

COMPARATIVE EFFECTIVENESS OF INSTRUCTIONAL TECHNOLOGY REGARDING EDUCATIONAL ATTAINMENTS OF STUDENTS AT ELEMENTARY LEVEL

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ABSTRACT

In this research work an attempt was made to “compare the effectiveness of instructional technology regarding educational attainments of students at elementary level”. A sample consisted of 8th class of male and female elementary school student. These students were divided into two equal groups i.e. control group and experimental group. Results of this research work indicated that instructional technology in which projected aids were used affect the educational attainments of students at elementary level.

Key words: Comparison, Instructional Technologies, Educational attainments, Elementary level.

INTRODUCTION

In teaching learning process methods and strategies are important and play very significant role in the development of students. A good teacher sometime fails due to the use of non-suitable method of teaching. In this modern era so many innovated methods of teaching have been developed and with the use of these innovated methods of teaching, progress of students can be enhanced. New innovated methods and strategies of teaching not only affect the teaching learning process but also totally change the teaching styles and learning of the students. These new innovated methods have made the work of teacher very easy. From one side these new methods and techniques made work of the teacher easier, on the other side motivation and interest of the students increased. In this research work an attempt was made to highlight the differences between the old used non-projected teaching aids i.e., chalk, black-board, book, charts, pictures, drawings and the newly used projected aids such as computer slides, computers, internet, projector and multimedia.

Alan & Robert (2011) Technology play very crucial role in each and every aspect of modern life. To enhance the academic performance of the students across the country a substantial amount of annual budgets have been investing on educational technology in perspective schools. Regarding comparison schools are in a much better position to implement educational technology in their classrooms. Many teachers are using educational technology in their classroom instruction, and educational technology play a very significant role in enhancing the performance of students. In teaching learning process educational technology is making a modest difference in learning of subjects.

Becker & Ravitz (1999) in teaching learning process with the help of concrete examples educational experiences can be increased positively than abstract experiences. In order to increase the learning of the students the instructional media play a very crucial role such as we use concrete examples. With the use of projected instructional material in the teaching increases the ability of the students.

Braun (1997) there is a tremendous potential in the instructional technology when we use effectively in the classroom and overcome the traditional system of classroom teaching, it means instructional projected resources improve overall productivity. To achieve the desired outcomes innovated technology play crucial role. With the proper use of instructional technology the teacher becomes competent, and also promotes the methods and strategies in teaching learning process.

STATEMENT OF THE PROBLEM

Problem under research work was to find the “Comparative effectiveness of instructional technology regarding educational attainments of students at elementary level”.

OBJECTIVES OF THE STUDY

Following were the objectives of the study.

- i. To find out the educational attainment of male students by using instructional technology.
- ii. To find out the educational attainment of female students by using instructional technology.

SIGNIFICANCE OF THE STUDY

In modern era instructional technology is too much significant for the educational attainments of students. So the study may be helpful to:-

- i. The teacher in the selection of relevant type of instructional technology in their corresponding subjects at elementary level.
- ii. The teacher in the use of instructional technology in their corresponding subjects at elementary level.
- iii. The teacher in the use of projected and non-projected teaching aids.

REVIEW OF RELATED LITERATURE

Ema & Ajayi (2006) for teaching effectiveness the teacher should know the best use of instructional technology in teaching learning process only simple use of instructional materials cannot create change and progress in the motivation, interest and learning of the students.

Bennett & Pye (2003) with the use of computer-based instructional strategies we can increase interest motivation and learning of the students at elementary and secondary level. In computer-based instructional technology the competency of teacher is necessary because in this way the presentation will be effective.

Bolick et al (2003) instructional technology put reform in the way of teaching and learning. Researcher pointed good relationship of teachings with the instructional technology. He argued that due to the use of instructional materials teaching and learning can be improved, teachers motivate the students by using instructional materials during teaching. There is a significant relationship between the utilization of instructional technology and teaching of the social studies in the school situation.

Berson & Whitworth (2003) use of instructional technology increase the confidence, interest, motivation, habits and learning of the students. Instructional media utilized in the teaching to develop the attainments of the students.

Walker (2001) it is important to use projected learning aids to increase student learning experience in the schools. It means that the poor learning of students can be improved with the effective use of instructional media.

Lambert & Balderstone (2000) effective use of television in the classroom have significant contribution in the learning and

teaching. Effective use of instructional strategies helps students to know about their culture and develop their sense of learning. Televisions, photographs, projector and slides are also important sources of visual materials that help teachers to bring reality and authenticity into their classroom. Such instructional technologies also assist in developing students' knowledge, motivation, interest, vocabulary, awareness and interpretation skills. Research indicates that instructional technologies have positive effects on the learning of social studies.

Diem (2000) effective instruction of social studies at the elementary and secondary schools levels can be achieved, by the use of instructional materials. If projected material used effectively in the elementary level then required objectives can be achieved.

Curzon (1997) using instructional technology such as projected material in classrooms extends the channel of communication between teachers and students. The instructional technology allows the growth of specific learning and abilities of the students and also enhances mental, intellectual and motor skills of the students. The use of charts, diagrams, projectors, multimedia and models enables the teacher to present and explain many problems and issues easily.

Martorella (1997) instructional technology increases interest and motivation of students at different levels. Instructional technologies will make a difference in the performance of students; if there exist the best tool to assist in the course delivery then performance of the students can be enhanced. Instructional technology totally depends upon the teachers it means if teachers are familiar with the use of instructional technology then the ability and skill of the students can be improved.

Bailey & Fox (1996) computer graphics and maps are the effective way of presenting information for geography courses. So such instructional materials are considered the most important tool for graphics. It is necessary that teachers need to use such type of instructional technology effectively in the classrooms in order to increase the learning, interest and motivation of the students.

Berson & Whitworth (2003) effective use of projected teaching aids increases the educational performance of students, so the teachers should use properly the instructional methods in order to conceptualize and remove the ambiguities in the mind of the students.

Davidson (1996) use of instructional media in teaching is crucial as it makes a valuable contribution to enhance the intellectual quality of students. In education instructional media can be used in several ways. For instance projectors, multimedia, charts models and Power-Point can be used to present geographical issues and data effectively.

Joof (1995) instructional materials are not just things, items, objects or equipments which are used but these are those objects which improve the conceptual abstraction more concrete and practical to the learners. Instructional materials that a teacher uses in the classroom should be relevant it will make the learning of the students practical and feasible.

Descy (1992) when elementary school teachers use instructional media like bulletin boards, posters and pictures from books and magazines so in this way they can enhance the levels of education.

Descy (1991) with the use of technological advancement, usage of instructional media has increased dramatically in the last two decades.

Molstad (2004) proper use of instructional strategies positively affects students'

achievements and learning in teaching learning process. So it is the responsibility of teachers that they should use the instructional media in positive way for the sack of enhancing the knowledge, learning, motivation and interest of the students.

METHODOLOGY AND PROCEDURE

Population

All elementary school of D.I.Khan were included in population of the study.

Sample

Six male and six female elementary schools were selected randomly and from each elementary school 05 students of class 8th were randomly selected. So thirty female and thirty male students were selected as a sample. Bifurcation of sample is given in the following table:

	Control Group	Experimental Group	Total
Male	15	15	30
Female	15	15	30
Total	30	30	60

Instrument

The following instruments were used for the research purpose.

- (i) Pre-test was used to divide the students into the equal groups on the attainment.
- (ii) Post-test was used to check and compare the attainment of control and experimental group after the experiment.

Procedure

First of all pre-test was administered to form two equal groups regarding attainment. Thirty students were selected from male elementary schools and thirty students were selected from female elementary schools. All those male and female students were selected whose performance were same which was tested in the pre-test, after pre-test male and female students were divided into two equal groups. After making the groups the control group was taught with the non-projected teaching methods and experimental groups was taught by the projected method (i.e. using computer progress slides, CD's, transparencies, multimedia, Projector and other technologies). This practice of teaching the students through these different methods was carried out for duration of one month. After it, student's educational attainment was evaluated through a post-test, the results of the students were tabulated and data was analyzed through the use of the statistics.

STATISTICAL ANALYSIS

Alam (2000), "Consistency or stability in the variables is used as terms opposite to variation or dispersion. A data is considered more stable if it has less variation and likewise it is less stable if variation is more".

Chaudhary (1996) in actual practice the population variance (δ^2) is usually not known and is estimated from the sample data the t-test can be used. "Testing hypotheses about differences of means of two normal populations but unknown".

Chaudhary (1996), "The co-efficient of variation was also used to compare the performance of two candidates".

The analysis and interpretation of data is presented in tabular form and given below.

Table # 1 Showing the mean, standard deviation and t-value of both groups on post-test in male elementary schools

Group	n	Mean	S.D	C.V	d.f	α	t-tabulated	t-calculated
Experimental Group	15	27.15	13.51	49.76	28	0.05	2.048	3.79
Control Group	15	20.86	11.25	53.93				

Group	Mean	S.D	C.V
Experimental group	27.15	13.51	49.76
Control group	20.86	11.25	53.93

Table # 2 Showing the mean, standard deviation and t-value of both groups on post-test in female elementary schools

Group	n	Mean	S.D	C.V	d.f	α	t-tabulated	t-calculated
Experimental Group	15	28.12	14.90	52.99	28	0.05	2.048	4.306
Control Group	15	20.11	12.93	64.30				

Group	Mean	S.D	C.V
Experimental group	28.12	14.9	52.99
Control group	20.11	12.93	64.3

RESULTS

For Male School Students

Table#1 indicates that the mean of both the groups (experimental and control) were 27.15 and 20.86 respectively, S.D in the scores of two samples i.e. experimental and control was 13.51 and 11.25 respectively. The t-calculated value 3.79 is greater than the t- tabulated 2.048 at 0.05

level of significance (α) so we reject H_0 and accept H_1 and concludes that there is significant effect of projected teaching aids on the academic performance of students at elementary level. The difference was in the favor of experimental group which was taught by projected teaching aids. The co-efficient of variation (C.V) of experimental and controlled group is 49.76 and 53.93 respectively. Since C.V of experimental

group is less than the control group so there is consistency in the performance of experimental group. So with the use of projected teaching aids students significantly performed better.

For Female School Students

Table#2 indicates that the mean of both the groups (experimental and control) were 28.12 and 20.11 respectively, S.D in the scores of two samples i.e. experimental and control was 14.90 and 12.93 respectively. The t-calculated value 4.306 is greater than the t- tabulated 2.048 at 0.05 level of significance (α) so we reject H_0 and accept H_1 and concludes that there is significant effect of projected teaching aids on the academic performance of students at elementary school level. The difference was in the favor of experimental group which was taught by projected teaching aids. The co-efficient of variation (C.V) of experimental and controlled group is 52.99 and 64.30 respectively. Since C.V of experimental group is less than the control group so there is consistency in the performance of experimental group. So with the use of projected teaching aids students significantly performed better.

CONCLUSION

Regarding results of male and female elementary schools it was concluded that use of instructional technology increase the educational attainments of students at elementary school level. Projected teaching aids are more effective than the non-project teaching aids in the subjects of elementary level.

RECOMMENDATIONS

Following recommendations may be made in the light of findings and conclusion.

- It is experimentally observed that projected aids are more effective than the non-projected aids, so projected aids may be used at elementary level.
- Most of the teachers are not trained in using instructional technology so teachers may be trained for using these aids at the elementary level.
- The teacher may be trained through seminars, workshops and refresher courses.
- This study may be conducted at the primary level.

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