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"IMPACT OF CONCEPT ATTAINMENT MODEL IN TEACHING OF BIOLOGICAL CONCEPTS AT HIGHER PRIMARY SCHOOL LEVEL"

Dr. Hoovinbhavi B.L.*

ABSTRACT

The present study is experimental in nature. The main objective of this study was to study the effectiveness of concept attainment model in terms of achievement of students in science (biology). A total sample of 60 students from shri shahaji High School Akkalkot Dist- Solapur from VI std are selected. From 60 students two matched groups are made one is experimental group and another is controlled group. 23 lessons plans are prepared according to concept attainment model theory. These 23 lesson plans are checked and corrected by 3 subject experts and validation is done. These 23 lessons are thought to experimental group only. 23 lessons are thought to controlled group by traditional method. Concept attainment model was found to be effective in term of achievement of students in biology.

INTRODUCTION

Science today is becoming increasingly complex and abstract. It is therefore important that new methods and techniques of teaching must be introduced in order to make the teaching of science more effective and efficient. These are the days of knowledge explosion Hence the learners must be prepared to process information suitably and meaningfully so that the information can be retained for a longer time and can be used in different situations of life. In order to accomplish this objective, the root and fruit of knowledge, i.e. the pupils must attain concept.

* **Dean & Chairperson,Research Guide G.U.G.,Shri. Bodhale M.B. ,Research Schoolar, G.U.G.**

The teaching modeles are very useful for teachers for planning and organizing teaching activities. J.S. Bruner was the founder of information processing teaching models.

Systematic interaction between a teacher and a learner are necessary for cognitive development.

The Simple Random sampling method was used. 60 students of VI std semi English students were used from Shri Shahaji High School Akkalkot for collection of data.

OBJECTIVES OF THE RESEARCH

The following are the main objectives of research.

1) To validate concept attainment model lesson plan in biological concepts.

2) To compare learning outcome of students between concept attainment model lesson and traditional teaching method.

HYPOTHESES OF THE RESEARCH

The hypotheses of the research are given below.

1) There will be a positive and good attitude of students in learning by Concept attainment model lesson.

2) There will be a significant difference between the achievement of students taught by Concept attainment model lesson and traditional method.

SAMPLE SELECTION

The simple Random sampling method was used. 60 students of VI std semi English students were used from Shri Shahaji High School Akkalkot

DESIGN / METHODOLOGY OF THE STUDY

The researcher used experimental method taking into considerations the nature, objectives and approach of research.

DATA COLLECTION TECHNIQUE & PROCEDURE

The following technique and procedure is used for data collection

60 students of VI standard Semi English students are selected from Maratha Mandir's Shri Shahaji High School Akkalkot Dist- Solapur Maharashtra Two equal groups (each 30 students) are made on the basis of pre test Simple random Sampling method is used to make two different matched equal groups. First group is treated as experimental group & Second group is treated as controlled group. 23 lessons plans are prepared according C.A.M. They are taught to experimental group by C.A.M. method. The controlled group is taught by traditional method. I.Q. test, science Interest test, A.M.T. & SC. Interest tests are administrated to both experimental & controlled group. The answer sheets of test are assessed as per the guidelines of answer keys. The content achievement test is administrated to both groups & assessed as per answers. 30 students of experimental group students are considered to gather the introspective reactions of C.A.M. A questionnaire is supplied to experimental group to gather introspective reactions of C.A.M. Two Sr. teachers of Science having more than 30 years experience are observed the C.A.M. lessons. There two Sr. science teachers gave the introspective reactions of them about C.A.M. lessons taught to experimental group. The statistical calculations mean, S.D. 't' value etc. are calculated. The conclusions are drawn on the on the calculation done.

IMPORTANT FACTORS CONSIDERED IN THE TEACHING OF CONCEPT

The following are the important factors considered in the teaching of concept. They are

a) Age of student.

b) Educational atmosphere.

c) Nature of concept.

d) Capacity of intelligence.

The following important steps are involved in the teaching of concept attainment model

1) Focusing

2) Syntax

3) Social system

4) Principles of reaction

5) Support system

1) FOCUSING - To help the students for attainment of concepts.

2) SYNTAX - There are three phases

Phase I - Presentation of data & Identification of concept.

Phase II - Testing attainment of concept.

Phase III - Analysis of thinking strategies.

3) SOCIAL SYSTEM - Teacher does the three important works

i) He motivates to students

ii) He gives additional information

iii) He keeps the records of students.

Teacher observes the activity of students. Teacher gives the direction to students.

4) PRINCIPLES OF REACTION

The teacher motivate to student to give reactions. Here all students participate in discussion about verification of hypotheses. Here teacher supports to students thinking to conclude about hypotheses.

5) SUPPORT SYSTEM

Here teacher first decide which concept should be presented before students. Here teacher brings the sufficient & full teaching materials to students. Here teacher also prepares the list of positive & negative examples.

OBJECTIVE WISE DATA ANALYSIS

The objective wise data analysis is done as under

ANALYSIS & INTERPRETATION OF DATA CORRESPONDING TO OBJECTIVE 1 TO VALIDATE CONCEPT ATTAINMENT MODEL LESSONS PLAN IN BIOLOGICAL CONCEPTS.

In this 23 lessons plans are prepared according to C.A.M. theory. These 23 lessons plans are checked and corrected by 3 subject experts. The lesson plans are designed by the guidelines (of 3 experts). Then these 23 lessons plans are administered to experimental group only.

The concept attainment model consists the important characters a) Name of the concept b) Definition c) Attributes d) Attribute value e) examples

To clear any concept it requires both positive and negative examples. The students compare examples and draw hypothesis.

The main components of concept attainment model are 1) Focusing 2) Syntax.

Phase I - Presentation of data and Identification of concept

Phase II - Testing attainment of concept

Phase III - Analysis of thinking strategies

3) Social system 4) Principles of reaction 5) Support system

ANALYSIS & INTERPRETATION OF DATA CORRESPONDING TO OBJECTIVE 2

Two matched groups are prepared by using simple random sampling method. To make these two equal groups the tests viz science interest, Achievement motivation Test, Intelligence, Creativity is administred both groups.

Matched group Pre and Post test design

Age, Sex, Intelligence, Teacher, Time, Teaching content were equal to both groups in all respect.

Matched group Pre and Post test design

Experimental group	Controlled group
Sample – 30 VI std students Treatment – C.A. model based lessons Variables – 1) Intelligence 2) Creativity 3) A.M.T. 4) Sc. Interest 5) Content A. Test	Sample – 30 VI std Students Treatment – Traditional method based lessons Variables – 1) Intelligence 2) Creativity 3) A.M.T. 4) Sc. Interest 5) Content A. Test

TO COMPARE LEARNING OUTCOME OF STUDENTS BETWEEN CONCEPT ATTAINMENT MODEL LESSONS AND TRADITIONAL TEACHING METHOD.

The five tests viz, Science Interest, Achievement motivation Test, Intelligence, Creativity and Content achievement test is administrated to Expt. group & control groups. From that mean, SD and t value is calculated.

A) THERE IS NO SIGNIFICANT DIFFERENCE BETWEEN THE SCORES IN EXPERIMENTAL GROUP AND CONTROLLED GROUP FOR SCIENCE INTEREST.

TABLE NO. 1

I) MEAN AND SD OF SCIENCE INTEREST

Group	Mean	S.D.	t
Experimental Group	57.14	3.54	0.04375
Control Group	57.10	3.53	

The Table shows that the mean of experimental group and the mean of control group is nearly same.

The SD of experimental group and the SD of control group is nearly same.

That mean both experimental and control group are identical and same with respect to interest.

B) THERE IS NO SIGNIFICANT DIFFERENCE BETWEEN THE SCORES IN EXPERIMENTAL GROUP AND CONTROL GROUP FOR ACHIEVEMENT MOTIVATION TEST (A.M.T.).

TABLE NO. 2

II) MEAN AND SD OF ACHIEVEMENT MOTIVATION TEST

Group	Mean	S.D.	t
Experimental Group	169.80	13.02	0.0095
Control Group	169.77	11.38	

The Table shows that the mean of experimental group and the mean of control group is nearly same.

The SD of experimental group and the SD of control group is nearly same.

That mean both experimental and control group are identical and same with respect to A.M.T.

C) THERE IS NO SIGNIFICANT DIFFERENCE BETWEEN THE SCORES IN EXPERIMENTAL GROUP AND CONTROL GROUP FOR INTELLIGENCE (I.Q.).

TABLE NO. 3

III) MEAN AND SD OF INTELLIGENCE TEST (I.Q.)

Group	Mean	S.D.	t
Experimental Group	81.13	10.78	0.01120
Control Group	81.10	9.95	

The Table shows that the mean of experimental group and the mean of control group is nearly same.

The SD of experimental group and the SD of control group is nearly same.

That mean both experimental and control group are identical and same with respect to Intelligence.

D) THERE IS NO SIGNIFICANT DIFFERENCE BETWEEN THE SCORES IN EXPERIMENTAL GROUP AND CONTROL GROUP FOR CREATIVITY.

TABLE NO. 4

IV) MEAN AND SD OF CREATIVITY

Group	Mean	S.D.	t
Experimental Group	599.40	92.58	0.00019
Control Group	599.37	92.38	

The Table shows that the mean of experimental group and the mean of control group is nearly same.

The SD of experimental group and the SD of control group is nearly same.

That mean both experimental and control group are identical and same with respect to Creativity.

E) THERE IS A SIGNIFICANT DIFFERENCE BETWEEN THE SCORES IN EXPERIMENTAL GROUP AND CONTROL GROUP FOR CONTENT ACHIEVEMENT TEST.

TABLE NO. 5

V) MEAN AND SD OF CONTENT ACHIEVEMENT TEST

Group	**Mean**	**S.D.**	**t**
Experimental Group	21.93	1.65	10.56
Control Group	11.07	2.10	

The Table shows that the mean scores of experimental group and the mean scores of control group are different. There is difference of 10.23.

The S.D. of experimental group and Control group is different.

t = 10.56 > 1.96 5% Level of Significance

t = 10.56 > 2.58 1% Level of Significance

The calculated value is greater than 1.96 and 2.58.

Hence, it indicates that there is a significant difference between the marks scored by experimental group and control group for content achievement test.

FINDINGS

1) The achievement of students who where taught by concept attainment model were found to be better than traditional method.

2) Concept attainment model was more effective than traditional method with respect to the scores of attainment of the marks.

3) Concept attainment model was more effective than traditional method in the retention of the concept.

REFERENCES

1. Aggrawal, J. C. (2008). *Educational Technology - Management and Evaluation*, Third Edition, Agra: Vinod Pustak Mandir.

2. Basotia, G. R. and Sharma K. K. (1999). *Research Methodology*, Jaipur: Mangal Deep Publications.

3. Best, J.W, Khan, J.V. (2002). Ed., *Research in Education*, New Delhi: Printice Hall of India Pvt. Ltd.

4. Buch M. B. (1974). *A Survey of Research in Education*, Baroda, Center of Advanced Study in Education, M.S. University.

5. Buch M. B. (1979). *Second Survey of Research in Education (1972-76)*, Baroda, Society for Educational Research and Development.

6. Buch M. B. (1987). *Third Survey of Research in Education*, 1978-1983 New Delhi, NCERT.

7. Chaudhary, Kamlesh and Veerkar Pratibha ( ). *Practical Perspective - Information Processing Models of Teaching*, Pune: Dwaraka Prakashan.

8. Joyce, Bruce and Weil Marsha (1985). *Models of Teaching*, Second Edition, New Delhi: Prentice Hall of India Pvt. Ltd.

9. Kaul, Lokesh (2009). *Methodology of Educational Research*, Fourth Edition, Vikas Publishing House Pvt. Ltd.

10. Kothari, C. R. (2004). *Research Methodology: Methods and Techniques*, Second Edition, New Delhi: New Age International (P) Ltd.