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Effectiveness Of Inquiry Training Model For Teaching Geography To Class 8th

Dr. Tikshya M. Shyamkul
Assistant Professor
P.G. Department Education
RTM Nagpur University,
NAGPUR – 440 033
(Maharashtra State) India

Akhilesh Ramesh Bramhe
Research Student
P.G. Department Education
RTM Nagpur University,
NAGPUR – 440 033
(Maharashtra State) India

Abstract :

The Inquiry Training Model (ITM) was developed by Richard Suchman, aiming to help students cultivate the intellectual disciplines and skills necessary to ask questions and seek answers driven by curiosity. This study examines the effectiveness of the Inquiry Training Model (ITM) in teaching Geography to eighth-grade students. A quasi-experimental design was used, with 120 students divided into control and experimental groups. The control group received traditional instruction, while the experimental group was taught using ITM. Pre-test and post-test scores were analysed using statistical techniques. Results showed a significant improvement in the academic performance of students taught using ITM, with higher post-test scores compared to the control group. The findings highlight ITM's effectiveness in enhancing inquiry skills, problem-solving, and critical thinking. The study recommends integrating ITM into Geography education and providing teacher training for its implementation.

Keywords : Inquiry Training Model, academic achievement, traditional teaching methods

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 (ITM), 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 founded on the concept that the problem-solving and inquiry techniques used by scientists can be taught to students. By tapping into students' natural curiosity, this model aims to train them in the procedures of inquiry. It was developed by analyzing the methods employed by creative researchers, identifying key elements of their inquiry processes, and incorporating them into an instructional framework known as inquiry training. The primary objective of inquiry training is to actively involve students in the scientific process through exercises that condense this process into shorter timeframes. This approach has resulted in a greater understanding of geography, enhanced creative thinking, and improved skills in information gathering and analysis. As part of this learning process, students engage in active exploration, questioning, problem-solving, inductive reasoning, invention, labelling, and discovery.

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.

Research Methodology :

The current study was experimental in nature and utilized a quasi-experimental methodology to measure the effectiveness of the Inquiry Training Model for teaching Geography to eighth-grade students. The control group received instruction through traditional teaching methods, while the experimental group was taught using the Inquiry Training Model. This setup allowed for an effective comparison of student performance based on the different teaching approaches.

Population :

The population for the study was 8^{th} std. students of state board schools of Nagpur district.

Sample :

The convenience sampling is used for this study. A sample of 120 students studying in 8th standard will be taken from four state board schools in rural and urban areas of Nagpur district. 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 students in the control group received instruction using the standard teaching method, while those in the experimental group were taught using the Inquiry Training Model. After the instruction, a post-test was given to both groups. The tests were scored according to the established marking criteria. Consequently, the data for this study consisted of the 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	60	5.08	2.17	32.85*
	Post-Test	60	15.49	3.77	

Table 1 indicates that the mean pre-test score for the experimental group is 5.08, while the mean post-test score is 15.49. The standard deviations for these scores are 2.017 and 3.77, respectively. The calculated t-value is 32.85, which is greater than the tabulated value, demonstrating statistical significance at the 0.01 level. Therefore, the hypothesis stating, “There is no significant difference in the mean pre-test and post-test scores of the experimental group,” is rejected. This indicates that the Inquiry Training Model has a positive impact on students' achievement in geography.

Table 2 : Comparison between Inquiry Training Model and Tradition Teaching

Group	Test	N	Mean	SD	t-value
Controlled Group	Post-Test	60	13.03	3.15	7.09*
Experimental Group	Post-Test	60	15.45	3.81	

Table 2, indicates that the mean post-test scores of controlled group is 13.03 and experimental group is 15.33. The standard deviations for these scores are 3.15 and 3.81, respectively the calculated t-value is 3.72 is greater than tabulated value demonstrating statistically significant at 0.01 level. Therefore, the hypothesis stating, “There is no significant difference in the mean post-test scores of control group and experimental group” is rejected.

Table 3 : Comparison between Inquiry Training Model and Tradition Teaching(Urban)

Group	Test	N	Mean	SD	t-value
Controlled	Post-Test	30	13.33	3.89	3.72*
Experimental	Post-Test	30	15.33	4.78	

Table 3, indicates hat the mean post-test scores of controlled group is 13.33 and experimental group is 15.33. The standard deviations for these scores are 3.89 and 4.78, respectively. The calculated t-value is. 3.72.

Table 4 : Comparison between Inquiry Training Model and Tradition Teaching (Rural)

Group	Test	N	Mean	SD	t-value
Controlled	Post-Test	30	12.73	2.34	6.75*
Experimental	Post-Test	30	15.57	2.94	

Table 4, indicates that the mean post-test scores of controlled group is 12.73 and experimental group is 15.57. The standard deviations for these scores are 2.37 and 2.94, respectively. The calculated t-value is. 6.75.
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.

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 student's 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.

Conclusion :

Geography is a mandatory subject for all secondary school students, and it should be taught using the Inquiry Training Model, which is more effective than traditional teaching methods. All educators should adopt this model at various educational levels. To facilitate this transition, teachers should receive support through seminars and orientation programs focused on the Inquiry Training Model. Additionally, it is important to emphasize this teaching approach in different textbooks. Proper training for teachers on the Inquiry Training Model is essential to enhance the effectiveness of education.

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