



**A STUDY OF EFFECT OF CONCEPT ATTAINMENT MODEL ON ACHIEVEMENT  
OF GEOMETRIC CONCEPTS OF VIII STANDARD STUDENTS OF ENGLISH  
MEDIUM STUDENTS OF AURANGABAD CITY**

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**Abstract**

*The Objective of the Current study is to study the effect of concept attainment model and traditional method of teaching geometry on the geometric concept achievement. Being the conceptual subject geometry needs the special teaching methods. It has been felt that in spite of strenuous efforts of mathematics teacher, students fail to grasp the certain concepts of the subject which lead disinterest among students towards mathematics in general and geometry in particular. Experimental research method was used for present study. Tool used for the research self prepared geometric concept lesson transcripts of geometry and lesson plans of traditional method and for post test standardized 'Geometric concept test' by S.C. Gakhar. The present study reveals that there is a significant difference between concept attainment model (CAM) and traditional method on the achievement of students in understanding of geometric concepts. Of these methods concept attainment model is more effective than traditional method.*

**Key Words:** *Concept Attainment Model, Geometry, Traditional Method.*

**Introduction:** Teaching is often thought as something that comes naturally to people who know their subject. But teaching is an intriguing, important and complex process. It takes place in a complicated social institution which is filled with diverse people. The process of teaching learning aims at transmission of knowledge imparting skills and formulation of attitudes, values and behaviour. Teaching is a complex activity, which is a cluster of different roles and responsibilities. A teacher has to master multiple roles in order to become more professional. The professional competence can be expanded in two ways: first by increasing the range of teaching strategies that are needed to be employed; second by becoming increasingly skillful in the case

of these strategies (Joyce and Weil, 1972). The purpose of teaching is to maximize learning. (Gagne, 1963). Bruner also emphasized four major features of theory of instruction in effective teaching. 1. Predisposition towards learning 2. Structured body of knowledge 3. Sequences of material to be learnt 4. Nature and paving of reward and punishment

During the last two decades many new methods of teaching and training have been developed, tested, modified and adopted to different kinds of teaching learning situation. Model of teaching is an innovative method of teaching. There is need to direct efforts towards transformation of teaching methods right up to development of science and technology, as we are living in the high-tech era. Curriculum and material research along with teacher orientation to receive attention. The ultimate responsibility of information processing has been enshrined by the society in teachers. Thus a theory of teaching must attempt to set forth the means of maximizing learning on the part of children. For achieving needed learner behaviour intellectual development and acquisition of knowledge and specific mental process like reasoning, logical thinking, deductive reasoning and scientific creativity be primary concerns for effective and efficient information processing.

A variety of teaching approaches have been evolved to design instruction but which approach/Model of teaching is most appropriate having better impact, effective, efficient and interesting can only be answered through research keeping each Model's instructional and nurturing effects in view.

**Concept attainment model (cam):** The term Concept Attainment Model is historically linked with the work of Jerome S. Bruner and his associates. This Model is intended to teach specific concepts by comparing and contrasting examples that contain the concept and that do not contain the concept. It is built up from Bruner's work on the cognitive activity called categorizing. He is of the opinion that categorizing helps to reduce the complexity of environment and necessity for concept learning.

**Concepts in Geometry:** Geometric concepts mean the abstract ideas of geometry. These constitute some basic ideas and terms of geometry. These concepts have to be made clear to the students. Their conception is to precede their definitions. Definitions should be given only after the concepts have been thoroughly understood.

As geometry is an important part in the field like engineering architecture, aerospace engineering industries and many other fields. No doors will be open for students to enter into

these fields, so geometrical concepts of students must be clear for his bright future. Therefore due to its importance geometry as a subject is included as a compulsory subject at school and college level so it is very necessary to know the students geometrical concepts. This research is an attempt to study the effectiveness of Concept attainment model over traditional method of teaching.

**Significance and need of the study:** Mathematics is the compulsory subject at secondary level and it consists of content of both algebra and geometry. Being a mathematics teacher the researcher observed that there is difference in the achievement of algebra and geometry and students clearly going downside in the achievement of geometry. Geometry being a conceptual subject it is noted that because of poor concepts or lack of understanding of concepts in geometry results in the poor performance in geometry. Present study has made an attempt to test the effectiveness of Concept Attainment Model on Achievement in Geometric Concepts of standard VIII students. It is expected that the findings of the study will help the curriculum planners to make needed changes in the content of Geometry textbook. It will also help the teachers to understand the effectiveness and necessity for the application of model approach in the teaching of Geometry. It will be of great help to all those who are concerned with educational strategies.

**Objectives of the study:** 1. To study the geometric concept achievement of English Medium students by traditional method. 2. To study the geometric concept achievement of English Medium students by Concept Attainment Model. 3. To compare the geometric concept achievement of English Medium students when taught by traditional method and Concept Attainment Model.

**Hypotheses of the study:**

1. The mean geometric concept achievement score of VIII standard students is average when taught by traditional method.
2. The mean geometric concept achievement score of VIII standard students is average when taught by Concept Attainment Model.
3. There is no significant difference between geometric concept achievement score of English medium students when taught by traditional method and concept attainment model.

**Methodology: Method:** Experimental method of research was employed to study the effectiveness of CAM and Traditional method of teaching. In the present study, the experimental group and control group were naturally assembled groups. So the investigator decided to conduct

the study using the ‘Nonequivalent post test experimental design’. The experimental treatment i.e. teaching through Concept Attainment Model was given to one group (Experimental group) the other group was taught through traditional teaching method. The group A was taught by concept attainment model and group B was taught by the traditional method. Two groups were taught on the alternative days for one month and after one month, post-test was administered to the two groups. Posttest was the standardized Concept achievement test prepared by Dr. S.C.Gakhar .

**Sample:** A sample comprises of 120 (69male and 51 female) English medium VIII standard from Aurangabad city. Sample was selected by Random Sampling method.

**Tools:** Tool used for the research was ‘Geometric Concepts test’ by Dr.S C Gakhar, self prepared lesson transcripts of CAM (Concept Attainment Model) and Lesson plans of traditional method.

**Statistical Analysis:** Mean, SD, and t-test were used to analyze the data.

### **Analysis and interpretation of result**

**Hypotheses 1:** The mean geometric concept achievement score of VIII standard students is average when taught by traditional method.

**Table 1-** Showing mean geometric score of students when taught by traditional method.

<b>Achievement of Geometric Concept</b>	<b>N</b>	<b>Mean</b>	<b>S.D</b>	<b>Interpretation</b>
Traditional Method	60	18.73	3.73	Average.

It is inferred from the table 1 that the obtained mean value is 18.33 which indicates that geometric concept achievement of control group (English Medium VIII standard students) is average when taught by traditional method.

**Hypotheses 2:** The mean geometric concept achievement score of VIII standard students is average when taught by Concept Attainment Model.

**Table 2:-** Showing Mean geometric score of students when taught by CAM method.

<b>Achievement Of Geometric Concept</b>	<b>N</b>	<b>Mean</b>	<b>S.D</b>	<b>Interpretation</b>
Concept Attainment Model	60	20.91	3.89	Above Average.

It is inferred from the table 1 that the obtained mean value is 20.91 which indicates that geometric concept achievement of experimental group (English Medium VIII standard students) is above average when taught by concept Achievement Model

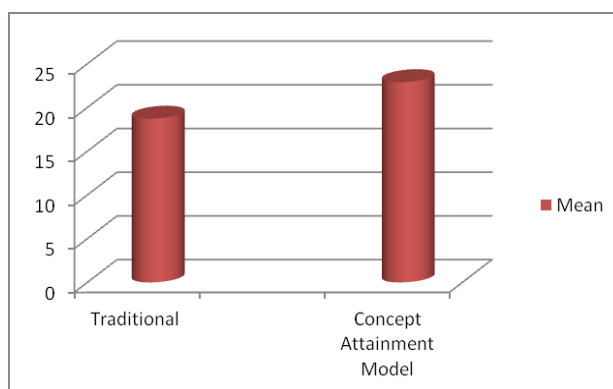
**Hypotheses 3:** There is no significant difference between geometric concept achievements of English medium students when taught by traditional method & concept attainment model

**Table 3:-** Showing significant difference between CAM and traditional method of teaching.

	Teaching Methods	N	Mean	S.D	t-Value	Interpretation
Geometric Concept Achievement	Traditional Method	60	18.73	3.73	6.00	significant
	Concept Attainment Model	60	22.91	3.89		
<i>df-118</i>						

Table 3 reveals that the obtained t-value 6.00 at 0.05 levels which indicates that There is significant difference between geometric concept achievements of English medium students when taught by traditional method & concept attainment model there is significant difference between two groups.

**Graph 1-**Showing significant difference between CAM and traditional method of teaching.



**FINDINGS:** - Research finding reveals that

1. The geometric concept achievement of English medium VIII class students is average when taught by traditional method.
2. The geometric concept achievement of English medium VIII class students is above average when taught by concept attainment model.
3. There is significant difference between geometric concept achievements of English medium VIII class students when taught by traditional method & concept attainment model.

**Conclusion:-** Concept Attainment Model of teaching is superior and effective in terms of geometric concepts understanding of students in comparison to Traditional Method. The Concept Attainment Model will encourage the students to engage in learning activities with maximum enthusiasm and this will help them to understand the subject matter more vividly. The Method also helps to correlate the theoretical concepts of Geometric Concepts and its application, which is not so effective in the Conventional Method. The Concept Attainment Model will help the students to learn the theory and apply the newly acquired knowledge simultaneously. The conclusions of the study prove that the Concept Attainment Model has helped the students to score better in the Achievement test.

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