प्रकरण दुसऱे
पूर्वसंशोधनाचा आठावा
प्रकरण दूसरे
पूर्वसंशोधनाचा आढावा

2.1 प्रस्तावना

पूर्व संशोधनाचे पुनरावलोकन कोणत्याही संशोधनात अन्यवादार्थ महत्त्वाचे आहे. संशोधकाला तो ज्या क्षेत्रात संशोधन करतो आहे त्याची अवयवात माहिती असणे गरजेचे असते. या पूर्वी झालेल्या संशोधनांचे पुनरावलोकन केल्याने संशोधनातील समस्येशी संबंधत माहितीची पृथक करण, निष्कर्षांचे मूलमापन, तसेच पूर्व प्रकाशित साहित्याचे विश्लेषण केल्या जाते.

गुड, स्केट्स व ब्रार (१९५७) यांनी महत्त्वाच्या प्रमाणात - “पूर्वसंशोधनाचा आढावा घेतल्याने पूर्वीच उपलब्ध असलेले पुरावे हे समस्येचे निराकरण करणास पुरेसे आहेत किंवा नाहीत हे काव्ये. त्यामुळे संशोधनाची पुनरावृत्ती होणाऱ्याचा धोका ठोळा.”

“A survey of related literature helps to show whether the evidence already available solves the problem adequately without further investigation and thus to avoid the risk of duplication.”

एक चांगले संशोधन हे त्या क्षेत्रातील माहिती असलेल्या प्रत्येक लूहान-सहान गोष्टीवर्ती अवलंबून असते. पूर्वसंशोधनांचे पुनरावलोकन केल्याने पुढील संशोधनासाठी एक पाया निर्माण होतो. यावरच अवलंबून संशोधक एक परिकल्पना तयार करू शकतो. यावरून संशोधकास समस्येची व्याख्या व समस्येचे क्षेत्र समजणार्य मदत होते.

३४
1) Pioneering work in the area of concept learning has been done by Bruner and his associates (1956) at Newyork. Their work, “A study of Thinking” culminated many years of research into process by which people acquire concepts to examine the learning of concepts. Bruner and his associates had to deal with -

Objectives:-

1) What is concept?

2) What is meant by knowing a concept?

Bruner, Goodnow and Austine (1972) dealt mainly with the two components of categorization viz:- concept formation and concept Attainment, and types of thinking strategies employed in C.A

Most of the research studies in the area of concept learning and teaching are based on the research contribution of Bruner and his associates.

2) An analytical study by Povey and Hill (1975) was made to find following objective.

Objectives:-

i) To find out can pre-school children form concept?

ii) To test the acquisition of specific concepts.

iii) To test the acquisition of generic concepts.
Study was conducted on the selected 56 children between the ages of two years and four months and four years and ten months. The results were

Findings:

i) Pre-school children cannot form generic concepts.

ii) All the children were able to identify the specific concepts.

3) Buchman (1979) investigated the relationship between cognitive style and concept attainment efficiency in college undergraduates.

Objectives:

i) To test the relationship between cognitive style and concept attainment efficiency on success in undergraduate students

Findings:

i) The complex high tasks show significant but low relationship

ii) There is a significant difference between cognitive style and concept attainment efficiency and success.

4) Pandey Rajesh Kumar (1981) studied the teaching style and concept attainment model for teaching biological sciences to grade IX students. - V.B.S. Purvanchal University.
Objectives:-

i) To evolve teaching style on the basis of verbal interaction taking place in the classroom.

ii) To determine the effect of teaching style on science concept attainment at various levels.

iii) To identify the teaching Behaviours commonly exhibited by science teachers and determine the effect of individual teaching behaviour on concept attainment at various levels.

Findings:-

i) Extended lecturing was negatively related with different levels of C.A. and the segment of formal level excepting for segment of problems & definitions with which it was positively correlated.

ii) The teachers questioning had significant positive effect on both the levels, formal of concept attainment and classificatory.

iii) Teaching styles had varying effects on both the levels of C.A. as well as total C.A.

iv) Oratorical and traditional styles were inferior to empathic and democratic teaching styles.

5) Lee Chingh Chan (1983) carried out a study of the “Effect of students' conceptual level and presentation forms on concept attainment” at Diss. University of Minnesota.
Objectives:-

i) To investigate the interactive effects of the personal traits of conceptual development.

ii) To investigate the different forms of concept attainment.

He used a sample of 511 male and female 10\textsuperscript{th} grade students for the study A 2 x 2 factorial design was utilized. The findings showed:-

i) There was a statistically significant performance difference between instructions based on definitions and examples and based on the examples only.

6) Mathew in (1984) conducted a study based on concept attainment model. A test was conducted on 460 students in a high school of Kerala.

Objectives:-

To determine pre-requisites for learning certain concepts in physics of std IX

Findings:-

Concept formation in physics depends on the pre-requisite knowledge of the students.

7) Sohnic (1985) had conducted a study on twelve years plus students based on C.A.M.
Objectives:-

To compare the effectiveness of reception and selection oriented models of concept attainment with respect to concept in Mathematics.

Findings:-

i) Selection oriented model was found to be more effective than the reception oriented model of concept attainment with respect to the achievement of the students in mathematics irrespective of their level of intelligence.

ii) Selection oriented model of concept attainment was found to be more effective than the reception oriented model with respect to the achievement of the students of middle level of intelligence in mathematics.

iii) Selection oriented and reception oriented models of concept attainment were equally effective with respect to achievement in mathematics of high and low levels of intelligences.

8) Kumara (1985) examined effectiveness of CAM for attainments of science concepts.

Objectives:-

1) To Study the effectiveness of CAM to teach concept of science to V grade students.

2) To study students reaction towards CAM. She selected a sample of 70 students of class V An attainment test in science
concept and a reaction scale were administered. t-test and chi-square technique were used.

Finding:-

1) CAM was much more effective for the attainment of science concepts by fifth grade students.

2) The students expressed favorable reactions towards CAM.

9) Pani(1985) compared concept attainment scores of groups taught through Reception and selection strategies of concept attainment.

Objectives:-

1) To study and compare the scores of students taught through Reception and selection strategies of concept Attainment.

2) To study the effect of various personality factors on concept attainment scores of the grasp. The sample consisted of 30 seventh grade students of rural area. The Jr. Sr. HSPQ and a concept attainment test were administered. Mann-Whitney u-test was used.

Findings :-

1) Reception and selection strategies were equally effective in term of attainment of science concept. 2) No differential effects of various personality factors were found when the groups were taught through either strategy.
10) **Bhalwankar A. G. (1985)** of Pune University made a study on teaching mathematics. Objectives of his study were.

**Objectives:**

i) To study the effect of expository method of teaching on achievement in mathematics.

2) To study the effect of guided discovery method of teaching on achievement in Mathematics of students of different levels of intelligence.

**Findings:**

i) The guided discovery and expository method were equally effective on knowledge and comprehension objective with respect to immediate test and retention test.

ii) The expository method was found to be more effective than the guided discovery method on application objective with respect to students of high intelligence.

11) **Antimadas (1986)** of D.A.V. Indore, M.P. carried out the study on the sample of 55 B.Ed students of education department.

**Objectives:**

i) To find effectiveness of training strategy in concept attainment model and personality of pre-service teacher training.

ii) To develop a model compiler of pre-service teacher trainees by adopting concept attainment model with three different training strategies.
iii) To study the effectiveness of three different training strategies for concept attainment model in terms of model competency of pre-service teacher trainees at the end of coaching stage.

Findings:-

i) Three different training strategies were equally effective in terms of model competency of teacher trainees at the end of training and coaching stage.

ii) Some of the personality factors did not influence the model competency of teacher trainees at the end of coaching stage.

iii) There was no significant effect of interaction between some treatment and personality factor on model competency of teacher trainees.

12) Das Bishnuchanran (1986) studied the effectiveness of concept attainment model in terms of teaching competencies of pre-service student teachers at D.A.V. Indore University.

Objective:-

i) To study the effectiveness of Concept Attainment Model in terms of understanding the model.

ii) To find the reaction towards the model at the various stages of training.

iii) Coaching the model

iv) Effectiveness of Concept Attainment Model in relation to previous achievement.
Sample consisted of 16 student teachers studying in B.Ed. Reaction scale, TAG by Bruice Joyce was used for data collection.

**Findings:-**

i) concept attainment model is effective in developing the teaching competencies of pre-service student teacher.

ii) Training given to student teachers in theoretical aspects of Concept Attainment Model

iii) There was significant relation of the student teachers towards the Concept Attainment Model at post theory demonstration and post practice stage.

iv) There was effective transfer of training and C. A.M. had affected the teaching behavior of student - teachers of coaching stage.

v) There was no significant relationship between previous academic achievements of student teachers and their performance on C.A.M. theory & coaching stage but it seemed that previous academic achievement was related with training of C.A.M.

13) **Chaudhary and Katre (1986)** studied the effectiveness of concept attainment model

**Objective:-**

To study the effectiveness of C.A.M. with variations in demonstrating specific teaching competencies of pre-service teacher trainees.
Findings:-

i) The reactions of the students did not differ due to the different treatment given to the groups.

ii) A large body of student teachers’ reaction to the model and their willingness to implement the model indicate a favorable reaction towards it.

14) Bihari S. K. (1986) studied the effectiveness of Training Strategy in Learning C.A.M. at B.Ed level. A sample of 55 student-teachers studying in B.Ed was selected. Tools used for data collection was Theory Check Up and Modified Theory Check-Up, Teaching Analysis Guide, Reaction Scale and Willingness scale. Analysis of variance, analysis of covariance and t-test were used for analyzing the data at D.A.V. Indore University.

Objective:-

i) To study the effectiveness of Training Strategy in Learning Concept Attainment Model in terms of teaching competency of student teachers.

ii) Understanding of the model.

iii) Coaching through the model.

iv) Reaction towards the model and willingness to implement the model.
Finding:-

i) Three training strategies namely peer feedback and practice in quardo, peer feedback and practice in pairs and demonstration followed by practice in quardo were equally effective for developing teaching competence.

15) Sharma Vibha (1986) of D.A.V. Indore University conducted research on 67 students of IX–class. Objectives of his study were–

Objectives:-

i) To study the effectiveness of C.A.M on the Concepts taught in Chemistry.

ii) To test the achievements of students by attainment tests based on Chemistry.

iii) To study & observe the reactions of the students towards C.A.M.

Findings:-

i) Mean performance of the experimental and control groups on achievement test is not significantly different from each other.

ii) Students of experimental group have responded favorably towards majority of the statements.

16) Gangrade Archana (1987) of D.A.V. Indore University studied the comparison of combination of concept Attainment
Model and Lecture Method (LM) for teaching science to class VII & VIII students.

Objectives:-

i) To compare the achievement of science of class VIII students taught through combination of concept A.M. and L.M. with those taught through Traditional Method.

ii) To study the contribution of intelligence, attitude towards science, achievement value, anxiety and previous year achievement in science to achievement in science of class VII students taught through combination of C.A.M. and Lecture Method.

iii) To study the contribution of intelligence, attitude towards science, achievement-value, anxiety and previous year achievement in science to achievement in science of class VIII students taught through combination of C.A.M. & L.M.

Findings:-

i) Combination of CAM with L.M. was significantly superior to Traditional Method in teaching Chemistry to class VII students.

ii) The intelligence was found to be contributing to the extent of 53% to the achievement in science.

iii) The total contribution of intelligence, attitude towards science, achievement-value, anxiety and previous year achievement in science was 74% out of which intelligence contributed to extent of 42% and attitude towards science to the extent of 25.8%.
17) **Sushma Shrivastava (1987)** conducted a study titled “Effectiveness of concept attainment model and enquiry model for teaching Biological science to Std. VIII students.”

**Objectives:**

i) To study the effect of C.A.M. over conventional teaching.

ii) To compare the effect of Biological science inquiry model with the conventional teaching.

The students were divided into three groups and each group was assigned to one of the treatments. i.e. C.A.M., Biological science inquiry model, and a conventional teaching.

**Findings:**

i) These three treatments had different effects on the achievement of students.

ii) C.A.M. was found to be more effective than Biological science inquiry model & conventional teaching.

iii) C.A.M. changed the attitude more favorable than the Biological science enquiry model & conventional teaching.

18) **Rajoria Renuka (1987)** of D.A.V. Indore University has studied the comparison of Advance Organizer Model with traditional method of teaching.

**Objectives:**

i) To compare Advance Organizer Model with traditional method of teaching science to class VIII.
ii) To study the effect of method of teaching with their residential backgrounds.

iii) To check the contribution of intelligence, attitude towards science, previous year achievement in science through Advance organizer Model.

Findings:

i) Advance organizer Model was significantly superior to T.M. in terms of achievement in science of class VIII students.

ii) Advance organizer model was effective and suitable for teaching science to class VIII students belonging to rural as well as urban area.

iii) The total contribution of intelligence, attitude towards science, Achievement value- Anxiety and previous year achievement in science to the achievement in science for rural students was 87%.

iv) For urban students it was 44%.

v) For predicting the performance in science of students taught through Advance organizer Model belonging to urban and rural areas, the regression equation was established separately.

19) Grewal and Kaur (1987) of Baroda University compared the efficacy of Bruner’s CAM, Ausubel’s AOM(Advance Organizer Model) and traditional method.
Objectives:-

1) To study effectiveness of Brunei’s Cam Ausubel’s AOM and traditional method for learning concepts of science in term of achievements in science.

The sample of 105 students of class IX was selected pre test-post test control group design was used. A criterion test was administered. The data were analyzed through ANOVA, ANCOVA and t-test.

Finding:-

1) CAM was found to be more effective than AOM and traditional Method for learning concepts in science.

2) No significant difference was found in the efficacy of AOM and Traditional Method for learning concept in science.

20) Chitriv U. G. (1988) conducted a study at Nagpur University, titled “The evaluation of differential effectiveness of Ausubel and Bruner strategies for acquisition of concepts in Mathematics.” The study sample consisted of three groups of XI grade students who were randomly assigned to three treatments.

i) a) Bruner       b) Ausubel       c) Conventional

ii) Six broad concepts of mathematics were chosen.

iii) Twenty lessons were prepared on each of the three strategies involving the broader concepts and their sub concepts.
Finding:-

1) The means scores on conceptional knowledge test of Bruner and Ausubel group did not differ significantly.

2) Both the strategies were equally effective for teaching concepts at knowledge level.

3) On a test to measure enhancing transferability Ausubel’s strategy was found to be superior to Bruner’s.

4) In contrast on a test designed to measure students abilities to discover new relationships and to retain knowledge of concepts, Bruner’s strategy was found to be superior to Ausubel’s strategy.


Objectives:-

i) To find out achievements of science concepts on the students of class VII by using the modified reception concept attainment model of teaching.

ii) To investigate the effectiveness of the modified reception concept attainment model of teaching for enhancing the attainment of science concepts.

Random sampling method was adopt to select a sample of 18 students studying in class VII. The two groups, the
experimental group and the control group were formed. Pre test and post tests were designed.

Findings:-

i) Modified reception concept attainment model of teaching was decidedly effective in increasing the knowledge

ii) This model of teaching helped student in understanding science concept of class VII and it also helped in attaining the concepts.

22) Zachaira (1989) made an attempt to find out the effectiveness of C.A.M in teaching Economics.

Objectives:-

i) To study the effect of C.A.M on teaching Economics to Std. VIII students.

ii) To compare the results of controlled and experimental group.

Findings:-

She found that C.A.M was more effective than traditional method in teaching Economics to Std. VIII students.

23) Joseph (1990) studied the effect of C.A.M to teach Physics to std VIII students.

Objectives:-

i) To compare C.A.M with advance organizer model (AOM).
ii) to compare effectiveness of C.A.M with traditional method (TM) in teaching Physics to std VIII students.

**Findings:**

i) It was found that C.A.M was most effective in teaching Physics concepts.

ii) Also C.A.M and AOM are more effective in teaching Physics than the (TM).

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**Objectives:**

i) To study and examine the effectiveness of advance organizer model and ITM in the teaching of Mathematics in std. VIII.

**Findings:**

i) the result showed that the attainment of pupils taught using AOM was not differing significantly from those taught using ITM.

ii) The Attainment in Mathematics of pupils taught using AOM was significantly higher than those taught using ITM with respective to the objectives namely knowledge, understanding, application and evaluation
25) **Salvi Ramila C (1991)** of Gujarat University has studied the effectiveness of concept attainment model for teaching concepts of the English language.

**Objective:-**

1) To study the effectiveness of CAM in term of
   a) Attainment of concept of English
   b) Achievement in English
   c) Inductive reasoning and
   d) Reaction towards CAM

2) To compare CAM and Traditional Method.

3) To study the influence of treatments, sex, self-concept and their various interactions.

4) To study the change in student’s reactions towards.

**Findings :-**

1) CAM was found to be effective CAM in terms of attainments of concept of English, achievement in English, inductive reasoning and reaction towards CAM.

2) CAM was found to be significantly superior to Traditional Method in terms of attainment of concepts of English, achievement in English and inductive reasoning statistically with respect to intelligence SES and previous achievement in English.

3) Sex did not produce significant influence on attainment of concept of English.
4) Self concept produce significant influence on the student’s attainment of concept of English.

26) Verma B.C (1991) conducted a study “effect of personalized system of Instructions (PSI) and mastery learning strategy (M.LS.) on achievement of average student and students promoted on lenient criteria.

Findings:-

i) He found that both techniques (PSI) & (MLS) were better than conventional teaching.

ii) He also found that “Promoted” students (low achievers) when taught through PSI or M.L. model performed significantly better on the Summative tests as compared to passed students (average) taught through conventional methods.

27) *Novak D. Joseph and Dismas Musonda (1992) at Cornell University, Newyork, conducted a twelve year longitudinal study of science concept learning. The experimental group compresing 191 students was imparted instruction using audio tutorial science lessons based on concept Mapping.

*K.M. smith & Dwyer (1995) the effect of concept mapping strategies in facilitating student achievement, International Journal of instructional media, (22-(1), 25-3) C.A.M. was significantly higher than those taught through traditional method.

International Journal of research in science teaching 32 (9) – 971 – 995.

Objectives:-

i) To examine the use of concept Mapping as a strategy to facilitate meaningful learning based on a theoretical structure.

ii) To form groups (companies) based on method, priors knowledge, and gender.

iii) To examine attitudinal changes.

Findings:-

The findings reveal that concept Mapping group did slightly well on the content post test than the conventional group.

28) Willerman Marvin and Macharg Richard A (1992) studied the concept mapping as a model.

Objectives:-

To determine if concept mapping used as a model it could improve science achievements of eighth grade students.

Experiment:-

The experimental group (n + 40) was presented with concept mapping, as a model at the beginning of a science unit. The control group (n = 2) was not presented with the concept mapping. The instrument used to measure academic achievement was a teacher made test. The objective type questions were at all levels of Bloom’s Taxonomy except synthesis and evaluation.
**Findings:**

i) One tailed t-test was used to compare the experimental and control group scores.

ii) The results indicate that the use of concept Mapping produces a significant increment in academic gain for students in eighth grade.

29) **Khan and Siddiqui (1992)** at Delhi, conducted a review study on the effectiveness of concept attainment strategies.

**Findings :-**

1) Concept Attainment strategies were more effective over the traditional approach.

2) Personality factors had no significant effect on the concept attainments process.

3) These strategies were responsive to the needs of the disadvantaged learners.

4) Attainment of a disjunctive concept is more difficult than the attainment of conjunctive concepts.

30) **Mohanty(1992)** compared Jurisprudential Inquiry Model with CAM.

**Objectives:**

1) To compare JIM with CAM in the development of moral concepts.
2) To compare JIM with CAM in the judgment and personal values class VIII pupils.

Findings :-

1) The Jurisprudential Model was more effective for developing the moral Judgments and personal values of students.

2) CAM was more effective in developing moral concepts.


Objectives:-

i) To study the effect of concept Attainment model on mental ability and general ability of social science students.

Findings:-

The study showed that general and mental ability of student taught through C.A.M. was significantly higher than those taught through traditional method.

32) Aloni (1993) of Sant Tukdoji Maharaj Nagpur University, carried out an experimental study of effectiveness of Inquiry Training model.

Objectives:-

i) To study effectiveness of Inquiry Training model for developing scientific Attitude among school children.
ii) To ascertain the extent to which Traditional methods of teaching develops scientific Attitude among school children.

iii) To determine the effectiveness of Inquiry Training model for developing various dimensions of scientific Attitude among school children.

iv) To determine the extent to which Inquiry Training model is capable of developing scientific Attitude among school children.

A sample of 300 students was chosen for the study from IX class students from three schools. The students were taught through Inquiry Training Model and Traditional method of Teaching and scientific Attitude scale developed by herself were administered on the sample with pre test, post test scores for collection of the data. For analysis of the data various statistical techniques like mean, S.D. and one tailed test of significance were used.

Findings:-

i) The traditional method of teaching was not much effective in developing scientific Attitude and intellectual honesty among school children.

ii) The enquiry Training model was effective in developing various dimensions of scientific Attitude and it was observed that all the dimensions were not developed equally.

iii) It was concluded that empiricism, open mildness and curiosity were the dimensions of scientific Attitude, which were developed to a small extent.
iv) Inquiry Training model was superior to Traditional method of Teaching for developing scientific Attitude among the children.

33) Pandey & Purohit (1993) carried out study though the research paper on advance organizer model.

Objectives:

1) Does advance organizer model facilitate learning outcomes?
2) To investigate the efficacy of AOM in comparison to traditional teaching method for learning outcomes in educational psychology of B. Ed students.

Sample of 52 B.Ed girls students were considered for the study. For data collection the investigator prepared a Criterion Test which was administered on the students. The data was analyzed using one way analysis of covariance.

Findings:

Advance organizer model was found to be superior than traditional teaching method for achievement of knowledge and facilitating of educational psychology to B. Ed students.

34) Jaffery Austin Jay (1994) conducted research to study the effectiveness of Concept Mapping in a college level Biology course.
Objectives:-

To form research designs to allow for a comparison between experimental & control groups in regard to achievement & to find it in the positive direction.

Findings:-

i) A majority of experimental group participants agreed that the Concept Mapping strategy aided them in identifying connections between concepts, provided them with a way to gain an integrated view of the subject matter.

ii) C.M. made experimental group Active learner rather than Passive learners.

iii) Experimental group participants constructed concept maps collaboratively, and in turn, suggested that collaborative concept mapping should be infused within the cell Biology course in the future.

35) Sivakumar & Prerna P (1997) studied the effectiveness of Suchman’s Inquiry Training Model in Learning Biology.*

Objectives:-

i) To develop packages based on Suchman’s Inquiry Training Model for the topics Genetic Ecology and Evaluation to apply these packages in the teaching of Biology on IX std level.

* Effects of concept and vee mapping under three learning model on students cognitive achievement in ecology and genetics. Journal of research in science teaching 32(9) 971 – 995.
ii) To test the effectiveness of this model by conducting on experimental study and to find out the comparative effectiveness of teaching strategy based on Suchman’s Inquiry Training Model over the conventional teaching method.

The sample consisted of 200 students and IQ test developed by Dr. Ahuja was administered to the students for selecting a homogeneous group. Experimental group and the control group were given Suchman’s Inquiry Training Model and conventional method of instruction respectively. For the collection of data pre-test, post - test scores were used thorough the stimulated questioning strategy towards the goal. Mean, S. D. and t-test were used for the analysis of the data

Finding:-

i) Suchman’s Inquiry Training Model significantly improves the achievement of the learner in Biology and found more effective than teaching based on the conventional method.

36) Jyoti (2001) conducted A study of the effectiveness of Branching variety of Programmed Instructional Material as Diagnostic and Remedial Tool in Chemistry for secondary classes in Jabalpur Division.

Findings :-

i) The achievement of the experimental group was found significantly greater than the achievement of the control group.
ii) the achievement of the urban girls through PIM was found significantly higher than that of the urban boys.

iii) No significant difference was found in the achievement of boys and girls of rural areas in the post test on atomic structure and chemical bonding.

iv) 135 boys out of 180 and 64 girls out of 99 wanted to continue the study with the PLM on both the topics.

v) The weakness of individual students were diagnosed and removed when branched frames on both the topics were administered.


Findings :-

i) The results of the study show that the performance of the experimental group was found better on all the tests.

ii) The new strategies of teaching of vocabulary had affected boys and girls similarly in case of retention.

iii) Boys performed better in using vocabulary. The experimental group showed better retention as compared to the controlled one, but the subjects in the experimental group were found to have a significant loss of the known words and easy words.
iv) The strategy of communicative task proved to be the most effective for retention of vocabulary. IQ level interacts with retention and use of vocabulary. But the loss of vocabulary in higher IQ group was found more than of the lower IQ group.

v) In the absence of treatment the high achievers in the controlled group lost significantly more words than their counterparts in the experimental group. The interest and motivation level of the students in the experimental group were observed to be high by the investigator.

38) Shah (2002) conducted a study on effectiveness of concept attainment Model (CAM) and Self-Learning Material(SLM) for the teaching of concept of Mathematics and arrived at the following conclusions.

1) The educational achievement of pupils studying through Concept Attainment Model was found to be higher than that of the students studied through Traditional Method.

2) The educational achievement of pupils studying through Self Learning Material was found to be higher than that of the students studies through Traditional Method.

3) The educational achievement of pupils studying through CAM was found to be higher than that of students studies through (SLM)

39) Shelleyam Scott (2003) wrote an article - Innovative use of teaching repertoire : a study in transfer of complex strategies into
classroom practice by novice teachers. This article reports on an unexpected finding from a larger study.

**Objectives:-**

i) To examine the effectiveness of a coatoscent curriculum structure of the skill development units in a one-year intensive teacher professional preparation program.

ii) To determine the effectiveness by ascertaining the transfer of complex models of teaching into the regular teaching repertoire by graduates.

The entire population of two consecutive cohorts was interviewed by telephone, using a semi structured schedule.

**Findings:-**

i) The findings presented in his article relate to a sub-group of the total sample that was found to have adopted a more complex approach of integrating two or more models, either within one lesson or over a series of lessons.

ii) The teachers who successfully and regularly utilized two or more complex strategies appeared to exhibit high levels of self-efficacy sound self reflection techniques and reported feeling more in control and less stressed than their less adventurous colleagues.

40) **Neber et al (2008)** conducted a study on the topic – “Chinese High School students in Physics Classroom as Active,
Self Regulated Learners; cognitive, motivational and Environmental Aspects.

Objectives:-

i) To investigate whether Chinese high – school students are self-regulated learners.

A social – cognitive model that distinguishes environmental, motivational, and cognitive components of this active approach to learning is described. This provides an appropriate framework for investigating this complex issue with eighth and tenth graders attending a high school in Beijing.

Findings:-

i) By contrasting components of self regulated learning and components indicating a more passive approach to learning that were both measured with self-report instruments.

ii) It could be shown that these students may indeed be considered as self- regulated Physics learners.

iii) Comparisons of the grade levels revealed that tenth graders are not more active in self regulating their learning processes than are eighth graders, and that they might even experience a motivational decline in learning Physics.

iv) The same applies to girls versus boys. The physics related self-efficacy belief of girls turned out to be considerably lower than with boys, a result that corresponds to findings with students from Western Nations.
**41) Dhoke Swati (2010)** studied effect of concept mapping as a learning tools of History in secondary school in relation with conceptual clarity and attitude.

**Objectives :-**

i) To study the effect of concept mapping tool to teach History in secondary school.

ii) To investigate the effect of concept mapping tool on the attitude of the secondary students.

iii) To compare the results of students in relation to celerity of concepts and formation of attitude.

**Findings :-**

i) The researcher found that the Concept Mapping Tool was more effective to teach History in secondary school.

ii) The clarity of the concepts were found to be remarkably good when taught through concept mapping tool.

iii) The attitude of students towards learning History was found to be changed positively.

Objectives:-

i) To study and compare the effectiveness of Mastery Learning Model and Concept Attainment Model over Traditional Method of teaching science in terms of pupils performance.

ii) To investigate the effectiveness of Mastery learning Model, Concept Attainment Model and Traditional method of teaching science in relation to self-efficacy of the learners at High School level.

iii) To explore the effectiveness of Mastery Learning Model, Concept Attainment Model and Traditional Method of teaching science in context of the study habits of the learners.

Findings:-

i) The main effect of method (CAM and MLM) was significant with regard to post test scores.

ii) The self efficacy of the learners at High School level was found to be more effective when taught using CAM and MLM.

iii) The students of superior study habits were significantly better than inferior study habit in total.

43) Minikutty A (2013) of Mahatma Gandhi University, Kerala conducted a study on effect of Concept Attainment Model of instruction on achievement in Mathematics of academically disadvantaged students of secondary schools in Kerala state.
Objectives:-

i) To find out the achievement in Mathematics of the academically disadvantaged students taught using C.A.M. of instruction and conventional Teaching method.

ii) To find out the cognitive ability of the academically disadvantaged students taught using C.A.M. of instruction and Conventional Teaching method.

iii) To find out the achievement in Mathematics of the academically disadvantaged students taught using C.A.M. of instruction and Conventional Teaching Method.

iv) To assess the intelligence level of the academically disadvantaged students.

v) To assess the socio-economic status level of the academically disadvantaged students.

vi) To examine the influence of socio-economic status and intelligence of academically disadvantaged students on their achievement in mathematics and also on cognitive ability when taught using concept A.M.

Findings:-

i) The C.A.M. of instruction is more effective than the conventional Teaching method (CTM) in teaching mathematics.

ii) The CAM an enhance the achievement in mathematics of academically advantaged students to a significantly higher level than the academically disadvantaged students.
iii) The CAM can enhance the cognitive ability of academically advantaged students to a significantly higher level than the academically disadvantaged students. but the letter can achieve a higher progress through C.A.M.

iv) The relative progress in cognitive ability scores when taught using CAM of instruction and CTM is higher for academically disadvantaged students than academically advantaged students.

44) Wanjari S.S. (2014) of Sant Gadgebaba Amravati University conducted a study on “Effectiveness of Concept Attainment Model and Inductive Thinking model of Teaching on students’ Achievement in science, scientific creativity and Attitude towards science.”

Objectives:-

i) To study the effectiveness of teaching through C.A.M, I.T.M. and traditional method of teaching in improving achievements in science of IX class students.

ii) To study the effectiveness of teaching through C.A.M, I.T.M. and T.M. of teaching on development of reasoning ability, scientific creativity and favorable attitude of students toward science.

iii) To compare the effectiveness of C.AM. & I.T.M. and T.M. of teaching on achievement in science of IX class students, Reasoning ability, Scientific Creativity and Attitude towards science.
Findings:-

i) There was no significant difference between the mean score of IX class students in developing reasoning ability, Scientific Creativity and favorable attitude towards science taught through C.A.M. It means that the group taught through C.A.M. of teaching is effective in developing all the skills.

ii) Inductive Thinking model of teaching is effective in developing Reasoning Ability, scientific creativity and Favorable Attitude towards science among the students of IX Std.

iii) Traditional method of teaching is not effective

iv) CAM and ITM of teaching are equally effective in terms of achievement of IX class.


Objectives:-

1) To compare the mean scores of achievement in Physics Part test-II (tested two months after experimentation) of the control group and experimental group.

2) To compare the mean Retention scores of Achievement in Physics Part test –II (tested two months after experimentation) of the control group and Experimental group.
3) To compare the mean scores of Achievement in Physics Part test-I of the groups formed on the basis of studying approach.

4) To study the main effect and interaction effect of methods of teaching (CAM and objective Based Instruction) and studying approach on Achievement in Physics Part Test-II for total sample. Boy’s and Girl’s.

**Finding:-**

1) Comparisons mean Achievement in Physics on Part Test -I were done for total sample that t-value was found to be significant.

2) But the t-value for Boy’s and Girl’s were not found to be significant.

3) There was a significant difference in the mean gain scores of Achievement in Physics between control group and experimental group.

46) **Amita (2015)** of Chaudhary Charan Singh University conducted study on “Effectiveness of Concept Mapping Model and Concept Attainment Model in Biology teaching at ninth grade.

**Objectives:-**

i) To study the effectiveness of concept mapping model in terms of meaningful acquisition of concepts.

ii) To study the relative effectiveness of concept mapping model and Traditional method.
iii) To study the effectiveness of C.A.M. in terms of meaningful acquisition of concepts.

iv) To study the relative effectiveness of Concept Attainment Model in comparison to Traditional method.

v) To study the relative effectiveness of concept mapping and C.A.M. in comparison to Traditional method.

**Findings :-**

i) It was found that concept mapping model and C.A.M. are effective in raising pupils' achievement.

ii) It was found that pupils who learn through C.M.M. and C.A.M. learn better than those who learn through Traditional method.

47) Manchanda Ruchi (2015) studied Effect of concept Attainment model of Teaching on the achievement of seventh Grade students in science.

**Objectives :-**

i) To find out the difference between the pre test scores of students of Experimental and Control group in science.

ii) To find out the difference between pre-test and post test scores of achievement of students in science when taught through CAM of teaching.

iii) 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.
Findings :-

i) There exist no significant difference between the pre-test scores of achievement of the students of control and experimental group. This means that before giving treatment both the group have same level of achievement.

ii) There was a 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 treatment students develop tearing skills, inductive reasoning and intellectual abilities.

iii) 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.

2.2 न्यायवलेकन :- वरील सर्व संशोधनांचा अभ्यास केला असता असे लक्षात आले की, संकल्पना प्रासी प्रतिमानाचा उपयोग अनेक विषयांच्या अध्यापनासाठी ज्ञात आहे. अनेक संशोधनांच्या दोन प्रतिमानांचा तुलनात्मक अभ्यास पण केला आहे. काही संशोधनांमध्ये तर उद्दिष्टे, परिकल्पना, जनसंख्या, न्यादर्श वांच्यामध्ये बनाच अंशी समानता आढळून आली.

काही संशोधनांकांनी पारंपारिक पद्धती व प्रतिमानांचा तुलनात्मक अभ्यास करताना चलावा (Variables) विचार अजिबात केलेला आढळत नाही. जो करणे अतिशय महत्त्वाचे आहे. कारण विद्याध्यायांनी प्रतिमानांवर दिलेल्या प्रतिक्रिया
बन्याच अंशी या चलावर अवलंबून असतात. म्हणून प्रायोगिक संशोधनात या चलावर विचार करणे अत्यावश्यक ठरते.

काही संशोधनामध्ये शिक्षक प्रशिक्षकांवर प्रतिमाणचा होणारा उपयोग अभ्यासला गेला आहे. परंतु बहुतांश संशोधनांच्या निष्कर्षांमध्ये असेच आढळून आले की अध्यापनाची प्रतिमांने ही पारंपारिक व्याख्यान पद्धतीपेक्षा अधिक प्रभावी ठरली आहेत. या प्रतिमाणांचा विद्याध्यायी सर्जनशीलतेवर व परीक्षेतील गुणांवर चांगला प्रभाव पडलेला आहे. विद्यार्थी विविध शैक्षणिक अनुभवांवरून नवनवीन कल्पना करू शकतात. म्हणूनच संकल्पना-प्राप्ती-प्रतिमान हे पारंपारिक पद्धतीपेक्षा अधिक प्रभावी ठरते.

परंतु हे प्रतिमान संस्कृत व्याकरणाच्या अध्यापनासाठी आजपर्यंत वापरण्यात आलेले नाही. यापूर्वी या विषयांवर संशोधनेही झालेली आढळली नाही. शिवाय संस्कृत व्याकरण हे शिकविण्यास व शिकवण्यास अत्यंत कठिण व स्विलंब आहे असेच अनेकांचे मत असते. म्हणून या विषयात संशोधनास अधिक वाव आहे. संकल्पना-प्राप्ती-प्रतिमाणाची उपयोगिता इत्यता ९ वी व्या संस्कृत व्याकरणाच्या अध्यापनासाठी खरच किती प्रभावी ठरते हे अभ्यासं म्हणूनच अत्यावश्यक ठरते.