

# IMPACT OF BLENDED LEARNING IN SCIENCE TEACHING COMPETENCY

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**Abstract:** *ICT is a necessary part of the education system in today's scenario. Every learner needs unique learning style blended learning is a solution to their needs. The present study investigates the impact of blended learning in science teaching competency. The investigator adopted single group pre-test, post test experimental design was used, purposive sample, consist of 35 prospective teachers enrolled in science teaching in Alagappa university college of education , at the academic year of 2016-2017. The experimental group received both face-to-face, online and offline learning. Based on their post achievement test there are significant differences between the mean scores of the experimental group. It shows that blended learning is effective for science teaching competency*

**Key words:** *blended learning, teaching competency, learning*

## Introduction

The Kothari commission report (1960) states, 'If science is poorly instructed and badly learnt it's very little quite burdening the mind with dead info and it might degenerate even into new superstitions'. Revised NPE (National Policy on Education) 1992 envisaged launching of national mission for achieving universalisation of education and quality of education. The primary objective of science education is to enhance teaching and learning practices. The sphere of science education has developed into a various aggregation of interest areas as witnessed within the pages of analysis in science education. It emphasized the requirement for modification within teacher's outlook of teaching and dissemination of instruction. The advancement of science must be effectively sent to the scholars while not a lot of time gaps. So science teaching ability becomes an important issue for the quick development of science and for the induction of interest among students to find out the essential and latest advancement in science. Blended learning has several advantages over E-learning, blended learning participants having the ability to socialize face-to-face interaction so as to encourage the less freelance student. In relevance learning designs, a dependence on the spoken communication among the training method might become an associate degree obstacle to those students who aren't capable of discussions

## Need for the study

Future teacher would build the teaching, learning scenario to develop the pupil's skills and competencies. Booming teaching needs 2 basic things; the teacher ought to be competent to train the course for them. At a similar time they pursue applicable methodology and technology of teaching. Effective blended learning surroundings equip them in adapting an appropriate teaching methods; within the classroom, there is a unit sample chance to adapt to blended learning approach improve the teaching competency

## Objective of the study

- To identify the blended learning that would enhance the competency in preparation of lesson plan among student teachers
- To identify the blended learning that would enhance the competency in classroom management skill of student teachers
- To develop and implement the blended learning to the student teachers to enhance the teaching competency in graduate teacher training students.

## Hypothesis of the study

- There will be no significant mean difference between the pre and post assessment scores in Preparation of lesson plan.
- There will be no significant mean difference between the pre and post assessment scores in teaching skill of student teachers.
- There will be no significant mean difference between the pre and post assessment scores in Classroom management skill of student teachers
- There will be no significant mean difference between the pre and post assessment scores of Science trainees in teaching competency.

## Methodology

In the present study, the investigator has chosen single group experimental design. The Student teacher studying B.Ed in Alagappa university College of Education, Karaikudi, Sivagangai (dist); A totally 30 samples were selected from biological science and physical science using purposive sampling technique. The investigator gives instructions and classes through face-to-face, online and offline materials. The investigator created a forum in that online based instruction (pre-recorded video posted, PowerPoint, word document, PDF, you tubes, flipped classes) are posted; face-to-face instruction (lecture method, group discussion, cooperative method, peer tutoring) are take place in classroom. This experiment was administered totally 12 days, after the treatment investigator conducted post test of experimental group.

**HYPOTHESIS -1**

*“There will be no significant mean difference between the pre and post assessment scores in preparation of lesson plan ”.*

**Table-4.3**

The table shows the mean, Standard deviation and ‘t’ value of pre and post assessment scores in preparation of lesson plan.

| S.No | Test      | N  | Mean  | S.D  | t value | Level of significance |
|------|-----------|----|-------|------|---------|-----------------------|
| 1    | Pre test  | 30 | 29.29 | 2.95 | 8.44    | significant           |
| 2    | Post test | 30 | 48.83 | 1.78 |         |                       |

Significant at 1% level  
Df = 30-1 = 29

Table value = 2.462

**Interpretation**

Since the calculated ‘t’ value (8.44) is greater than the table value (2.462), it is concluded that there is a significant difference between pre and post assessment scores in preparation of lesson plan Therefore, the hypothesis framed by the investigator is rejected.

**HYPOTHESIS -2**

*“There will be no significant mean difference between the pre and post assessment scores in Teaching skill of student teachers.”*

**Table4.4**

The table shows the mean, Standard deviation and ‘t’ value of pre and post assessment scores in Teaching skill of student teachers.

| S.No | Test      | N  | Mean  | S.D  | t value | Level of significance |
|------|-----------|----|-------|------|---------|-----------------------|
| 1    | Pre test  | 30 | 26.68 | 3.55 | 1.98    | significant           |
| 2    | Post test | 30 | 49.18 | 1.99 |         |                       |

Significant at 5% level  
Df = 30-1 = 29

Table value = 1.66

**Interpretation**

Since the calculated ‘t’ value (1.98) is greater than the table value (1.66), it is concluded that there is a significant difference between pre and post assessment scores in Teaching skill of student teachers. Therefore, the hypothesis framed by the investigator is rejected.

**HYPOTHESIS -3**

*“There will be no significant mean difference between the pre and post assessment scores in classroom management of student teachers.”*

**Table4.6**

The table shows the mean, Standard deviation and ‘t’ value of pre and post assessment scores in classroom management of student teachers.

| S.No | Test      | N  | Mean  | S.D  | t value | Level of significance |
|------|-----------|----|-------|------|---------|-----------------------|
| 1    | Pre test  | 30 | 21.12 | 4.01 | 3.01    | significant           |
| 2    | Post test | 30 | 50.56 | 2.25 |         |                       |

Significant at 1% level  
Df = 30-1 = 29

Table value = 2.462

**Interpretation**

Since the calculated ‘t’ value (3.01) is greater than the table value (2.462), it is concluded that there is a significant difference between pre and post assessment scores in classroom management of student teachers. Therefore, the hypothesis framed by the investigator is rejected.

**HYPOTHESIS -4**

*“There will be no significant mean difference between the pre and post assessment scores on teaching competency in Science trainees.”*

**Table-4.1**

The table shows the mean, Standard deviation and ‘t’ value of the pre and post assessment scores on teaching competency in Science trainees.

| S.No | Test      | N  | Mean   | S.D   | t value | Level of significance |
|------|-----------|----|--------|-------|---------|-----------------------|
| 1    | Pre test  | 30 | 152.97 | 16.09 | 4.63    | significant           |
| 2    | Post test | 30 | 285.06 | 6.57  |         |                       |

Significant at 1% level  
Df = 30-1 = 29

Table value = 2.462

**Interpretation**

Since the calculated 't' value (4.63) is greater than the table value (2.462), it is concluded that there is a significant difference between pre and post assessment scores on teaching competency in Science trainees. Therefore, the hypothesis framed by the investigator is rejected

**Conclusion**

The investigator suggests this study will certainly facilitate the long run academics to their role confidently by enhancing their teaching in their class-room. There has to be compelled to guide our efforts towards the execution of Blended learning to boost teaching ability at different levels of teacher education.

**Educational implication**

Investigator advised that coaching, seminars and workshop ought to be organized for the pre-service and in-service teachers on the employment of blended learning educational approach and electronic learning in teaching, the study additionally suggest that school ought to be equipped with ADP system with net facilities.

**References**

- [1] Kothari Commission. (1960) retrieved from <http://www.education.nic.in/cd50years/g/t/HB/0THB0J01.htm>
- [2] National Educational Policy. (1992) retrieved from [http://www.ncert.nic.in/oth\\_anoun/npe86.pdf](http://www.ncert.nic.in/oth_anoun/npe86.pdf)
- [3] K. E. Ayse and B. Giray. The effect of guided-inquiry instruction on 6th grade Turkish students' achievement, science process skills, and attitudes toward science. *International Journal of Science Education*. [Online]. Available: <http://www.ingentaconnect.com/content/routledg/tsed/2014/00000036/00000001/art00004>
- [4] S. Amutha, Impact of e-Content Integration in Science on the Learning of Students at Tertiary Level, *International Journal of Information and Education Technology*, Vol. 6, No. 8, August 2016
- [5] N.Johnson, Empowerment of Science Teaching Competence of M.Ed trainees through e-Content with a Metacognitive Instructional Design, *International Journal of Educational Research and Technology*, Volume 3 [ 4] December 2012: 29 - 32 © All Rights Reserved Society of Education, India
- [6] Heinze, and C. Procter, " Reflections on the use of Blended learning: Education in a Changing Environment", *Conference Proceedings University of Salford, Education Development Unit, Sep, 2004*
- [7] M.Monicka and J.Jayachithra, "Blended Learning Effectiveness: Pre-service Teachers' Competency", *International Journal of Creative Research Thoughts*, Volume 6, Issue 1 January 2018

