



IMPACT OF INQUIRY TRAINING MODEL ON TEACHING BIO SCIENCE OF HIGHER SECONDARY STUDENTS

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Abstract

The main objective of the study was to study the impact of Inquiry Training Model and Traditional Method of teaching on achievement of Bio science of class XI students. To obtain the above objective pre and post test experimental method has been used. 79 students were selected for the study from two Kendriya Vidyalayas. For the implementation of the study lesson transcripts based on IT model and traditional method have been used. Finally Achievement test in Bio science has been implemented on the students. The finding of the study shows that retention of concept taught by ITM is more reliable than taught by the traditional method.

Key words: *Inquiry Training Model, Traditional Method of Teaching & Achievement in Bio Science.*

INTRODUCTION

Inquiry training model (ITM) is one of the most effective teaching strategies of science education. It teaches students how to learn an inquiry process. Identifying the importance of ITM in science education programme, a study was conducted to identify the opinions about and attitudes towards ITM possessed by the teacher educators and student teachers as they are the people who have the opportunity of using it both at theory and practice levels.

It has been stated that true wisdom might best be defined as knowing how little one knows in contrast to how much one knows. Therefore, if knowing how to learn is more important than knowing all the answers, The one must realize that good questions are more important than right answers.

Teaching science through inquiry requires that students ask questions and figure things out for themselves. It involves the attempt to answer questions and seek information. Inquiry can be conducted in a variety of ways; observing nature, predicting outcomes, manipulating variables, analyzing situations and verifying assertions. It may involve discussing topics with others, reading, conducting field studies, surveys and laboratory investigations, or all of these as one attempts to discover new knowledge and to figure thing out.

Gormally et. al (2009) have found in their study that by the use of inquiry training model, students, science literacy skills and self-confidence can be increased.

Zeki Bayram et. al (2013) have also showed in his study that the students who taught by the inquiry based learning method show high motivation level.

Bio science learning is essentially based on basic Bio science concept, gradually building up a logical super structure of various combinations and applications of these concepts. Therefore the success of Bio science achievement surely depends upon the basic requirement of concept attendant. Hence, the teaching of Bio science always orient itself to concept development and application of concept skills, it is in this context that teaching of biology through Enquiry Training Model becomes highly desirable and effective. The salient features of IT model and soundness of application to the teaching of the school subject have been analyzed earlier. The need for using effective teaching strategies in biology to maximize conceptual development has also been presented. Therefore it occurs as a natural enquiry as to what would be the resultant if there two academic movements are fused together. Hence this investigation concerns itself with.

Variables

Independent variable	-	Methods of instruction (Inquiry training model & Traditional method)
Dependent variables	-	Gain score in particular unit of Bio Science "Health & Disease" of standard XI.
Control Variable	-	1) Same teacher has taught the lesson to both the group i.e. Experimental & Control group. 2) Students are of the same age group. 3) Socio-Economic status of all the students are same.



OBJECTIVE

To Study the impact of inquiry Training Model (ITM) and Traditional method of teaching (T.M.) on Achievement of Bio-Science of Class XI students.

Hypothesis

There is a significant difference between the gain score of class XI students who were taught by Inquiry Training Model and the students who were taught by Traditional method.

METHODOLOGY

In the present study pre and post test experimental method has been used.

Sample: The researcher has taken a sample of 79 students of class XI from KV No. 1 GCF and KV.1 STC Jabalpur. Among these 79 students 40 students have been selected as experimental group and 39 as control group.

Tools of Study

Lesson transcripts on inquiry training model.

1. Lesson transcripts based on conventional method of teaching.
2. Achievement Test in Bio- Science unit Health & Disease.

Procedure

The investigator administrated a self made Pre- test to both the groups (Experimental & Control group) which is based on previous biology Concept learnt by the students of class XI. After the Pre-Test a 15 days treatment has been given to students. The investigator taught the experimental group by inquiry training model instead control group was taught by conventional teaching method. In the end again the investigator administered post test on both the groups. After resulting both tests gain score was obtained as:

Post Test Score - Pre Test Score = Gain Score

For testing the hypothesis results have been tabulated so that analysis and discussion can be done easily.

Table No-1,Comparative results showing the impact of instructional methods on Achievements in Biology of class XI Students.

Groups	N	M	SD	CR
Control Group	39	10.64	7.91	2.84**
Experimental Group	40	15.42	7.09	

df=78

table value the significant level 0.01=2.64

Table 4.1 indicated that there is a significant difference found between the gain score of experimental group and control group as the t-value is 2.84 which is greater than the significant value at 0.01 level i.e. 2.64.

Above result reveals that there is a significant difference found in the gain score of Biology between the XI standard who were taught by the inquiry training (experimental group) and the students who were taught by the traditional method (control group).

This is clearly shown by the difference in mean between the Groups. The difference in mean is 4.78. On the basis of the above result the given hypothesis. "There is a significant difference in gain score of unit taught between the XI standard who were taught by inquiry T.M. and the student who were taught by Traditional method (T.M.)" is not rejected.

This difference between mean of both groups shows that the retention of concept taught by I.T.M. is more reliable than taught by the Traditional method. It means that the experimental group students will be able to conceive the concept more effectively because this model of teaching was helpful in the cognitive development of a child.

Similarly Bruner stated that the I.T.M. helps in depth understanding of a particular concept. The present result also supported by Shamnad , Kalani,(2005) that " The I.T.M. was more effective than the Traditional method in retention of concept."



RESULT

There is significant difference found at 0.01 level between the gain score of experimental group students and control group students. It means that the experimental group students will be able to conceive the concept more effectively than students of the control group.

CONCLUSION

The above study reveals that there is a significant impact of inquiry Training Model (ITM) on Achievement of Bio-Science of Class XI students.

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