



DEVELOPMENT OF ADVANCE ORGANIZER MODEL (AOM) FOR SCIENCE SUBJECT AND ITS EFFECTIVENESS

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Abstract

This study explores a Study of Effectiveness of Advance Organizer Model (AOM) to teach science subject to 9th grade Student of Pune City. The objectives of the study are 1) To develop Advance Organizer Model (AOM) based on David Ausubel for teaching 9th grade science subject. 2) To find out effectiveness of Advance Organizer Model (AOM) on 9th grade science subject. The experimental research method used and single group design was used for this research study. To analyze the data statistical technique mean, SD, graphs, coefficient of correlation and t-test used.

The Major findings of the study shows that, the developed 9th grade science based advance organizer model (AOM) is effective to teach Science subject. Hence, it concludes that, the 9th grade science based Advance organizer model (AOM) enhances the learning of 9th grade students.

Key Words: Advance Organizer Model (AOM), Science, 9th grade Student, Effectiveness.

Introduction: Teaching - learning situation is the main component in the field of education. Models of teaching have been developed to help a teacher to improve his/her capacity to teach more children and create a richer and more diverse environment to them. An advance organizer is a cognitive instructional strategy used to promote the learning and retention of new information.

An advance organizer is information that is presented prior to learning and that can be used by the learner to organize and interpret new incoming information.

Advance organizers theory supports effective teaching and learning process. It is an appropriate instructional strategy for teaching science concepts. Ausubel described that Advance Organizers Learning Theory is a pedagogical strategy for implementing principles of progressive differentiation and integrative reconciliation which involves the use of appropriately relevant and inclusive materials that are stable and discriminated from related conceptual systems in the learner's cognitive structure.

“Advance Organizers are in the form of concept maps or in the form of discussion and short arrangements of materials introduced to the learner before the lesson. It is designed to cue the relevant prior knowledge of the student, and it is normally presented at higher order abstraction level”.

The Advance organizers provides support for learning process and are presented prior to providing new concept. In this way advance organizers provide framework to enable student learn new ideas or information by meaningfully link these ideas to the existing knowledge.

Rationale of the study: A model of teaching is a plan or pattern that can be used to shape curricula, to design instructional material and to guide instruction in the classroom and other settings. In the present research, the study focuses on Discovery learning, problem solving, self-motivated learning, meaningful learning, through Advance organizer model will help the learners to become innovative, creative, productive citizen of the country which is the need of the our globalized world, hence the researcher found need to study the effect of above mentioned model to investigate into effectiveness in bringing about desired learning outcomes.

Advance organizer can include pictures, verbal descriptions, key vocabulary, pre questioning techniques, and cultural background knowledge. Hence, the Researcher has decided to conduct research on Advance organizer model for proposed research study for 6th standard students of science subject of Periwinkle English medium school.

Statement of Problem: Development of Advance Organizer Model (AOM) for 9th grade science subject and its effectiveness

Conceptual Definition

Advance organizer model: According to Ausubel, *“the art and science of presenting ideas and information meaningfully and effectively so that clear stable and unambiguous meaning emerge*

and retained over a long period of time as an organized body of knowledge is really the principal function of pedagogy.” Ausubel also places heavy emphasis on Meaningful verbal learning, that is, the acquisition of information that has several links to other ideas.

Effectiveness: It is the capability of producing a desired result or the ability to produce desired output.[<https://en.m.wikipedia.org>]

Operational Definition

Advance organizer model: Advance organizer model, which consist of learning material such as flowchart, worksheet, activities, Experimentation, demonstration related to content, is called Advance organizer model.

Effectiveness: There is a significant difference observed between pre-test and post-test taught by conventional method and experimental method.

Pune city: It is a Cultural and educational region, which is located in Western Ghats of Sahayadri, in Maharashtra.

Need and Importance of the Study: According to Anderson (1985) the meaning of the information people receives endures far longer, than either, verbal or visual information. If this is so, educators who are concerned, that their students remember information over long periods of time, should help students focus on the underlying meaning of that information.

Advance Organizer Model applied to any material, which organized intellectually. It can be used in nearly every subject area, although it was designed for use with verbal material rather than with skills and mastery of problem solving paradigms. However, Ausubel assumes that it will be useful in the transfer of material to new problem settings. It provides a very good discipline for lectures. It can serve very well in the analysis of expository material in textbooks and other Instructional material where abstractions and information alternate in various patterns.

A model of teaching is a plan or pattern that to shape curricula, to design instructional material and to guide instruction in the classroom and other settings. In the present context education focuses on Discovery learning, problem solving, self-motivated learning, meaningful learning, these methods help the learners to become innovative, creative, productive citizen of the country which is the need of the our globalized world, hence the researcher found need to study the effect of above mentioned model to investigate into effectiveness in bringing about desired learning outcomes. There is a need to study Advance organizer model (AOM) because, Organizing concepts provide a conceptual structure on which the course is built. It strengthens student's

cognitive structure. Facilitates their acquisition and retention of information. Through AOM student may learn on their own. It avoids fall back to learning by rote. It promotes active processing of information meaningfully. Keeping these views there is need to implement Advance Organizer model in improving academic achievement in science subject. So the researcher selected Advance Organizer model to improve academic achievement in science of secondary school students. Hence present study was taken up Students can think critically if they have clear understanding of the taught material concepts. The researcher was interested to know to what an extent the AOM influence on the achievement of students in science.

Characteristics of Advance Organizers (*shodhganga.inflibnet.ac.in*)

1. They are typically a short set of verbal or visual information.
2. They are presented prior to learning a larger body of information
3. They contain no specific content from the new information to be learned
4. They provide a means of generating logical relationship in the new material
5. They influence the learners encoding process.

An Organizer is a general idea which is abstract, related to the material and which precedes the material. It functions cognitively to organize the material as it is presented. It provides a kind of conceptual framework into which the learner will integrate the material.

Objective of the Study: Objective of the proposed research study will be:

- 1) To develop Advance organizer model AOM based on David Ausubel for teaching 9th grade science subject.
- 2) To find out effectiveness of Advance organizer model AOM on 9th grade science subject.

Research Review: Investigator had gone through some review that mentioned here

Lee Bih Ni (2016), Conducted the study on-“*Advance Organizer: Cognitive Instructional Strategy*” discusses that advance organizer as a cognitive instructional strategy used to promote the learning and retention of new information. In this literature, it has used narrative literature review to describe the current states of both art and science in focused areas of inquiry.

TanveerUzZaman, et al (2015), conducted the study on “*Advance Organizers Help to Enhance Learning and Retention*” The present study investigated the effect of Advance Organizers Strategy on the performance of the 9th grade science students. The main objective of this study was to find out the effectiveness of Advance organizers and to compare the performance of experimental group with control group.

Ranju Malik, (2015), “*A study of the effectiveness of advance organizer model on students’ achievement in economics*”, says that, Education not only plays an important role in the teaching learning process, but also develops the innovative characteristics as confidence, economical standard and moral values in an individual.

O. I. Oloyede, (2011), “*A Meta-analysis of Effects of the Advance Organizers on Acknowledgment and Retention of Senior Secondary School (SSS) Chemistry*”, It investigates the effect of pictorial and written advance organizers on students’ achievement in Senior Secondary School chemistry was carried out with 138 senior secondary school two chemistry students on the concept of energy change.

Assumptions

- 1) Advance organizer model is useful for inquiry purpose (*Lee bih Ni and et al 2016, International journal of computer network and wireless communication*)
- 2) It enhance learning and Retention (*TanveerUzZaman 2015, international journal of humanities social science and education*).
- 3) It also investigate the effect of pictorial and written advance organizer on student’s achievement. (*Oloyede 2011, Science education programme, Abubakar Tafawa Balewa University, Bauchi, Nigeria*).

Hypothesis of the Study

There will be no significance difference between pre-test and post-test taught by conventional method and experimental method.

1. Method of research: For this research study experimental research method and pre-test, post-test, equivalent group, design used.

2. Population and sampling: For this research study population was, consist of the student studying in 9th grade from the Pune city and sample for this research study consist of 30 students studying in 9th grade.

3. Tools for Data Collection: For this research study 9th grade, achievement test is used and Advance organizer model for 9th grade students.

4. Tools for Data Analysis: For this research study, Mean, ‘t’-test, Graph, Standard Deviation (S.D), Correlation Coefficient (r) were used as a tools for data analysis.

Statistical Treatment of Data: The pre-test and post-test was administered for evaluating the performance of the students of the single group control group. The scores secured after the pre-test and post-test were treated statistical 't'-test for judging the level of significance.

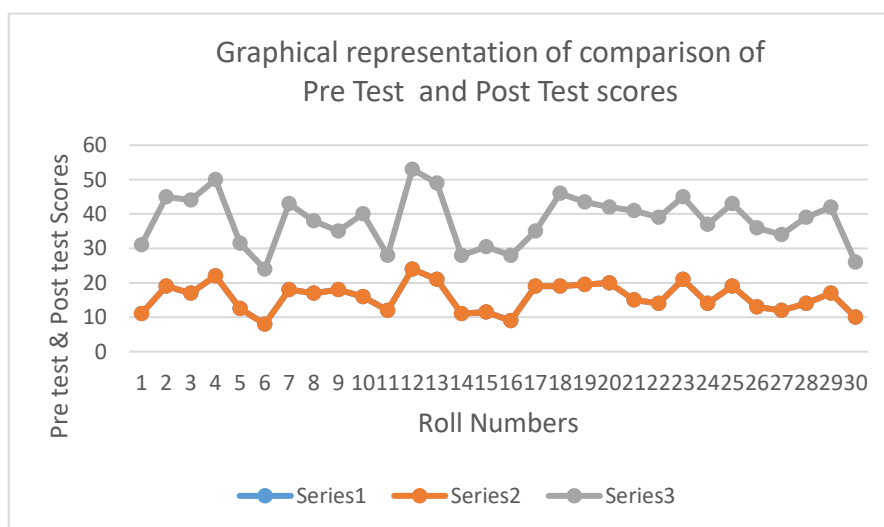
The methodology of the present research being experimental method single group design the scores obtained from the pre-test and post-test and the given data obtained from the achievement test is analyzed with the help of the statistical technique 't-test'.

Testing of hypothesis

Test	Mean	S D	Df	r	't' value	Computed 't' value	Remark
Pre Test	15.78	4.12	29	0.66	2.46	10.9*	Rejected
Post Test	22.43	3.99					

**significant at 0.01 significance level*

Graphical Representation



Observation of the Data: The computed value of 't' exceeds the standard table value of 't', therefore it may be taken as significant at 0.01 level. The standard table value of 't' is 2.46 and the computed value of 't' is 10.9.

This shows good improvement in scholastic achievement test. Hence, the advanced organizer model for student was found significant.

Interpretation of the data: The computed value of 't' at 0.01 is significant So the research hypothesis is H1, accepted i.e. the difference between the means of Pretest and Posttest is trustworthy and dependable to say that Advanced organizer model is very effective.

The statistical treatments of data show that significant difference in the mean score of Pretest group and Posttest group.

So Therefore Null hypothesis is rejected it is showed by the implementation of advanced organizer model to teach 9th grade Science subject.

Therefore, advanced organizer model is more effective teaching method than traditional method for 9th grade students.

Major Findings: The developed 9th grade science based Advance organizer model (AOM) is effective to teach Science subject.

Conclusions: From above finding, it concludes that, 9th grade science based Advance organizer model (AOM) enhances the learning of 9th grade students.

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