

# Effect of Blended Approach on the Academic Achievement of Low Achievers in the Subject of Education at Higher Secondary Level

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## Abstract

The purpose of the study was to inquire the effects of blended approach on the academic achievements of low achievers in the Education subject at higher secondary level. For this study, pretest and the posttest equivalent group experimental research was carried out for data collection. All the students studying in 11<sup>th</sup> class in Federal Government Model Colleges of Islamabad served as population of current study. Accessible population of the study were all students studying in 11<sup>th</sup> class in selected college for experiment. Thirty students of 1<sup>st</sup> year class were sample of study and then on basis of pre-test performance, they were equated and distributed into two groups. Each group comprised of fifteen students. Teacher made pretest and posttest was developed. Experiment was provided to both of groups. For pre-test grades, post-test and retention test were examined at 0.05 level of significance by using t-test through SPSS. It was concluded that blended approach was much better as compared to conventional methodology in the academic achievement of students on posttest and even on retention test. It was recommended that blended approach should be used at college level for teaching-learning process.

**Keywords:** Blended Approach, academic achievement, low achievers, experimental research, traditional teaching, online resources.

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## Introduction

New advancements and developments take place at a fast tempo in the public area space each year. Updates or more current sorts of these advances are never a long way behind and have huge followings, putting effective impact on human life. Education has now no longer remained unaffected. These improvements and innovation are likely to affect the manner in which individuals receive data and learn. Traditionally, students have been exposed to educator-driven strategies in a conventional classroom or home setting, in which the teacher uses a single instructional strategy for the entire class and relies on specific textbook year after year. A large segment of the student's community, however, supports an individualized treatment. They aspire for self-guided learning techniques. This poses a great challenge to educators, seeking to fuse customary and innovative methods to accommodate students of different learning styles and needs.

Initially the theme of blended approach was developed by end of the 20<sup>th</sup> century and it was figured out in the mid of 21<sup>st</sup> century (Graham, 2006). The blended approach was embraced with a book having an idea of two different modes of instruction with a blend of interactive guidance for students. It is an effective amalgamation of face-to-face conventional learning and electronic learning.

Wood (2009) describes Blended Learning in a minimal framework as mixed conventional achievement style with on-line learning, guiding learners in every phase and stage on one cutting edge methodologies for the benefits of teaching innovation to plan a new instructional circumstance. Blended learning involves instructor's crafts and abilities to consolidate between differed assets and exercise learning conditions in schoolroom. The executives that empowers students to cooperate and develop thoughts and fabricate aptitudes', Graham & Allen, recorded that there are three best typically stated definitions:

1. Blending of instructive modules.
2. combining of teaching strategies.
3. Combining web-based electronic and conventional methods of teaching.

Combining web-based electronic and conventional methods of teaching (Oyre, Bersin & Associates, 2003 Barrett and Sharma, (2007) emphasize that Blended Learning is important in taking the apparent world into a class that augments inspiration and enthusiasm for learning. Allan (2007) underlines blended learning as mixed electronic-learning which would be an appropriate methodology to join the web work engines for prescribed content list, featuring a few pieces of the course substance that ought to be moved to the online condition (gathering email, web applications) without offering the entire courses on the web. In any case, it is imperative to set up the equilibrium between conventional and online conditions, keeping in view the benefits of the two strategies.

Wood (2009) abridges the advantages of that approach as follows:

1. Enhancing learner's connection with cooperation.
2. Increasing pupils' learning and execution.
3. Different subject [methodologies for effective teaching](#).
4. Developing free students, a wellspring of moment criticism, efficient and inspiration to students (Sharma & Barrett, 2007).
5. Improving pupils' learning outcomes and removing instructions imparting value (Dziuban, Hartman & Moskal, 2004).

## Literature Review

Heinze and Procter (2006) described the word 'blend' indicates a mixture of upgradation; it either can be an equation to look into or to make any congruity. Similarly, Maso (2006) considers

blended learning as something that blends two components, like web-based learning and classroom exercises. Blended learning got a number of different descriptions from research community. Mortera (2006) defined the blended learning as an encouraging approach coordination between personal up-close and separation learning. Kanuka, Brooks and Saranchuck (2009) said that blended learning may diminish the level of confinement at the place, time and circumstances yet here is present a proper cooperation among learners and educators. Thorne (2003) have cited blended learning as an arrangement and advancement in the process of learning in order to establish human capacity by applying innovation on web-based learning, keeping their cooperation and communications with addition of up-close and personal.

In view of above-mentioned definitions by specialists, the blended learning could be inferred as learning of consolidation and joining to up-close and personal with ICT. Finally, the blended learning has led to a learning approach which units face to face coordination with on-line resources in concordance.

Driscoll and Carliner (2009) cited the utilization of blended learning that it may blend and integrate an educational program in some alternate organization in order to achieve it as universally useful. Instructors, additionally, get ready before conveyancing of learning materials. For transfer of learning materials in the Moodle(device), there must be some educational aptitude of instructors to bring improvement in the captivating process in up-close, personal and web-based learning.

According to Rusman (2009), blended learning is a blend of various methodologies. The instructor should have the capacity to join at least two strategies for methodology in figuring out how to accomplish the goals present in learning process.

According to Heterick and Twigg (2003) depicts the purpose of blended learning as to discover the symmetry of instructional frameworks that are classical fitted specially to upgrade the student's learning. Another evidence of blended learning can be progressively reasonable and profitable when it appears differently in relation to a typical classroom display.

Wood (2009) highlighted the following traits of blended learning model:

- i. Moving structure delivery for student-centered learning.
- ii. Amplifying teacher-students, students-students content, students external resources participation.
- iii. Integrated appraisal methodology for instructors and students.
- iv. Expanding the spaces and openings existing for learning (Shower & Bourke, 2010).
- v. Support course organization works out (e.g. correspondence, examination convenience, stepping and input).
- vi. Support the course of action of data and resources for students.
- vii. Engage and spike students via knowledge and facilitated exertion.
- viii. The parts of the past blended learning model are in accordance with the present situation.
- ix. Computer lab where eye to eye participation among educator and understudies, and among the understudies occur.
- x. Electronic learning by methods for the Internet.
- xi. The instructor.
- xii. Chat spaces for synchronous talk by methods for the internet among the educator-students and students themselves.
- xiii. Forums for offbeat trade by methods for the Internet between the educator and students and students themselves.

- xiv. Activities showed by methods for the Internet as projects after every unit which is offered by electronic means to teachers.
- xv. Estimation (Summative and formative).

Two components of e-learning are, specifically 'e' which is only for 'electronic' and second is 'learning'. The principle of e-learning is to get assistance of electronic tools.

Tafiardi (2005), and Ibrahim and Suhardiman (2014) stated that these are functioning and getting the hang of utilization sound parts, video or PC gadget or a blend. At the end of the day, e-learning is a realizing which is upheld by innovative administrations for example, phone, satellite transmissions, sound, tapes or PC.

Hofmann (2011) also includes different difficulties that blended learning faces like guaranteeing members' capacity to utilize innovation effectively, changing educators' mentalities towards the viability of blended picking up, managing and controlling students' advancement, discovering the best match between execution and conveyance medium, and keeping up the online assets offer intuitiveness instead of simply training students. He, likewise, included that impediment, misperception, bothering, and unease might go with communication; it can unfortunately influence profitability, learning, social connections and generally accomplishment notwithstanding, numerous difficulties in assessment, perception and classroom administration.

The essential part to midpoint in order to offer a strong system for blended learning implementation integrates assessable and lively long and short pulling goals which are assessed constantly. Selecting the correct educators, offering continuous custom fitted expert advancement is dependent on the requirements of educators and staff that centers around instructional method, innovation devices and substance, distinguishing the markers of progressing developmental appraisals that assist in estimating the achievement of the program, protecting and supporting the mechanical foundation and gadgets accessibility, and determining the budgetary and HR requirements to actualize blended learning.

As global effects show that the classroom is organized absolutely by an up-close and personal instructor or simply in a web-based setting, Blended learning joins on-line substance including face to face guidance and direction. The expectations are to enable learners to get assistance from the master, the educator, while dealing with the ideas that they are learning by means of online applications and instructive sites. Many individuals have advanced blended learning as a mystical fix that will settle training.

. By taking a gander at the impacts of blended learning, this study would demonstrate the potential advantages and in addition potential absence of advantages or even drawbacks to utilize blended learning. This would enable heads to settle on choices regardless of whether to center financing towards equipment or programming that empowers blended learning. The helping educators would choose whether to seek after a blended learning approach inside their very own classrooms.

### **Objectives of the Study**

The objectives of the study were to:

1. Examine the effects of blended teaching approach and traditional teaching approach on the academic achievement of low achievers.
2. Assess the effects of blended teaching and traditional teaching approach on the retention of low achiever.

### **Hypotheses of the Study**

H<sub>0</sub> #1 There was no significant difference between the mean scores of low achievers of experimental and control groups on pre-test.

H<sub>0</sub> #2 No significant difference was found between the mean scores of low achievers of experimental and control groups on post-test.

H<sub>0</sub> #3 There was no significant difference between the mean scores of low achievers of experimental and control groups on retention test.

### **Methodology**

Experimental research study was conducted. There was one experiential and one control group in the study. The following steps were taken for conduction of the research:

#### **Population & sample**

All the students studying in 11<sup>th</sup> class in Federal Govt. colleges of Islamabad served as population of study. There are total 3418 students in 11<sup>th</sup> class Federal Govt. Colleges of Islamabad (Source FBISE, Federal Directorate of Education, 2018). Accessible population of study was all students of 11<sup>th</sup> class in selected college for experiment.

Students of 11<sup>th</sup> class in Education subject were selected as a sample of study. Thirty higher secondary level students selected through paired random sampling techniques as sample of study and then on the basis of pretest, they were equated and distributed into two groups that were blended teaching group and traditional teaching group on the grounds of pretest results. Each group included fifteen pupils.

#### **Design of the Study**

Pretest-posttest Equivalent control group design was used for carrying out this study. The following design had symbolically expressed as under:

$$\begin{aligned} RE &= O_1T O_2 \\ RC &= O_3 - O_4 \\ dRe &= O_2 - O_1 \\ dRc &= O_4 - O_3 \\ D &= dRe - dR \end{aligned}$$

C=control groups

O1 and O3 = pretest observation

O2 and O4 = posttest observation

T for treatments had described numeral issues that might include internal and external validation of the experimental design. Related to the internal validation, which were such problems (for examples history, maturing, tests instruments statistics differential selections, regression, the experimental mortality and the selection of maturation interactions). If such issues were not being dealt in design of the study, these might impact on contrasting effects that complicate the effect of independent variable as exposed to the last score on dependent variables.

The pretest-posttest equivalent control group design was considered as a suitable design for this research study. This design contained two groups; both groups were formed through pair random sample technique. One group took the new but not usual treatments as the other group; both groups were post-tested. The posttest scores were matched and defined as usefulness of the treatment. That design controlled all-out resources of the internal and external validity as compare to other designs.

#### **Validation of Research Tool**

A committee of the teachers and experts of subject of Education Northern University Nowshera was formed. They were evaluated and made revision of validity of the content in all test items. The whole series of the test were equipped with all textual materials that was instructed to participant's desired strength.

### Reliability of the Test

Islamabad College for Girls F6/2 was selected for pilot study in the 1<sup>st</sup> week of August, 2018 and twelve students studying Education were nominated for this purpose in XI. Obtained data was gathered from pilot testing by applying split half reliability method and spearman formula in which the coefficient of reliability 'r' had been tested at 0.5 level. The Reliability co-efficient technique was applied for the collections of research. The study should be met at 0.70 and might possibly be higher (Frankel & Wallen 2003). The test was, therefore found fine and reliability of test was accepted.

### Research Instrument

Data was collected using a pretest for both groups before treatment and a posttest after the experiment, and a retention test was taken to access the knowledge retention of students after one month of treatment.

### Procedure of the study

The lesson plans of each area of units from (Punjab textbook Board Lahore) were given to the teachers of both groups and various blended techniques (topic related videos, google search, WhatsApp group, recorded video audio clips) were selected as helping material to complete the contents of Education book of grade 11<sup>th</sup> for treatment group. Test comprised of 100 items and based on learners' educational knowledge, was given at end of treatment.

### Data of Collection

Two different types of instructional methods of teaching were adopted in the study. The researcher hired 2 instructors having equal qualification with almost same professional teaching experience. Traditional teaching was used for control group, and blended teaching approach was given to experiment group for 8 weeks. A pretest was also conducted before treatment.

After treatment posttest was taken to sampled students to evaluate their academic achievements. A test of retention was also taken after having the gap of 30 days of treatment. These tests were aimed to check the academic scores of learners having study sample.

### Data Analysis and Results

The data gathered through teacher-made pretest posttest and retention was analyzed by using *t*-test to determine significant difference between the performance of experimental group and the control group. The level of significance was 0.05 for determining the difference between the study groups. Ho1 There is no significance difference between the mean scores of low achievers of experimental group and control group on pretest.

Table 1

*t*-test output and mean scores of low achievers of experimental and control groups on pre-test

Group	N	Mean	S D	SE <sub>D</sub>	t-value	df	Effect size
Experimental	15	39.2	8.686	3.205	0.457	28	Very small
Control	15	40.666	8.869				

df=n1+n2-2; Table value of *t* at 0.05=2.048

According to table no.1, the calculated *t* values (0.457) had been found lesser than the table values (2.048) at 0.05 levels. Thus, the null hypothesis, no significant difference was there between the mean scores of low achievers of blended teaching group and traditional teaching group on pretest had been accepted. It meant that the both groups of low-achievers could be treated as equal on pretest.

Ho2: There is no significance difference between the mean scores of low achievers of

experimental and control groups on posttest.

Table 2

*t-test output and mean scores of low achievers of experimental and control groups on posttest*

Group	N	Mean	S D	SE <sub>D</sub>	t-value	df	Effect size
experimental	15	67.27	68.78	3.04	6.51	28	Very large
control	15	47.47	70.12				

df=n1+n2-2; Table value of t at 0.05=2.048

Table 2 shows that the calculated t value of 6.51 had been found bigger than the table values (2.048) at the level of 0.05. Thus, the null hypothesis, “no significant difference existed between means score of the low-achievers of the experimental and the control groups on posttest” had been rejected, and it might be concluded that difference between the means scores on posttest of the low-achievers of the treatment and the control groups had significance in favor of the experimental group

Ho3: There is no significance difference between the mean scores of low achievers of experimental and control groups on retention test.

Table 3

*t-test output and mean scores of low achievers of experimental and control groups on retention test*

Group	N	Mean	S D	SE <sub>D</sub>	t-value	df	Effect size
experimental	15	56	105.14	2.08	11.29	28	Very large
control	15	32.47	40.12				

df=n1+n2-2; Table value of t at 0.05 = 2.048

Table 3 shows that the calculated T value of 11.29 had been found bigger than the table value (2.048) at 0.05 levels. Hence, the null hypothesis, “no significant difference existed in the means score of low-achievers of the treatment group and the control groups on the retention-test” had been rejected and we might be concluded that the difference in mean scores on the retention test of the low-achievers of the experimental and the control groups had been seen significant at 0.05 levels statistically.

## Discussion and Conclusions

According to table No 1 the calculated t values (0.457) had been found lesser than the table values (2.048) at 0.05 levels. Thus, null hypothesis “No significant difference was there between the mean scores of high and low achievers of blended teaching group and traditional teaching group on pretest,” had been accepted. It meant that both groups of low-achievers could be treated equally on pre-test.

Table 2 appears that the calculated t value of (6.51) had been found bigger than the table values (2.048) at the level of 0.05. Thus the null hypothesis, “no significant difference existed between mean scores of the low-achievers of the experimental and the control groups on posttest” had been rejected, it might be concluded that the difference in the mean scores on posttest of the low achievers of the treatment and the control group had significant difference in favour of the experimental group. The same conclusion can be drawn by the research of Ling Siew-Eng, & Magdaline Anak (2015), who have applied the latest technology in low achievers’ class via virtual communication. social networking, mobile learning, power point audiophiles chatting and messaging phone videos.

## Conclusion and Recommendations

Blended approach had been certified an effective learning technique for the low achievers. Low achievers had grown more from blended approach and leading in retaining the obtained educational data above the students experimenting by conservative instruction system. Therefore, blended approach was extremely advantageous system to educate low capability pupils.

The research transported a multiplicity of progressive deductions through application of blended approach. Therefore, educationalists may be used blended approach to enrich the educational accomplishment of pupils especially low achievers. The contemporary experimental study showed the impacts of blended- approach on class performance of students for the subject of education. These studies are also necessary to be executed in other areas such as social sciences, mathematics and physics etc. This study calculated the student's low achievement level only. Consequently, additional study may be essential to determine the application of blended approach for various conditional variables as boldness regarding subjects, self-confidence, contemporary associations, societal skills and scholastic motivation for a multiplicity of subjects.

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*The Effect of Blended Approach on the Academic Achievement of Low Achievers*

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