International Multidisciplinary Research Journal

Golden Research Thoughts

Chief Editor
Dr.Tukaram Narayan Shinde

EFFECT OF CONCEPT ATTAINMENT MODEL OF TEACHING ON THE ACHIEVEMENT OF SEVENTH GRADE STUDENTS IN SCIENCE

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Short Profile

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ABSTRACT:

The purpose of the present study was to study the effect of Concept Attainment Model of teaching on achievement of seventh grade students in Science. The main objective was to find out the significant difference between the post-test scores of achievement of students in science when taught through Concept Attainment Model and Conventional method of teaching. The sample of the present study consisted of 60 seventh gade students from D.A.V Public School, Ambala City. The tools used for data collection were pre-test and post-test developed by the investigator herself. On the basis of the analysis of data, it was found that there exists significant difference between the means of post-test scores of achievement for control and experimental group. Thus, it was concluded that the Concept Attainment Model of teaching is more effective than Conventional method of teaching science as it develops learning skills, inductive reasoning and itellectual abilities in children.

KEYWORDS

Attainment Model and Conventional method , education , teaching science .

1.INTRODUCTION :

The education of the young entrant in the modern set is not as simple as it was many years ago. The knowledge explosion of today requires the ability to gather and assimilate information with efficiency. Hence the teaching process has to aim for helping the learners to acquire the power in learning the concepts at the understanding and application level rather than mere memorization of facts.

The concept attainment model belongs to the category of Information Processing Models. In 1956, J.Bruner and his associates developed this teaching model. Usually , it is named as Bruner's Concept Attainment Model. It is used for teaching concepts to the students. It enables them to understand the similarities and relationship among various things present around us. This model is based on the assumption that students have the capacity to discriminate and categorize things in groups.

Concept Attainment Model in Terms of Elements

1.Focus: The main focus of this model is to develop inductive reasoning of the students. They are also taught about the concept which is of great use to them in order to live successfully in different life situations.

2.Syntax: The structure of the model is as under:

Phase 1- Presentation of examples

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Phase 2- Analysis of Hypotheses
Phase 3- Closure
Phase 4- Application

3.Principle of Reaction: During the flow of lesson the teacher wants to be supportive to the student's hypotheses- emphasizing however they are hypothetical in nature and to create a dialouge in which students test their hypotheses against each other.

4. Social System: The teaching situation is moderately structured. The teacher has to control all the actions but freedom is given for discussion within different phases.

5.Support System: The nature of data should be such that the students may understand and identify the concept. The positive and negative examples given by the teacher should be very clear to the students.

6.Application: This model works wonder in teaching concepts to the young learners through inductive reasoning. The concepts formed in the minds of the learners can be retained in the mind for a longer time.

Significance of the Study

The world is becoming more and more competitive. Parents desire that their children climb the

ladder of performance to as high as possible. This desire for a high level of achievement puts a lot of pressure on students, teachers, schools, and in general, the educational system itself. Infact, it appears as if the whole system of education revolves around the academic achievement of the students, though various other outcomes are also expected from the system.

Teaching models have the direct application and utility in making the teaching learning process more effective. The knowlege explosion of today requires the abality to gather and assimilate information with efficiency. Through the mastery of Concept Attainment Model, the teacher can make class more flexible and can center on students need and characteristics. It breaks the monotony of the Conventional teaching methods. A number of studies have been conducted by Sood(1988), Chopra(1994), Kasuri(20002) to find out the effect of teaching models on student's performance in different disciplines. A very few studies have been done in subject science. So, the investigator undertook the present study.

OBJECTIVES

1.To find out the difference between the pre-test scores of students of Experimental and Control group in Science.
2.To find out the difference between the pre-test and post-test scores of achievement of   students in science when taught through Concept Attainment Model of teaching .
3.To find out the difference between the pre-test and post-test scores of achievement of students in science when taught through Conventional method of teaching .
4.To find out the difference between the post-test scores of achievement of students in science when taught through Concept Attainment Model and Conventional method of teaching .

Hypotheses

1.There exists no significant difference between the pre-test scores of students of Experimental and Control group .
2.There exists significant difference between the pre-test and post-test scores of the students taught through Concept Attainment Model of teaching .
3.There exists significant difference between the pre-test and post-test scores of the students taught through Conventional method.
4.There exists significant difference between the post-test scores of the students taught through Concept Attainment Model and Conventional method.

Method Used

Experimental Method was used by the investigator.

Sample

The sample of the present study consisted of 60 students of class VII taken from D.A.V Public School, Model Town, Ambala City through random technique.

Tools Used

1.Pre-Test developed by the Investigator
2.Post-Test developed by the investigator.

Procedure of Data Collection

The study was conducted in the following four phases:

Phase 1- Previous academic achievement scores were used to divide students into two groups i.e. experimental group and control group.

Phase 2- Pre-Test was administered to both the groups.

Phase 3- Control group was taught science through conventional method and experimental group was taught science through Concept attainment Model of teaching.

Phase 4- Post-Test was administered to both the groups after teaching.

RESULTS AND DISCUSSION

Table 1
COMPARISON OF GROUPS ON THE BASIS OF PRE-TEST SCORES OF ACHIEVEMENT IN SCIENCE

Group	N	Mean	S.D	S.Ed	t	Significance
Control	30	22.99	5.12			**Not significant**
Experimental	30	21.44	4.63	1.26	1.23	

N = 60   Table Value of 't'= 2.00 at 0.05 level
df = 58   = 2.66 at 0.01 level

From Table 1 it is clear that the mean of pre-test scores of achievement for the control and experimental group are 22.99 and 21.44 with SD 5.12 and 4.63 respectively. The 't' value is found to be 1.23 which is not significant at both the level of significance. Thus Hypothesis I is accepted i.e. there exists no significant difference between the pre-test scores of achievemnet of the students of control and experimental group. This means that before giving treatement both the groups have same level of achievement.

Table 2
COMPARISON OF PRE-TEST AND POST-TEST SCORES OF STUDENTS
TAUGHT THROUGH CONCEPT ATTAINMENT MODEL OF
TEACHING

Test	N	Mean	S.D	S.Ed	t	Significance
Pre-test		21.44	6.12			
Post-test	30	29.32	5.69	0.96	8.2	**Significant**

N = 30   Table Value of 't' = 2.04 at 0.05 level
df = 29   = 2.75 at 0.01 level

From Table 2 it is clear that the mean of pre-test scores and post-test scores of achievement of the students taught through Concept Attainment Model of teaching are 21.44 and 29.32 with SD 6.12 and 5.69 respectively. The 't' value is found to be 8.2 which is significant at both the level of significance. Thus Hypothesis II is accepted i.e. there exists significant difference between the pre-test scores and post-test scores of achievement of the students taught through Concept Attainment Model of teaching Science.This means that after giving treatement students develop learning skills, inductive reasoning and itellectual abilities.

Table 3
COMPARISON OF PRE-TEST AND POST-TEST SCORES OF STUDENTS
TAUGHT THROUGH CONVENTIONAL METHOD OF TEACHING

Test	N	Mean	S.D	S.Ed	t	Significance
Pre-test		22.99	4.36			
Post-test	30	25.76	3.63	0.73	3.79	**Significant**

N = 30   Table Value of 't' = 2.04 at 0.05 level
df = 29   = 2.75 at 0.01 level

From Table 3 it is clear that the mean of pre-test scores and post-test scores of achievement of the students taught through Conventional method of teaching are 22.99 and 25.76 with SD 4.36 and 3.63 respectively. The 't' value is found to be 3.79 which is significant at both the level of significance. Thus Hypothesis III is accepted i.e. there exists significant difference between the pre-test scores and post-test scores of achievement of the students taught through Conventional of teaching Science.This means that after giving treatement students develop learning skills, inductive reasoning and intellectual abilities.

Table 4
COMPARISON OF GROUPS ON THE BASIS OF POST-TEST SCORES OF
ACHIEVEMENT IN SCIENCE

Group	N	Mean	S.D	S.Ed	t	Significance
Control	30	25.76	3.63			
Experimental	30	29.32	5.69	1.23	2.90	Significant

N = 60   Table Value of 't' = 2.00 at 0.05 level
df = 58   = 2.66 at 0.01 level

From Table 4 it is clear that the mean of post-test scores of achievement for the control and experimental group are 25.76 and 29.32 with SD 3.63 and 5.69 respectively. The 't' value is found to be 2.90 which is significant at both the level of significance. Thus Hypothesis IV is accepted i.e. there exists significant difference between the post-test scores of achievement of the students of control and experimental group. As the mean scores of achievement of students of experimental group is greater than the mean scores of achievement of students of control group , it means that Concept Attainment Model of teaching is more effective than Conventional method of teaching science.

CONCLUSION

Concept Attainment Model of teaching helps the students to develop metacognitive abilities for meaningful learning. Students can enrich their inductive thinking by the use of this model. Today, when there is explosion of knowledge, it is impossible for teachers to teach everything up-to-date in any subject area. However, if students are trained in skills of thinking, then they would be able to acquire the concepts meaningfully without much dependence on teachers.

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