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Effectiveness of Inquiry Training Model for Teaching Geography to Class 8th Students in Nagpur City – An Experimental Study

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Abstract
Inquiry training model was developed by Richard Suchman. The aim of inquiry training was to help students to develop the intellectual disciplines and skills necessary to raise questions and search out answers stemming from curiosity. In the present study, effectiveness of Inquiry training model on academic achievement of Students in geography subject of class 8th has been studied and compared inquiry training model with traditional teaching method. The present study was experimental in nature. Experimental group was taught by inquiry training model and controlled group was taught by traditional teaching method. 60 students of Nagpur city were selected as a sample. Result of study shows that inquiry training model was more effective in geography teaching than traditional classroom teaching method. Inquiry training model was found to be effective in academic achievement of students of geography subject of 8th class.
Keywords*: Inquiry Training Model, academic achievement, traditional teaching methods*

I. Background:

In today's competitive age, studying geography is very important. It is necessary to ensure to innovate in teaching this subject so that students do not feel fear and anxiety at a young age. Therefore, the researcher has developed teaching strategies to foster a positive attitude among students and teachers of geography to simplify the study of complex concepts. Additionally, the research includes an examination of the impact of communication on students' grades.

II. Introduction:

When two people meet, their conversation often begins with questions. People ask questions out of curiosity and for various reasons. Questions have long been seen as a way to gain knowledge, as far back as the time of Socrates. When a person asks a question and receives an answer, they learn. This method has led to many scientific discoveries as researchers seek answers to their questions. This approach emphasizes the study of the techniques or methods of acquiring and imparting knowledge rather than just the knowledge itself. Richard Suchman is credited with originating this paradigm. The technique he refers to is the Inquiry Training Model. The Inquiry Training method, developed by Richard Suchman, is used to teach students scientific inquiry methods and to explain unfamiliar scenes, events, or situations. This method mirrors the systematic arrangement of information and knowledge used by scholars to establish principles. It is based on the findings that Suchman developed by analyzing the methods used by creative researchers, particularly in physics. By adapting the basic principles of the research process, it can be used for educational purposes.

The Inquiry Training Model is based on the idea that the problem-solving and inquiry methods used by scientists can be taught to students. By harnessing the natural curiosity of students, the model aims to train students in the procedures of inquiry. This model was developed by analyzing the methods used by creative research personnel, and the elements of their inquiry process were identified and built into an instructional model called inquiry training. The goal of inquiry training is to involve students directly in the scientific process through exercises that condense the scientific process into shorter periods of time. This training has led to increased understanding of geography, enhanced creative thinking, and improved skills in obtaining and analyzing information. Students engage in active exploration, questioning, problem-solving, inductive reasoning, invention, labeling, and discovery as part of this process.

Inquiry Model has five phases :

1. Encounter with the Problem
2. Data gathering and verification
3. Data gathering and Experimentation
4. Formulating an explanation

5. Analysis of Inquiry Process

Objective of the study :

1. To study the effectiveness of Inquiry Training Model for teaching Geography in term of achievement of students.
2. To conduct a comparative study of Traditional Teaching Method and Inquiry Training model.

Hypothesis of the study :

1. There is no significant difference in the mean pre-test and post-test scores of experimental group.
2. There is no significant difference in the mean post-test scores of control group and experimental group.

III. Research Methodology :

The present study was experimental in nature. The Quasi Experimental methodology was used to measure the effectiveness of the Inquiry Training Model for teaching Geography to VIII class students. The Control group was taught using traditional teaching method while the Experimental group was taught using the Inquiry Training Model, so that difference in the performance of students due to treatment can be effectively measured and compared.

Population :

The population for the study was 8th std. students of state board schools of Nagpur city.

Sample :

The convenience sampling is used for this study. A sample of 60 students studying in 8th standard will be taken from two state board schools in rural areas of Nagpur city. 30 students will selected from each school, where the students selected according to this research topic.

Tools Used :

1. Lesson plan based on Inquiry Training Model prepared by researcher.
2. Achievement test in Geography :

Researcher prepared 20 marks achievement test in Geography and it was used as Pre-test and Post-test.

Data Collection :

For data collection, a pre-test was administered to both the control and experimental groups. The control group students were taught using the regular teaching method, while the experimental group students were taught using the Inquiry Training Model. At the end, a post-test was given to both groups. After administration, scoring was done according to the prescribed marking criteria. Therefore, the data for the present study consisted of pre-test and post-test scores from the achievement test.

Statistical Techniques used :

The collected data underwent analysis using statistical techniques such as mean, standard deviation (S.D.), and t-test.

Analysis and Data Interpretation :

Table 1 : Effectiveness of Inquiry Training Model on the Achievement in Geography

Group	Test	N	Mean	SD	t-value
Experimental Group	Pre-Test	30	4.97	2.59	23.8*
	Post-Test	30	15.33	4.78	

From the table 1, it shows that the mean pre-test and post-test scores of experimental group are 4.97 and 15.33 respectively. The calculated t-value i.e. 23.8 is greater than tabulated values and thus it is statistically significant at 0.01 level. Hence the hypothesis, "There is no significant difference in the mean pre-test and post-test scores of experimental group" is rejected. It reveals that Inquiry Training Model has a positive effect on the achievement of student in geography.

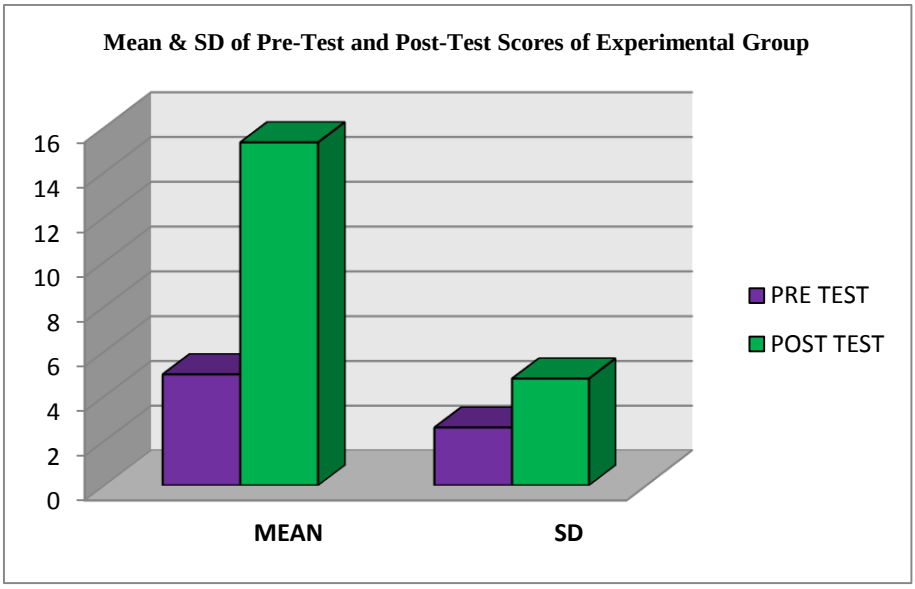
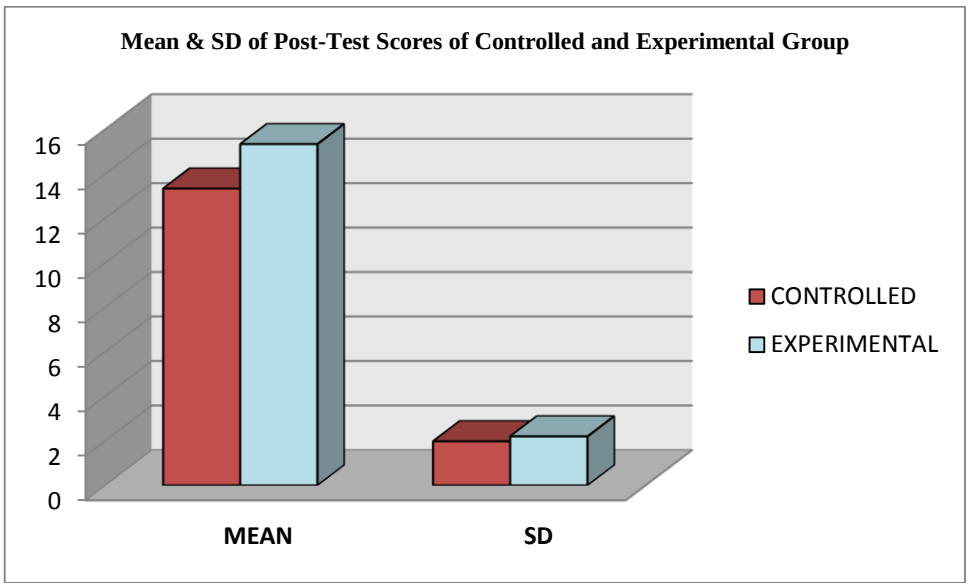


Table 2 : Comparison between Inquiry Training Model and Tradition Teaching

Group	Test	N	Mean	SD	t-value
Controlled Group	Post-Test	30	13.33	1.97	3.72*
Experimental Group	Post-Test	30	15.33	2.19	

From the table 2, it shows that the mean post-test scores of controlled group is 13.33 and experimental group is 15.33. The calculated t-value i.e. 3.72 is greater than tabulated values and thus it is statistically significant at 0.01 level. Hence the hypothesis, "There is no significant difference in the mean post-test scores of control group and experimental group" is rejected. It can be stated that the students of experimental group taught with Inquiry Training Model of Teaching are better in achieving the achievement scores as compared to the students of control group taught with regular teaching method. It shows that, students taught using the Inquiry Training Model of Teaching achieve higher levels of academic success.



IV. Findings of the study:

After carefully analysing the collected data and interpreting the results, the following findings were found:

1. The Inquiry Training Model had a significant impact on students' academic performance.
2. There is a significant difference in the mean pre-test and post-test scores of the experimental group. This indicates that students taught through the Inquiry Training Model of Teaching achieve higher levels of academic performance.
3. The mean post-test scores of the experimental group, taught with the Inquiry Training Model of Teaching, differed significantly from those of the control group taught with the regular teaching method. This indicates that the experimental group showed superior achievement in comparison to the control group.

V. Conclusion :

Geography is a compulsory subject for all secondary school students. It should be taught using the Inquiry Training Model, as it is more effective than traditional methods. All teachers should adopt the Inquiry Training Model at different levels. Teachers should be given stress through seminars and orientation programs on the Inquiry Training Model. It is also necessary to emphasize this model in different textbooks. Teachers should be trained on the Inquiry Training Model to enhance the effectiveness of real education.

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