EFFECT OF HILDA TABA'S INDUCTIVE THINKING MODEL ON ACHIEVEMENT IN PUNJABI GRAMMAR AT SECONDARY SCHOOL STAGE

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ABSTRACT

This experimental study is an attempt to find out the effect of Hilda Taba's Inductive Thinking Model on achievement in Punjabi grammar at secondary school stage. Taba's Inductive thinking model was proposed because a need was felt to develop inductive thinking in Punjabi that would lead to improvement in student's achievement. In this study the investigator developed pre-achievement test, lesson plans based on Taba's Inductive Thinking Model and post-achievement test. In order to conduct the study, students of 9th class, selected from government school of Batala city randomly, were divided into two groups viz-a-viz experimental group and control group. The experimental group was treated with Inductive thinking model and another was treated with traditional method of instruction and the achievement test was conducted before and after the treatment. It was found that inductive thinking model statistically proved its significance in learning concepts of Punjabi grammar.

INTRODUCTION

In the modern era there is a marked shift from conventional methods of teaching as the influence of electronic media has brought a revolution in the field of teaching. Radio, Television, Video cassettes, Tape recorder, Computer assisted learning and various models of teaching are being used in field of teaching more often and these revolutions have been brought about in all the subjects including Science, Mathematics, Economics, Social Sciences and even Language teaching.

Earlier the teaching of thinking skills was not a possibility, since they were believed to be innate. But as the practice of teaching is today entering a period of revolution due to the increasing use of Modern Technology in the classroom, the foremost task before the educationist is to evolve strategies that can equip the mind with thinking skills. Now educationists understand that thinking skills can be taught learnt developed.Thus, thinking skills can be included and worked upon,in the teaching of any subject and many can be facilitated through specific software programs in the form of Models of Teaching.

With this thought, Hilda Taba, a curriculum theorist developed Inductive Thinking Model. Taba analyzed thinking from a psychological and logical point of view and proposed that thinking skills can be taught using specific teaching strategies designed for it. So the primary application of the model is to develop thinking capacity through inductive approach. Thinking inductively is inborn and lawful. This is a revolutionary work because schools have decided to teach in a lawless fashion, subverting inborn capacity (Taba, 1967). Some have tried inductive approach in teaching English Grammar and found it is more effective and less stressful than deductive approach. Learners can develop the rule by themselves and this helps them to be able to remember it and apply it. Inductive thinking model and concept attainment model both are equally effective so far as achievement/acquisition of science, biology chemistry, mathematics and English grammer is concerned. They improved the performance of the students (Bhaveja, 1989; Kochhar, 1993; Singh, 1994; Cox, 2005; Dutt, 2006; Truxaw & Franco, 2007; Canadas et. al, 2009).

Inductive thinking model is superior than conventional method as it creates better environment in the classroom and it is effective instructional tool for classroom teacher (Swartzendruber, 2007; Singh, 1994; Hatami,

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2011; J. Yang, 2013; B.Mondal, 2014). Hence, the investigator selected Hilda Taba's Inductive Thinking Model to apply in Punjabi Grammar in order to see if it can bring pupil's thinking to a standard which will enable them to classify and solve their problems according to the prevalent culture.

DELIMITATION OF THE PROBLEM

1. The present problem was delimited to ninth class students of government school of Batala city.
2. It was restricted to following topics of Punjabi grammar:

1. ਅਰੁਡ਼ੰ ਖ ਬੜਅਰੁਡ ਜਡ਼ੇਫ਼ਂ ਠ੍ਰਗ
2. ਜਡਛਖਤਘਂ ਖ ਜਾਜਰਂਗਮ ਜਡਛਖਤਘ ਜਡ਼ੇਫ਼ਂ ਠ੍ਰਗ
3. ਜਾਜਰਂਗਮਂ ਖ ਜਾਤਠਮਟ
4. ਘ;ਂ ਖ ਚਤਦਖ ਬਵਾਮਗ
5. ਤਮਣਮਗਅਂ ਖ ਤਝਧਜ਼ਾ ਡਮਾ
6. ਧਰਹਾਂ ਖ ਤਝਲਝਣਾ ਜਡਫ਼ਂ ਝ੍ਰਗ

OBJECTIVES

The present study was designed to achieve the following objectives:

1. To develop lesson plans in Punjabi Grammar on the basis of Taba's Inductive Thinking Model.
2. To compare the mean achievement gain scores of the groups taught through Inductive Thinking Model and conventional method of teaching.
3. To compare the mean achievement gain scores of the boys and girls of the experimental group.

HYPOTHESES

The study was designed to test the following hypothesis:-

1. There is no significant difference in the achievement of the students in Experimental and Control groups.
2. There is no significant difference in the achievement of the boys and girls of the experimental group.

DESIGN OF THE STUDY

This study falls under the domain of experimental research.

To test the proposed hypothesis, the design of the study was framed as follows:

In the present study, Experimental-control group design is followed. Instructional method is studied as independent variable and achievement gain scores of students in Punjabi Grammar is studied as dependent variable. Instructional method is a manipulative variable.The experimental group is taught by the investigator on the basis of Hilda Taba's inductive thinking model. The other group(the control group) is taught by the concerned teacher of the school in the conventional manner

SAMPLE

Sample of the study was restricted to 80 students of 9th class of government senior secondary school of Batala city.

RESEARCH TOOLS

In this study, the investigator herself developed pre-achievement test, lesson plans based on Hilda Taba's Inductive thinking model and post achievement test

PROCEDURE

In order to conduct the study, students of 9th class were selected from Government school of Batala. Then they were randomly divided into two groups viz-a-viz experimental group and control group. The experiment was conducted in the following phases:

1. A Pre-achievement test was administered to the students of both experimental and control group.
2. One group was taught through the thinking model and other through the conventional method.
3. After the completion of course the post achievement test was administered to the students of both groups.

STATISTICAL TECHNIQUES

The following statistical techniques were employed to analyse the obtained data:

1. Mean and standard deviation was computed on achievement gain scores to understand the nature of data.
2. 't' value was employed on the achievement gain scores.

ANALYSIS AND INTERPRETATION

HYPOTHESIS-1

"There is no significant difference in the achievement of the students in Experimental and Control group."

In order to test this hypothesis, raw scores, obtained from achievement test of post test were tabulated and analyzed. 't' value was computed to study the significant difference between mean post-test scores of experimental and controlled group.

The results so obtained have been entered in Table 1.1

TABLE-1.1

Group wise Mean/Standard Deviation and 't' value of achievement of control and experimental group

Group	Number	Mean	Standard deviation	Mean difference	t-value	Remarks
Control	40	11.27	1.54	10.5	17.2	Significant
Experimental	40	21.77	3.54			

** Significant at the 0.01 level of confidence

**Significant at the 0.05 level of confidence.

Table 1.1 reveals that mean score of achievement of control and experimental group are 11.27 and 21.77 respectively and mean difference (d) is 10.5 calculated 't' value is 17.2 is significant at both level, which clearly shows that experimental and control group are significantly different in their mean achievement score. Thus our null hypothesis - There is no significant difference in the achievement of the students in Experimental and Control group is rejected.The mean score of experimental group which is taught through I.T.M. is 21.77 is much higher than the control group taught through conventional method. It means that the achievement of experimental group is more than the control group.

HYPOTHESIS -2

"There is no significant difference in the achievement of the boys and girls of the experimental group".

In order to test this hypothesis, raw score obtained from achievement test (post test) 't' value is computed to study the significant difference between mean post test scores of boys and girls of Experimental group. The result so obtained have been entered in Table 1.2.

TABLE 1.2

Showing 'mean score and Standard Deviation and 't' value of achievement of boys and girls of experiment group

Gender	Number	Mean	Standard deviation	Mean difference	t-value	Remarks
Boys	20	22	3.24	0.45	0.39	Insignificant
Girls	20	21.55	3.87			

Table 1.2 reveals that mean score of post test achievement of boys and girls are 22 and 21.55 respectively and mean difference (d) is 0.45.calculated 't' value is 0.39 which is insignificant at 0.1 and 0.5 level, which clearly shows that boys and girls do not differ significantly in their mean achievement score when taught through I.T.M.(Inductive Thinking Model).

Thus our null hypothesis "There is no significant difference in the achievement of the boys and girls of the experimental group" is accepted. It means that achievement of both boys and girls is same when taught through I.T.M.

CONCLUSIONS

1. The students taught through inductive thinking model shows better performance than their counterparts.

2. The performance of both the genders is same.

EDUCATIONAL IMPLICATIONS

These findings have lasting implications for practicising teachers as it is established that if students are taught Punjabi Grammar through this Model there is significant improvement in students' achievement. Moreover it has its implication in text book writing as the writers can use these principles of Taba's Inductive Thinking Model while writing the text books for Punjabi Grammar.

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