

## Efficacy of Different Instructional Media on Academic Achievement of Class XII Students

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### ABSTRACT

*This paper provides the practice of Multimedia in teaching and evaluations or it's effectiveness on academic achievement of the students. Three types of instruction system viz. print media (Self instructional module), visual media (power point presentation) and conventional approach and its impact on achievement of XII class students in Economics have been studied. Experiment was carried out on ninety students of Vaish Senior Secondary School, Rohtak (Haryana), selected on the basis of their level of intelligence Further divided into three equal groups. Three media of instruction were employed randomly to the three corresponding groups.*

### Introduction

Knowledge explosion has made tremendous changes in human life, especially scientific and technological knowledge has affected the teaching-learning process, syllabi, curricula, text-books and Academic achievement of students in education system. Multimedia utilization is increasing to improve the overall efficiency of the teaching-learning process without reducing the quality. The traditional media is not compatible to the growing needs and requirements of the learners.

Instructional media, especially visual media, help adding elements of reality in the content e.g. including pictures or highly involved computer simulations in a lecture is more effective rather than lecture or modular approach. Media can be used to gain attention of the students, recall pre-requisites, presenting objectives to the learners, presenting new content to the students. There is great effect of instructional media on students' academic achievement. Vardhini, (1983), Desai (1985), Kumar (1998) Jyothi (2007) conducted an experiments to test the developed Multimedia Vs Instructional strategy for Teaching Science. Findings reveal that experimental group's performance was superior to the control group. A number of studies have been conducted in this direction but there is need to fill the gap.

### "Efficacy of Instructional Media on Academic Achievement of class XII students."

#### Objective of The Study

\* To compare the Academic achievement of three different groups of students of XII class in economics when taught through varied media viz. Print Media (Self-Instructional Modules), Visual Media (power point presentations) and conventional approach.

#### Hypothesis

\* There is no significant difference among the academic achievement of three groups of students of class

XII when taught by three different media of teaching viz. Print media ( self instructional module), visual media ( power point presentation) and conventional approach.

#### Design

All the students were tested on two occasions, i.e. pre test and post test. In this way (3×3×2) factorial design, proposed by Lewis (1968) as nesting cum crossing design was followed.

#### Sample

In the present experiment, 90 students were selected in all from 12<sup>th</sup> class of Vaish Sr. Sec. School, Rohtak (Haryana). Students were selected on the basis of their scores obtained in the intelligence test, i.e. group test of mental ability (GTMA) by Jalota. These students were divided into three equal groups, thirty students in each group.

#### Tools Used

In the study two types of tools were used:

##### 1. Instructional Tools

Which were used to impart instruction to the students in Economics through three different approaches viz. Modular material, power-point presentations with animation and graphics?

##### 2. Measuring Tools

- Group Test of Mental Ability by Jalota
- Academic achievement Test made by investigator herself.

#### Procedure

The experiment was carried out in three phases. In the first phase, all the students were administered the Socio Economic Status Scale by S.P. Kulshreshtha and group test of mental ability by Jalota. On the basis of mean and S.D then they were divided into three parallel groups, then each group was assigned treatment randomly. After the formation of groups, the students of each of the experimental and control group were administered the achievement test in economics. Then they were provided general orientation about the

treatment. In the second phase, each group was taught through a particular method of teaching, i.e. visual media (PPT) print media (SIN), and conventional approach. In the third phase, students were again administered the test of achievement in economics. In this way, data was collected on two occasions, i.e., pre-test (1) and post-test (2)

#### **Variables of the study**

##### **The study persuaded three types of variables:**

1. Dependent variables Academic Achievement
2. Independent variables

**a) Treatment:** Print media, Visual media, Conventional method

**b) Intelligence:** High, Moderate, Low

**c) Testing occasions:** Pre-test, Post-test

#### **3. Intervening variables**

Socio-economic status, Prior knowledge, Contamination effect, Teacher behavior, Physical environment of the class, Study habits.

#### **Statistical Techniques Used**

In order to find out the effect of instructional media, analysis of variance ( $3 \times 3 \times 2$ ) as per Lewis (1968) was employed. Whenever F-ratio was found significant, it was supplemented with mean scores in order to understand the direction of significance.

#### **Results from Analysis**

**a.** The F ratio was ( $F=27.40^{**}$ ) found to be significant for  $df\ 2/36$  at 0.01 level of significance for the effect of treatments. When this significant F ratio was supplemented with mean scores, result revealed that the students who was taught through visual mode of instruction (PPT) secured highest achievement scores ( $M=34.97$ ) as compared to other two mode of instruction ( $M=25.13, 23.73$ ). **b.** The F ratio ( $26.38^{**}$ ) was found to be significant for  $df\ 2/36$  at 0.01 level of significance for the effect of intelligence. When this significant F ratio was supplemented with mean scores, result showed that students having high level of intelligence secured highest achievement scores ( $M=32.83$ ) than those having moderate ( $M=26.80$ ) and low ( $M=24.20$ ) level of intelligence. **c.** Furthermore, F ratio was ( $503.63^{**}$ ) found to be significant for  $df\ 1/36$  at 0.01 level of significance for the effect of testing occasion for achievement scores. When these significant F ratio was supplemented with mean scores, it was found, that the students achieved highest achievement scores ( $M=27.94$ ) on occasion 2 (post test) than the scores

achieved on occasion 1 (pre test) ( $M=27.94$ ). **d.** Results also revealed that interaction between treatment and testing occasions where F ratio was  $32.75^{**}$  for  $df\ 2/36$  at 0.01 level of significance is significant. When seen analytically it was found that students achieved highest mean scores ( $M=43.97$ ) on occasion ii when taught by visual media comparatively the other print media ( $M=25.13$ ) and conventional method ( $M=23.73$ ) respectively. **e.** It is also clear from results that the interaction effect of intelligence and testing occasions ( $B \times C$ ) is significant ( $F=5.11^{**}$ ) for achievement scores ( $df\ 2/36$ ) at 0.01 level of significance. This interaction is further interpreted through mean scores and it shows that mean score of high intelligent students on occasion ii ( $M=32.83$ ) was the highest and mean score of low intelligence students on occasion ii was least ( $M=24.20$ ). **f.** Results also stated that F ratio were significant for the triple interaction effect ( $F=4.85$ ) for  $df\ 4/36$  at 0.01 level of significance.

#### **Findings**

1. Achievement scores of the students in economics increased the most when they were taught through the visual mode of instruction (PPT) comparatively by Self Instructional Module and the conventional approach. 2. High intelligent students acquire the highest achievement scores as compared to moderate and low level of intelligence. 3. After the treatment, Students achieved the highest scores on post test as compared to pre test in all three treatments. Among three varied treatments achievement mean score of the students were highest when taught by visual media i.e. power point presentation.

#### **Discussion of The Results**

Results of the study are in agreement with the results of some earlier studies such as Uplane, Sonawane & Padmini (2011) and Srinivasan, Muthumanickam (2010), Fehameeda, Humiera Jawad (2012), Jyothi (2007). Such studies compared the effectiveness of multi-media instruction to conventional method and came out with similar report as above. On the other hand, the finding of Kumar & Anita (2004), Hazeena (1995) and Parke (1980) has shown the results in favour of self-instructional modules but over the traditional method of teaching.

**Educational Implications:** The study has implications for teachers, parents, students, educationists, policy planners and curriculum developers.

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