

## **Students' Interest and Academic Achievement in the Light of New Instructional Approaches**

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### **Abstract**

*This investigation expects to study the effect of the new Instructional methodology on Interest and achievement. In this exploratory investigation 60 students of the two Schools were separated into two likened groups. Irregular task was made to control (N=30) and tested Groups (N=30). The treatment time of the analysis was 30 days. The control group was educated by the customary address technique while the test amass was instructed with the ICT instructional methodology. The tools utilized for the information accumulation were the pretest, posttest and Interest stock. Based on result it was presumed that the group test aggregate which was educated with the ICT instructional methodology performed altogether superior to anything the control amass instructed by the conventional method. Additionally the enthusiasm of the exploratory gathering students was better in the technique when contrasted with the understudies of the control group which were taught by the lecture Strategy. Based on result it was obvious that the new ICT instructional methodology is superior to conventional techniques of teaching in improving the academic achievement and interest of the students.*

**Keywords:** Academic achievement, lecture Method, Information Communication Technology, Higher Secondary level, Interest inventory, Higher secondary level

### **Introduction**

New Instructional methodologies are the need of the day. Analysts of the world are investigating the better approaches for teaching and learning. One of such creative instructional methodology is the teaching through ICT's. There is a misguided judgment among the majority that, ICTs by and large allude to computers and additionally computer related exercises yet luckily, this isn't the situation. Instructional Communication Technology is viewed as the blend of Information Technology and other correspondence advances identified with it (UNESCO, 2002). Diverse sort of education related items like CD ROMs, intelligent voice response framework, radio and transmission, radio directing, TV exercises, sound and video conferencing and

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messages are utilized (Sanyal, 2001; Bhattacharya & Sharma, 2007, Sharma, 2003). ICT is a new technique of teaching (Murray, 2011) and it additionally includes computers, fundamental programming and media transmission, i.e. phone lines and remote signs (Foldoc, 2008).

As per Singh (2013), ICT is an accumulation of different assets and specialized gadgets that are utilized to store, manage and communicate data; ICT utilization is new to education (Okoro & Ekpo, 2016).

Data and Communication Technologies (ICT) are broadly utilized in education for accumulation, association, and examination of various information. The utilization of ICT can positively affect the teaching and learning process by changing the concentration from an educator focused way to deal with a student focused methodology and offers opportunities to enhance data and thinking aptitudes, relational abilities, discourse aptitudes, higher reasoning aptitudes, critical thinking approach, and inventiveness (Shaikh & Khoja, 2011; Yusuf , 2010).

The utilization of technology affected the students' learning at various dimensions and made improvement in achievement (Liu, Cho, Hsieh, & Schallert, 2006). Many machines are now being used for the purpose of teaching (Ohler, 2008).

### *Rationale of the Study*

It is the age of information and communication technologies. The instructional and communication Technologies are being used in the daily life. Also, the student's level of achievement and learning has been increased through the use of technologies in education as reported by different studies. The researchers of the world are trying to take benefit from the technology in the field of education. The current study goes in line with the researchers of the world to explore the other instructional approaches for teaching

### *Statement of the Problem*

The developed and the developing countries of the world are inventing the new ways of instructing students (Benders, 2011). The current investigation determines the achievement and interest through two Instructional approaches

### *Objectives of the Study*

The main objective of the study was cut down into following sub objectives of the research study:

1. To determine the extent of difference in the academic achievement in Math of the Higher secondary school students, when taught through two instructional approaches (ICT and Lecture)

2. To determine the extent of difference in the academic achievement in Math of the Higher secondary school students, when taught through two instructional approaches (ICT and Lecture)

### *Research Questions*

The generated Research Questions from the literature and the conceptual framework are stated as below:

1. What is the difference in two Instructional approaches on achievement?
2. What is the difference in two Instructional approaches on Student's Interest?

### **Research Methodology**

#### *Research Design*

The present study was an experimental study conducted on a significant area of new instructional approaches in Math at Higher Secondary school level. The Two groups (Experimental and Control) were randomly exposed to two different instructional approaches (ICT and Lecture). The researchers controlled all other variable sand determine the effects of only instructional approaches on the academic achievement and the Interest of the Higher secondary school students. The experimental design of the current study can best be explained in the following way:

|                     |    |    |    |
|---------------------|----|----|----|
| Experimental Group: | O1 | X1 | O2 |
| Control Group:      | O1 | X2 | O2 |

#### *Population*

Although entire students of higher secondary level come under the umbrella of the population of the study, however the target population consists of the only students of schools where the experiment was conducted. The overall target population consists of 136 students, from whom the sample for the experimental study was selected. The detailed description of the population is as under

| Name of School | Total no of students in 1st year class |
|----------------|--|
| School-1       | 64                                     |
| School-2       | 72                                     |

#### *Sampling*

In the ideal situations the researchers investigate all the population of the study for reaching the best results of the study. In the experimental studies the researchers' choice is the intended number of participants to get the desired results. The Roscoe (1975) proposed the rules of thumb (as cited in Sekaran & Bougie, 2010) as the best

formula for selecting the sample size from the population. Moreover, he narrated that the sample larger than 30 is more than sufficient for the experimental studies.

Different sampling techniques were utilized to come at the final sample. Schools were selected by using purposive sampling. All the research requirements were met in the selected schools. The male and female students selected through stratified sampling and finally random sampling for selecting within the strata. The clearest description of sample selection point by point is elaborated in the following way:

| School   | Selected sample                |
|----------|--------------------------------|
| School-1 | 60 students from male school   |
| School-2 | 60 Students from Female school |

### *Instrumentations*

#### *Pre-test and Post-test and Interest Inventory*

The achievement test used by the researcher to check the pre-achievement of the students before treatment was called the pre-test. It was in the subject of Mathematics of HSS students. Another test was the post-test to check the achievement after treatment. Both tests initially consist of 35 and 37 items respectively. The interest inventory was used to find the interest in the subject of mathematics taught by Two different Instructional Approaches.

#### *Reliability and Validity of Tests*

The pre-test and post-test were made valid and reliable through the Math Teachers of College and higher secondary schools. There were at first three alternatives before every item which were (rejected, accepted, and accepted with minor changes). The educators dismissed the items having the language problems, not fit for the test, not suitably representing the content of the tests.

For the purpose of finding the reliability of both the tests, the SPSS (version 21.0) was used. The Researcher took the help of the supervisor for finding the reliability. The Cronbach's Alpha method of finding the reliability and reliability if the item deleted option was used. The reliability of the pre-test, post-test and Interest Inventory were 0.84, 0.92, and 0.71 respectively.

| Instrument         | No of items | Reliability |
|--------------------|-------------|-------------|
| Pre-test           | 25          | 0.84        |
| Post-test          | 25          | 0.92        |
| Interest Inventory | 51          | 0.71        |

*Data Analysis*

The most suitable statistics utilized for the current analysis were the t-test, however, the descriptive statistics come midway across the analysis were the Mean, Standard Deviation and the p-value. The graphs were also made for making the study more clear for all types of readers

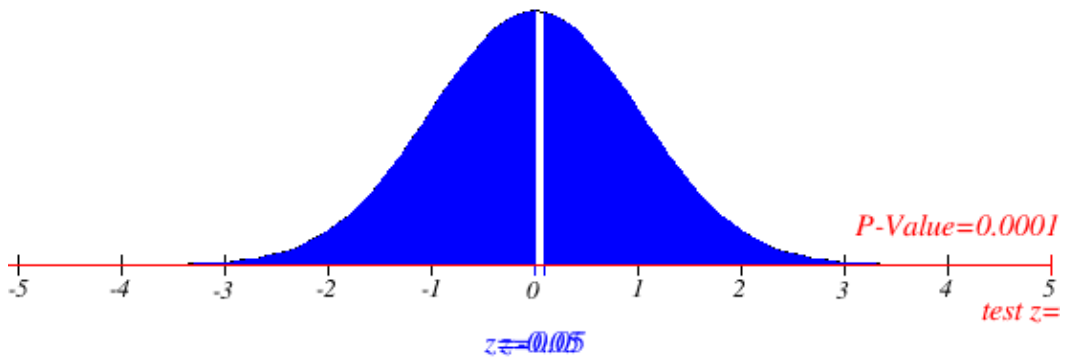
*Data Analysis and Interpretation*

Table 1

*Showing the mean difference in the achievement (post-test) of the experimental and control groups*

| Variable | N  | Mean  | SD   | T    | Df | p-value |
|----------|----|-------|------|------|----|---------|
| CG       | 30 | 34.54 | 5.43 | 5.76 | 58 | .000 *  |
| EG       | 30 | 45.66 | 6.45 |      |    |         |

\* Significant at 0.05 level



The Result of analysis indicates that there was a significant difference in the academic achievement of the students in Mathematics, when mathematics is taught through the TWO different instructional approaches viz, ICT instructional approach and the lecture approach. This difference was in favor of the ICT, which clearly indicates that the new ICT instructional approach is far better than the traditional instructional approach lecture method in enhancing the achievement of learning at the higher secondary school level.

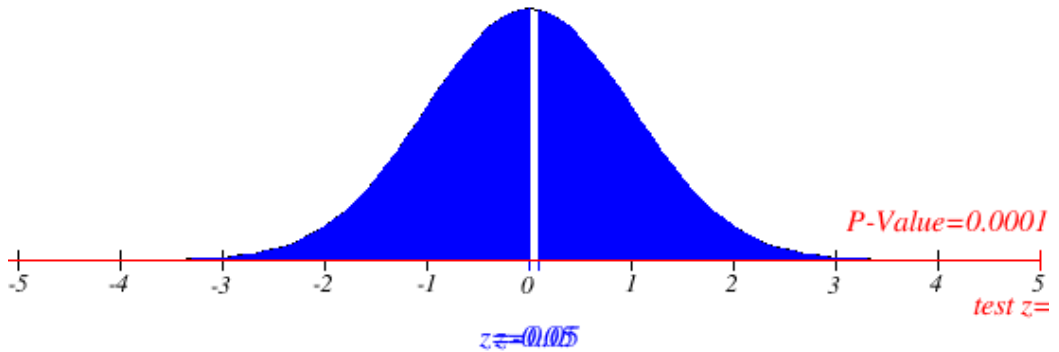
Table 2

*Showing the mean difference in the inventory score of the experimental and control groups*

| Variable | N | Mean | SD | T | Df | p-value |
|----------|---|------|----|---|----|---------|
|----------|---|------|----|---|----|---------|

|    |    |      |     |      |    |        |
|----|----|------|-----|------|----|--------|
| CG | 30 | 2.34 | .40 | 9.45 | 58 | 0.000* |
| EG | 30 | 4.67 | .71 |      |    |        |

\* Significant at 0.05 level



The Result of analysis indicates that there was a significant difference in the Interest of the students in Mathematics, when mathematics is taught through the TWO different instructional approaches viz, ICT instructional approach and the lecture approach. This difference was in favor of the ICT, which clearly indicates that the new ICT instructional approach is far better than the traditional instructional approach lecture method in enhancing the Interest of learning at the higher secondary school level.

### **Discussion**

The Present study was an experimental investigation to see the Impact of new instructional methodologies on interest and achievement. The outcome demonstrates that the exploratory (tested) group on which ICT Instructional methodology was employed, performed fundamentally superior to the other group (control). The results of the study are upheld by the examinations directed by Ruttanathummatee (2004) who explored the Effectiveness of Computer Assisted Instruction for Primary School Students. The results of the present study are additionally in accordance with Cavaogls and Karaoglan et al. (2004) study who explored the Use of ICT in Math. The present study results are likewise supported by the study of Vidal Puga (2006), on ICT in the school setting (a Case study). Likewise, these results are supported by the results of Naba'h et al., (2009) whose study is on the Effect of CAI for Teaching English in Jordan. The series of these different investigations likewise supports the authenticity of the results of the current study. The studies conducted by Luu (2009) and Youssef and Dahmani (2010) reported the results which support the results of my current study, the study results are additionally in accordance with the study led by Shah (2013). These

series of investigations proves that the ICT instructional approach is better than any traditional instructional approaches like the Lecture method.

### **Conclusions**

The results of the analysis indicate that the tested (experimental) group on which the ICT Instructional approach was employed performed much better than the students on which the Lecture Instructional approach was employed, therefore it is concluded that the ICT instructional approach is a better technique of teaching which should be implemented at the Higher secondary school level.

The results also indicate that the interest of the students in the ICT instructional approach was better than the interest in the lecture method, therefore it is concluded that the ICT instructional approach is better for developing the interest for the students of higher secondary classes. Study implications are very much important because this study has practical implications in the area of teaching and learning area, which is very much crucial. The study results that the ICT instructional approach is effective for the higher secondary students in the subject of mathematics could be implemented at the grass root level in all the HSS of Dera Ismail Khan. The teachers of mathematics could be benefited with this study because it provides them the ICT as the tool for teaching mathematics at the school level.

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