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**A STUDY OF ADVANCE ORGANIZER MODEL AMONG HIGHER  
SECONDARY STUDENTS IN LEARNING PHYSICS**

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## **INTRODUCTION**

The world in which the students live now must confront the future in different ways and it will be more complex than the past. Because the world is changing and likewise the idea, aspiration and attitude of the people are also going on changing. Accordingly, the entire process of education will go on changing. If the process of education changes the teaching, procedures will be changed differently. Teaching is not just to sit on an armchair with a cup of tea in hand to sip. It is an art and skill to be learnt. It requires the knowledge of content, method, techniques and teaching aids to be used for making teaching interesting and effective. Teaching provides to bring desirable changes in the behaviour of the learner. For that purpose, only the teacher has to apply new teaching strategies in the classroom.

## **ADVANCED ORGANIZER MODEL**

Advance organiser model, which occupies a vital role in the teaching learning process. Because the most important aim of Advance organiser Model is to improve the instructional effectiveness through an interactive atmosphere.

1. It was developed and systematic studied by David Ausubel in 1960. Ausubel is the one of the educational psychologists, to address learning, teaching and curriculum simultaneously.

2. Advance organisers are the primary mean of strengthening cognitive structure and enhancing retention of new information. Advance organiser model (AOM) is an information processing theory for meaningful verbal learning. According to Ausubel, Meaningful verbal learning occurs in a situation where the material being presented to learners is related with the existing cognitive structure.

### **IMPORTANCE OF ADVANCE ORGANISER MODEL**

An advance organiser is a very useful tool for teachers to help students understand, retain and remember new learning material; it can be hard to remember everything. This is a challenge that teacher face regularly. We must provide our students with large amounts of information in a way that helps them understand retain and remember it. So Advance organiser model is a best model to use for secondary school students.

An Advance organiser is a cognitive instructional strategy used to promote the learning and retention of new information. According to Ausubel, these organisers are introduced in advance of learning itself and are presented at a higher level of abstraction, generality and inclusiveness. Their purpose is to explain, integrate and interrelated the materials in the learning tasks with previously learned materials.

By using an advance organizer to like the new information to old information, the new information can be remembered easily. It provides a structure for students thinking. It acts as a conceptual bridge from the old information to the new information. A person's existing knowledge about a concept is the most important factor in whether new material will be meaningful and how well it can be learned and retained.

Analogies and metaphors are frequently used as advance. Organisers because they help student recognize that the topic they are beginning to learn is not totally new, but rather can be related to something they are already comfortable with. This not only helps the students better understand the new concepts, but it also helps to encourage and motivate students, as it makes them more confident about the material to come. They also help teachers fit the new information into a large framework or existing schema. They help students understand the governing questions, issues and preposition that are reflected in that hierarchy. If students understand the basic outline of the structure, they are able to fill in the gaps with new and related information as it is presented to them.

### **CHARACTERISTICS OF ADVANCE ORGANISER MODEL**

The simple characteristics behind Advance Organiser Model are

- i) Most general ideas should be presented firstly in an organised way and then progressively differentiate.
- ii) Following instructional materials should integrate new concepts with previously presented information with an overall organisation.
- iii) Provide a means of generating logical relationship among elements.
- iv) Influence the learners' encoding process,

- v) Short set of verbal or visual information

### **TYPES OF ADVANCE ORGANISER MODEL**

There are two types of Advance Organisers

- i) Expository organisers.
- ii) Comparative organisers.

#### **Expository organizers**

Expository organisers provide a basic concept at the highest levels or abstraction and perhaps some lesser concepts. These represent the intellectual scaffold on which students will “hang” the new information as they encounter it. Expository organisers are especially helpful, because they provide ideational scaffolding for familiar material

#### **Comparative Organisers**

Comparative organisers on the other hand, are used most with relatively familiar material. They are designed to integrate new concepts with similar concepts existing in the cognitive structure. They are also designed to discriminate between the old and new concepts in order to prevent confusion caused by their similarity

### **ADVANTAGES OF ADVANCE ORGANISER MODEL**

- 1 To foster student engagement: A.O establish a purpose & direction for its participation in the lesson while also serving to acquire their attention by virtue of the relevance, challenge, or intrigue of the lesson.
- 2 To activate prior knowledge: When students have recalled prior, relevant information, their brains are better prepared to receive new information & connect that new information to an existing cognitive structure.
- 3 To help her identify & organise important information: AO help students know what to look for as they participate in a lesson & provide a frame work for organizing information, (e.g. - a problem / solution frame work).

To meet the needs of students who are able to connect new knowledge or create new knowledge in their existing cognitive structures are better able to understand & retain new knowledge.

### **STATEMENT OF THE PROBLEM**

A study of advance organizer model among higher secondary students in learning physics

### **OBJECTIVES OF THE STUDY**

1. To study the effectiveness of Advance organiser Model on the Achievement of students in Physics,
2. To study the effectiveness of Advance organiser Model on the Motivation of students in Physics

## **HYPOTHESIS OF THE STUDY**

- 1) There is no significant difference in the Mean Achievement Test Gain scores of Experimental Group -1 (Exi) and Control Group-1 (Ci).
- 2) There is no significant difference in the Mean motivation Test Gain scores of Experimental Group-I (Exi) and Control Group -1 (Ci)

## **RESEARCH DESIGN AND SAMPLE OF THE STUDY**

The sample of the study consisted of 190 students of class-XI belonging to two Higher secondary schools in the district of Theni, Tamil Nadu. From those schools, TKS School, Theni was selected to the first teaching Strategy-Advance Organizer Model (AOM) and taken as Experimental Group-1 (EXi), TKS public school School was selected to the as Control Group (CI) which was received the Traditional Method. In the study, District Level, Block Level, and Panchayat Level Schools were selected on the basis of “purposive sampling” class XI was selected purposively. The Justification of adopting purposive sampling lies in the fact that it is less costly, less time consuming and less pain taking but more convenient and more readily accessible to the investigator.

## **TOOLS USED**

In order to obtain the desired data for the present study various tools were used. Group Test of Mental Ability, Motivation Test and Self developed Achievement Test were used for the present study. This study required the following tools and majors.

Intelligence Test was developed by S.S. Jalota  
Achievement Test was developed by investigator

## **PROCEDURE OF DATA COLLECTION**

After construction and standardization of Achievement Test and Motivation Test in Physics, the investigator made proper planning for administration of the Intelligent Test along with the Motivation & Achievement Test on the sample of 190 students purposively selected from three coeducational Higher secondary schools of theni to carry out her study. The headmasters and concerned teachers were contacted and with their consent a time-schedule was prepared for administration of these 3 tests as pretests. As stated before, all students of three schools of Class-xi were included in the sample.

## **STATISTICAL ANALYSIS**

The Raw scoring are converted to standard Scores and Mean (M), Standard Deviation (SD) of the scores were obtained Y test and co-efficient correlation were calculated between scores of different variables of find the nature of relation if any between them.

## **DATA ANALYSIS**

### **Hypothesis :1**

To study the effectiveness of Advance organiser Model on the Achievement of students in Physics,

The first objective of the present investigation is “to study the effectiveness of Advance Organiser Model on the Achievement of the Students in Physics.” “The hypothesis corresponding to this objective is that “there is no significant difference in the Mean Achievement Test Gain Scores of Experimental Group-I and Control Group-I.” Keeping this hypothesis in mind the Achievement test Gain Scores data were analyzed with the help of “t” test between Experimental Group-I and Control Group-I. The results are ‘t’ test on Achievement Test Gain Scores of Experimental Group-I and Control Group-I

it is observed that the't' value 17.85 is significant at 0,01 level for df equal to 128. It indicates that Achievement Test Gain Scores of Experimental Group-I and Control Group-I differs significantly from each other. In other words, Advance Organizer Model produces differential effect on the Achievement of secondary students. So the null hypothesis, “there is no significant difference in the Mean Gain Scores of Experimental and Control 132 Groups on Achievement Test Scores" is rejected. Further the Mean Gain Scores of Achievement Test of Experimental Group-1 and Control Group-1 were 11.08 and 3.58 respectively. It reflected that the treatment Advance Organizer Model had a significant effect on the development of Achievement students in Physics

Group	Mean Achievement Test Gain Score	SD	N	*t* value	Result
Ex1	11.08	3.46	80	17.86	Significant
C1	3.58	1.56	50		

it is observed that the't' value 17.85 is significant at 0,01 level for df equal to 128. It indicates that Achievement Test Gain Scores of Experimental Group-I and Control Group-I differs significantly from each other. In other words, Advance Organizer Model produces differential effect on the Achievement of secondary students. So the null hypothesis, “there is no significant difference in the Mean Gain Scores of Experimental and Control Groups on Achievement Test Scores" is rejected. Further the Mean Gain Scores of Achievement Test of Experimental Group-1 and Control Group-1 were 11.08 and 3.58 respectively. It reflected that the treatment Advance Organizer Model had a significant effect on the development of Achievement students in Physics

**Hypothesis -2**

**EFFECTIVENESS OF ADVANCE ORGANIZER MODEL ON THE DEVELOPMENT OF MOTIVATION OF STUDENTS IN PHYSICS**

The second objective of this study Is “to know the effectiveness of Advance organizer Model on the development of Motivation of students in Physics.” “The hypotheses corresponding to this objective is that ‘there is no significant difference in the Mean Motivation Gain Scores of Experimental Group-1 and Control Groups-I,” keeping this hypotheses in mind, the data were analyzed with the help of \*f test between gain scores of Experimental and Control groups in the Motivation Test Gain Scores

**‘t’ test of Mean Motivation Gain Scores of Experimental Group-1 and Control Group-1.**

Group	Mean Achievement Test Gain Score	SD	N	*t* value	Result
Ex1	13.05	1.52	80	32.82	Significant
C1	3.86	1.64	50		

it is observed that the f value is 32.82 Is significant at 0.01 level for df equal to 128. It indicates that the Mean Motivation Test 134 Gain Scores of Experimental Group-1 and Control Group-1 differ significantly from each other. In other words the treatment Advance Organizer Model produced differential effect on the Motivation of Students. So the null hypothesis is found that “there is no significant difference in the mean motivation test gain scores of experimental Group- and control Group-1 is rejected.” Further the Mean Gain Score of Motivation test of Experimental and Control Groups were 13.05 and 3.86 respectively. It reflected that the treatment Advance Organizer Model (AOM) had significant effect on the development of Motivation in Physics

**FINDINGS OF THE STUDY**

1. The treatment Advance Organiser Model is effective for the achievement of secondary school students.
2. The treatment Advance Organiser Model is effective for the development of motivation of secondary school student

**CONCLUSION:**

On the basis of the study, it can be concluded that Information Processing Models (IPM) may be introduced for the benefit of the students because of the students at higher education levels are thoroughly dissatisfied with the conventional teaching method.

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