools were chosen randomly: one was used as control group (n=31 students) and was taught using traditional method, and second class was used as an experimental group (n=32) was taught using blended teaching method. In order to achieve the aims of the study , two tools were developed by researchers: the achievement test and the attitude scale. Results of the study showed statistically significant differences between the means of the achievement of the participants of the experimental group, and the means of the participants of control group; and statistically significant differences between the means of the scores of the participants of the control and experimental groups in the attitudes scales on behalf of the experimental group.
- 3.12. Dhanya Krishnan (2011).** studied the effect of blended teaching strategy on higher order thinking and learning science among secondary school students. The study was quasi experimental in nature where the pre test and post test non equivalent group design was used. It is also attempted to study the learning style of students in blended learning environment. The data was analyzed using descriptive and inferential statistics. ANCOVA was employed for data analysis. The findings of study revealed the blended learning strategy had a positive effect on critical thinking, problem solving, science process skills and science achievement of students. Blended teaching and learning strategy was considered as one of the new innovative pedagogical approaches for integrating ICT in science education for ninth standard school students.

4. OBJECTIVES OF THE STUDY

The objectives of this paper

- i. To study the effect of blended learning on learning achievements of the study.
- ii. To assess the learners attitudes towards the use of blended learning.
- iii. To documents the blended learning experience of pupil teacher.

5. METHODOLOGY ADOPTED

The proposed study is quasi experimental research design where mixed research methods is used for the data collection and analysis. As the nature of study suggests both qualitative and quantitative data for the study be collected concurrently at the same time; so **concurrent convergent design** of the mixed methods study have been used.



- 5.1. To check & administer the research work on the effect of blended learning strategies and for measuring the attitudes of the students towards the use of blended teaching & learning environment. The investigator is taking pupil teacher studying in Integrated B.A B.Ed. students of UDTE , Utkal University as the population for the research study
- 5.2. The students of integrated BA B.Ed. are the sample . it means the whole population of integrated BA B.Ed. students are my sample. for this proposed study Total sample size is 30 students.
- 5.3. The Sample for the proposed study have been taken by using purposive sampling techniques. From different types of purposive sampling techniques the investigator has used convenient sampling techniques for this study.
- 5.4. Tools refers to the instruments used to collect the required data which are essential for the research work. Collecting the data is one of the most important components of research. Relevant data plays a significant role in gaining insights on the existing problem or opportunity. Research tool is any tool used to measure to collect information needed to answer a research question. Careful selection of data collection tools can help the researcher achieve goals and save time.

For this research work, the investigator is use different tools for data collection to achieve the goals behind conducting this research work. The investigator is used different tools like

1. For data collection the investigator is used LMS portal for imparting instruction to the integrated BA B.Ed. students in this online platform. In this LMS portal the investigator provided detailed classroom instruction in the form of recorded video lecture, self instruction materials related to the respective course module which was designed by the investigator.
2. Achievement test of a course module, Learning Assessment for the students of integrated BA B.Ed..

Descriptions about tool

Total 4 Achievement tests have conducted. From 4 achievement tests 2 tests are purely objective types consisting of 10 marks for each test means total 20 marks objectives questions & other 2 tests are descriptive types consisting of 1 question in each tests carrying 20 marks in each , means total 40 marks in descriptive type .

Table 1: Distribution of scores in different assessment

1. Assessment 1 (Objective)	10 Marks
2. Assessment 1 (Descriptive)	20 Marks
3. Assessment 2 (Objective)	10 Marks
4. Assessment 2 (Descriptive)	20 Marks
Sum of total scores of 4 Assessment	60 Marks

3. To measure the attitudes of the students from their feedback after the completion of the instruction, the investigator is used 5 points responses scale

Table 2 : Scoring the responses of the students

RESPONSES	SCORING
5	Strongly Disagree
4	Disagree
3	Neutral
2	Agree
1	Strongly Agree

5.5. Data collection is a systematic process in which the investigator is collecting the data for their research work. To fulfil the research objectives investigator follow certain systematic procedure for the collection of data. Data collection is not a one day work , it takes much more time to collect relevant data that is useful for research work. So the investigator follow certain steps in data collection.

For this proposed study the investigator has followed certain systematic steps and procedure for data collection. The data collection procedure are of the following.


1. The investigator requested the Principal of UDTE Utkal University to grant permission to carry out the study on integrated B.A B.Ed. students.
2. After got the permission from the Principal of UDTE the investigator was prepared the course module on the subject “Learning Assessment” for integrated BA B.Ed. students LMS portal which is a online portal .
3. Then the investigator informed all the students and took a session regarding how to use LMS portal & also they all were crated LMS accounts for leaning through online mode.
4. Then students were instructed to attend some classes in face to face mode as well as some classes through LMS portal.
5. All the video recorded classes and self instruction materials provided in LMS portal so that students accessed all the classes& materials in online mode as per their pace and time they can anytime access these things.
6. After completed all the course module , 4 assessments were conducted from these 2 assessments were purely objective & other 2 tests were descriptive.
7. When the tests were completed , the evaluation of objectives type question is automatically done LMS portal.
8. But the descriptive answers which were uploaded by students in the LMS portal in Pdf format had evaluated by the supervisor / guide of the investigator.
9. Then total 30 questions were prepared for the students to measure the attitude by using blended learning strategies. From 30 questions , 15 questions were made to measure the positive attitudes & 15 questions were made to measure the negative attitudes.
10. These 30 questions were provided in LMS(Learning Management portal)for their responses about their experience in using blended learning.

LMS Portal Interface



MY COURSES

✓ PE - 4: Learning Assessment 🔍



The "PE - 4: Learning Assessment" course is designed for a 4-year Integrated B.A. B.Ed. Students of the University Department of...

Course Facilitator: [DURGAPRASAD SAHOO](#)

1. Courses Designed For Integrated BA B.Ed. Students In E-Learning Portal.

6. RESEARCH FINDINGS

After the completion of the study the investigator summarises the findings of the study. It represents its conclusion regarding the effect of blended learning on the achievements of the pupil teachers and it also measured the attitudes regarding the use of blended learning by the investigator.

6.1. EFFECT OF BLENDED LEARNING ON ACHIEVEMENT SCORES OF PUPIL TEACHER

Blended learning plays an important role in increasing the achievement scores of the pupil teacher. In this study it was seen that the achievement scores of the students is gradually increased by giving interventions like authentic self instructional materials as well as recorded videos. In this study the investigator taught the students in both face to face and by using LMS Learning portal. The investigator imparted 2 mode of instruction instead of a single mode of instruction. Students were so much curious to use a new approach of instruction. As LMS portal is purely based on online platform for teaching learning so it is easy for the students to learn the concepts according to their pace. For this different assessments were taking place to know how the students are acquainted with new approach and how it improves the achievements scores.

Blended learning approach had a positive impact on the achievement scores of the students as while doing 4 assessments the achievements scores were increased in every assessment with respect to the previous assessments as in assessment 1 which is purely objectives in nature scores 71.66% but after giving intervention in assessment 3 (objective) students mean scores is increased to 80.33% so approximately there is increase of 8.67 % as compare to assessment 1 mean percentage scores. Accordingly in assessment 2 which is purely descriptive in nature scores 56.83% but after giving intervention in assessment 4 (descriptive) students mean scores is increased to 66% so approximately there is increase of 9.17 % as compare to assessment 2 mean percentage scores. So it concluded that the effect of blended learning plays an important role in increasing the achievement scores of the students.

6.2. ATTITUDES OF PUPIL TEACHER TOWARDS USING BLENDED LEARNING ENVIRONMENT

After imparted the blended learning instructions to pupil teacher, the investigator provided feedback sheet through LMS learning portal to capture responses regarding the blended learning experience of the pupil teacher. All the students gave their responses and that responses are statistically analysed. The statistical analysis of attitudes shows that the mean attitude score of participants is 78.17 with mode 75. These values indicated the attitude of participants have significantly enhanced due to the investigator intervention.

So blended learning have a positive impact on the attitudes of the students. so the effectiveness of using blended learning strategies is high because the students are showing positive responses after using BL . in 21st century BL strategies a new philosophy in teaching leaning that promotes a better learning environment and it boosts the achievements of the students through its proper implementation.

6.3. CAPTURE THE BLENDED LEARNING EXPERIENCE OF PUPIL TEACHER

Out of total 30 students, 25 students gave their responses that blended learning experience is satisfactory and rest of 5 students did not satisfied with this blended learning approaches. Then the investigator expressed the blended learning experience of the student in the form of percentage that indicated 83.33 % students satisfied with blended learning approach and 16.66 % students were not satisfied with this approach. Finally it is concluded that more that 83% above students liked the blended learning environment and it indicates that blended learning have a positive impact on students as more than 83% students are satisfied with this approach of teaching and learning. But it can't be ignored that why 16.66% students are unsatisfied with this approach of learning. It may have some factors behind that the students are being unsatisfied.

7. EDUCATIONAL IMPLICATION

Blended learning is a integration of both face to face and ICT mediated learning that enables the learner to interact with the mentor/ course facilitator instructor, learning resources, e-content etc. The idea of blended education makes learning easy and more productive. Especially students will be more acquainted with technological equipments and its use will be very effective on the performance of the students. Due to technological advancement in learning ,it will be more flexible. The concept of face to face mode classroom

instruction always exist but the idea of blended learning will have effective in case of when the face to face mode of interaction is not possible.

The findings of the study will be helpful to the different stakeholders in the field of teacher educational and school education. Some of the significant implication of the study is for:

- 7.1. Educational planner:** The experts who are involved in planning of various programmes and policies for its implementations at different levels of education. There are different planners at different levels.
 - i. Educational planner plays an important role in preparing a systematic plan for introducing and implementing blended learning strategies in different educational institutions , universities, colleges etc.
 - ii. Now a days IGNOU provided blended leaning opportunities for the job holder candidate who wants to upgrade their qualification in future.
- 7.2. Teacher and Teacher Educator:** Teacher who teach at different level of school up to higher education but the teacher educator is one who educate prospective teachers and to teach practicing teachers.
 - i. Blended learning strategies should adapted by the teacher educator in different teacher education institutions because it creates lots of oppertunites for the pupil teacher that they can learn as per their own pace and time
 - ii. Different e –contents provided through online help the students to access materials easily for their study
 - iii. BL provide a rich leaning environment for the students and creates interests among the student to use new ICT equipments for their learning.
- 7.3. Educational Administrators:** The persons who manage and control and also to execute the functional needs of educational machinery at different levels of education.
 - i. At districts level Districts Education officer is called as educational administrator That every new approaches in teaching and learning is implemented by him
- 7.4. A parent is the caretaker**
 - i. Parent should be aware for providing online learning scope to their children so that they can access the classes in online and to learn new concept .
- 7.5. Students:** A person who is studying at any educational institutions i.e in schools, colleges , university, private institutions etc.
 - i. Students should be curious to know the use of ICT equipments like computer , tab, internet etc.
 - ii. Through the use of ICT gadget students can learn the concepts easily and it saves time. So blended learning approach is a multi mode approach that the student freely choose their mode of instruction.
- 7.6. Curriculum Transaction:** it is a process of planning and organizing the curriculum in a particular subject area for different levels of education and continuously monitor it while being implemented.
 - i. Educational experts prepare the curriculum in online mode so that it is easy for everyone to access the materials easily.
 - ii. Teacher should impart instruction by using multi mode of instruction. During Covid 19 Pandemic all teachers were taking classes through online mode so it is very easy for the students to learn easily staying at home.
 - iii. In this proposed study the investigator is used E-learning Portal for curriculum transaction in online mode. It was easy for the pupil teacher to learn .
- 7.7. Assessment / Evaluation:** Assessment & evaluation refers to the wide variety of methods or tools that educators use to measure ,evaluate and document the academic readiness , learning progress, skill, acquisition of knowledge & educational needs of the students.
 - i. Now the process of assessment and evaluation has been done in online mode that reduces the man power efforts to check examination paper in offline mode.
 - ii. In E-Learning portal the process of evaluation and feedback were done automatically and results would be shown automatically.
 - iii. Now in India all the exam are conducted in online CBT mode and also the evaluation and publication of results are published in online mode.

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