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Abstract:-

The nature and hierarchy of subject Science is information based. The syllabus of science consists of concepts, laws, facts, processes, experiments etc. But all these aspects were taught using conventional methods by the in – service teachers and students teachers.

Zoology is the informative subject, which includes descriptive part, including concepts, structures and functioning of complicated organs and systems such as brain, nervous system, blood vessels, study of human physiology, structure of animal cell etc. The students have multidimensional personalities and different learning styles. So, teaching is thus the most difficult task. To bring the excepted behavioral changes among the pupils the teacher has to be changed, He has to adopt the appropriate strategy for teaching. Advance organizer mode is from information processing family. What extent it can be used for meaningful leaning of Zoology in secondary school pupils? How the teaching of student teachers can be advanced? How advance organiser model and teaching of student teachers are interrelated? And what is the efficacy of advance organizer model? To answer these question present study was proposed.

The effectiveness of teaching strategies (Conventional of A.D.M.) has been studied in terms of pupils achievement in science. This study was conducted on 214 school pupils from Annasaheb Kalyani Vidyalaya, Satara.

EFFICACY OF ADVANCE ORGANIZER MODEL FOR TEACHING ZOOLOGY UNITS AT SECONDARY SCHOOL LEVEL–A STUDY.

Vandana Jadhav-Nalawade

Asso. Professor, Azad College of Education ,Satara.

The Area of Research:-

The perusal of the available research empirical evidence reveals that more research is needed for the determination of A.O.M. in the teaching of science as it is having importance in school curriculum. So the study was conducted by the research in real classroom situation.

Statement of Problem:- Effect of advance organizer model on school pupils performance in Zoology –A Study

Objectives of the study:-

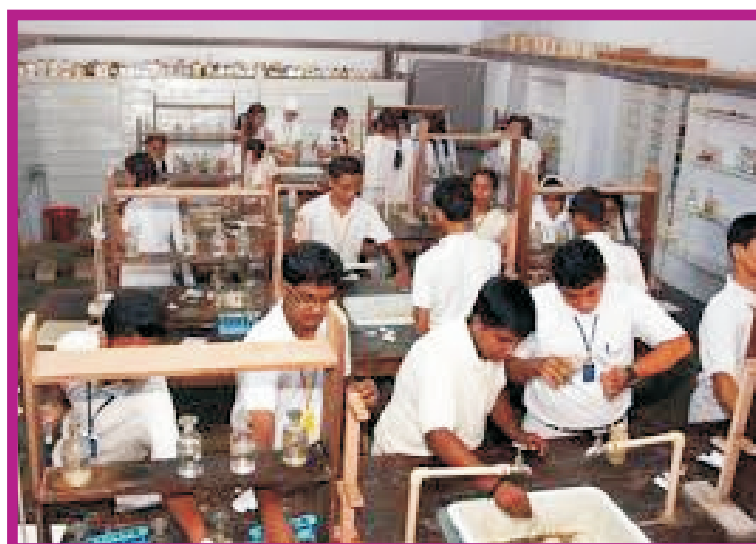
- 1) To provide training of A.O.M. model and conventional method on theory, planning and evaluation of A.O.M. and (Method suitable to Indian condition).
- 2) To analyse the science syllabus of std IX to identify the informative units to be taught using A.O.M.
- 3) To determine student teachers teaching performance in terms of achievement of pupils' in paper pencil tests based on units of Zoology.

Hypothesis:-

- 1) There is no significant difference in the achievement of the pupils' taught using A.O.M. and those with conventional Method.

Keywords:

Advance Organiser Model, Zoology.



INTRODUCTION

The nature and hierarchy of subject Science is information based. The syllabus of science consists of concepts, laws, facts, processes, experiments etc. But all these aspects were taught using conventional methods by the in – service teachers and students teachers.

Zoology is the informative subject, which includes descriptive part, including concepts, structures and functioning of complicated organs and systems such as brain, nervous system, blood vessels, study of human physiology, structure of animal cell etc. The students have multidimensional personalities and different learning styles. So, teaching is thus the most difficult task. To bring the excepted behavioral changes among the pupils the teacher has to be changed, He has to adopt the appropriate strategy for teaching.

Advance organizer mode is from information processing family. What extent it can be used for meaningful leaning of Zoology in secondary school pupils? How the teaching of student teachers can be advanced? How advance organiser model and teaching of student teachers are interrelated? And what is the efficacy of advance organizer model? To answer these question present study was proposed.

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Statement of Problem:- Effect of advance organizer model on school pupils performance in Zoology – A Study

DELIMITATIONS OF THE STUDY:-

This study was delimited with respect to school, subject, class, unit and place of study as follows:-

- 1) The present study was confined to only one model. That is A.O.M. amongst 24 and from information processing family developed by B. Joyce and M. Well.
- 2) The investigation was confined to aided B.Ed college in Satara city and student teachers studying Science as compulsory Method.
- 3) The Experiment was conducted only in government aided Marathi medium secondary school and pupils of IX standard in Satara city.
- 4) The study was restricted to some Zoology subunits from the course of science of standard IX(Total 9 subunits) .

OBJECTIVES OF THE STUDY:-

- 1) To provide training of A.O.M. model and conventional method ontheory, planning and evaluation of A.O.M. and (Method suitable to Indian condition).
- 2) To analyse the science syllabus of std IX to identify the informative units to be taught using A.O.M.
- 3) To determine student teachers teaching performance in terms of achievement of pupils' in paper pencil tests based on units of Zoology.

HYPOTHESIS:-

- 1) There is no significant difference in the achievement of the pupils' taught using A.O.M. and those with conventional Method.

Sample:-

Thirty six student teachers having Science as their compulsory method and two hundred pupils of IX std from Annasaheb Kalyani High school, Satara.

Design of the Study:-

The post test only equivalent group design was used for the study which is as below:-

R	X	O1
	C	O2
R – Random selection of groups		
X – Treatment given to the experimental group		
C – Treatment given to the control group		
O1 and O2 – Pupils' achievement after treatment.		

Tools Used:-

- 1) Test of general intelligence by Dr. S.K. Pal and K.S. Misra.
- 2) Training programme used for experimental and control groups which included Theory, planning and demo lessons with peer tutoring and practice.
- 3) Paper pencil tests based on various subunits in Zoology.

The Experiment:-

The Experiment was conducted three phases. That is pre – treatment, treatment and post treatment stages. That is waking equivalent groups of student teachers and school pupils, Training programme of A.O.M.model(theory, lesson planning, and practice lessons), teaching of the units in real classroom situation and measurement of the performance of school pupils with the help of paper pencil tests.

A)Pre – treatment Phase:- Preparation of equivalent groups –

- 1)Test of General Intelligence by S.K. Pal and K. S. Misra
- 2)Academic scores +CET scores of the student –teachers
- 3)Scores achieved by School pupils’ in Science at terminal examination subjected to F test.

B)Treatment Phase:

- 1)Training was given to the student teachers about theory and practice lessons of A.O.M. and conventional strategy which comprised Lectures, Demo. Lessons ,peer-tutoring and practicing lessons.
- 2)The student teachers taught lessons on different subunits of zoology in real classroom conditions. E group-A.O.M. strategy. Group C-Conventional strategy.

C)Post – treatment Phase:

After teaching each lesson paper-pencil tests were given to IX standard pupils.

ANALYSIS AND INTERPRETATION OF DATA:-

Statistical analysis like Mean ,S.D., t-test and ANOVAs were employed to the data to know the differential effect of treatment. After treatment of each subunit post test of achievement in Science on respective subunits was administered for school pupils.

Effectiveness of A.O.M. in terms of pupils achievement in various subunits o Zoology.

In the present study teaching strategies A.O.M. and conventional Method of teaching were the independent variables while the achievement of pupils in Zoology was the dependant variable. After the determination of t test (by evaluating means, S.D. and standard error) the t values obtained are given in the table below. The summary table of ‘t’ values and signification of subunits in Zoology at a glance. The summary table

S r . N o .	S u b U n i t	‘ t ’ v a l u e	Significance level
1	R e s p i r a t i o n	3 . 9 2	0 . 0 1
2	Structure of human heart	6 . 7 6	0 . 0 1
3	B l o o d v e s s e l s	2 . 9 6	0 . 0 1 *
4	B l o o d c i r c u l a t i o n	3 . 2 2	0 . 0 1 *
5	B l o o d g r o u p s	2 . 7	0 . 0 1
6	E x c r e t i o n	2 . 6 8	0 . 0 1
7	The nervous system	8 . 8 2	0 . 0 1
8	H u m a n b r a i n	1 0 . 2	0 . 0 1
9	H u m a n b o d y	0 . 4 3 4	N s

Note:- Ns – Not significant, that is A.O.M. and conventional strategy is equally effective.

* - Conventional method is more effective.

Remaining all subunits – A.O.M. is more effective from above table it can be concludes that advance organizer model is man effective than conventional strategy for teaching Zoology subunits.

MAJOR CONCLUSIONS:-

- 1) On average advance organizer model strategy is more effective than conventional strategy.
- 2) In case of two units namely ‘blood vessels’ and blood circulation’ the conventional methods is more effective than advance organizer model.
- 3) In case of the subunit Human body the advance organiser strategy and conventional strategy are equally effective.
- 4) Thus the study was found more useful to the pupils for foundation of cognitive structure in Science.

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