Priti Kumari al. International Journal of Recent Research Aspects ISSN: 2349-7688, Vol. 2, Issue 4, Dec 2015, pp. 154-158

Impact of Inquiry-based teaching model on Academic Achievements in Social Science subject of 9th class student of secondary Schools located in urban area

Priti Kumari[1], Dr S.K. Arora[2], Dr. Shruti Tiwari[3]

[1]Research Scholar, Suresh Gyan Vihar University, Jaipur, India
[2]Professor, Sanskriti College of Education, Haryana, India
[3]Associate Professor, Suresh Gyan Vihar University, Jaipur, India

Abstract- **This paper is totally focused on the inquiry-based teaching model with aiming of delimiting the limitations of the traditional teaching model effortlessly. This quantitative study provides information obtained through the use of inquiry-based social science teaching verses traditional social science teaching in 9th class students of different schools belonging to both rural and urban areas. The use of CBSE Board curriculum was implemented into two classrooms of 9th students of the social science subject.**

I taught the Term-I social science syllabus and surveyed the students about their learning experience with the help of the pre-test approach. The students also took Term-I (April to September 2014) exam of social science. The study was based on data collected after Term-I (April to September 2014) exam. Sixty 9th grade students represented the sample population. Results of data analysis showed that the students receiving instruction through inquiry-based teaching showed significantly more improvement over the traditional teaching model. These results can be useful for teachers considering the adoption of an updated or new social science curriculum in their school district.

***Keywords*— Academic Achievement, Traditional Teaching methodology, Achievement test, Inquiry-based**

I. INTRODUCTION

Let's consider the scenario of secondary school where the numerous models of teaching arebeing applied to accomplish a variety of course goals and assist the students for rising their influence as learners. The students study models for learning material. They acquire how to accomplish the concepts and how to formulate them. The students also distinguish how to profit from training and how to train themselves in sports, performing arts, mathematical, and social skills. They recognize how to sort their writing and problem solving supplementary smooth-tongued and resourceful. For such situation the inquiry-based teaching model can be more influential and efficient teaching model to teach the students. Let's study the various type of the teaching models.

The models of teaching are basis of the learning process. For the purpose of helping students, it prerequisite information, ideas, skills, values, methods of thinking, and means of articulating themselves. The major impact of the teaching is being measured on students' abilities to instruct themselves. Effective teachers are not just captivating and influential anchors. Moderately, they involve their students in healthy perceptive and societal tasks and clarify the students how to use them efficiently. Effective learners appeal the information, ideas, and sense from their teachers and practice learning resources excellently. Thus, a major role in teaching is to generate authoritative learners.

The outstanding schools impart the students to study. Thus, teaching becomes supplementary operative as the students' evolution through those schools because, year by year, the students have been qualified to be sturdier learners

In Latin the meaning of word 'method' is 'mode' or 'way'. It defines the mode through which the study material is transferred from the teacher to the student. We can redefine the method of teaching as the approaches by which the teacher convey knowledge and skills during teaching process and the students realize knowledge and attain the skills in the process of learning. This definition clarifies that method comprises both teaching (teachers' activity) and learning (learners' activity).

Rage defined teaching model as "Teaching method are patterns of the teacher behaviors that are recurrent, applicable to various subject matters, characteristic of more than one teacher, and relevant to learning". It means methods are a fragment of the comportment of teacher which he/she uses as an approach or campaigns of teaching. The method is also related to content and is helpful in engendering learning.

II. TRADITIONAL TEACHING

The old-fashioned teaching process is focused at the teacher acted as the controller of the learning atmosphere. The authority and accountability are detained by the teacher. The teachers work as the mentor and decision maker in terms of the curriculum contented and precise consequences. The teachers respect students as partaking 'knowledge holes' that necessity to be filled with information. The old-fashioned teacher assessments that it is the teacher that grounds learning to occur (Novak, 1998).

Learning is chiefly allied within the schoolroom and is often modest. The lesson's contented and conveyance are

considered to be furthermost significant and students master knowledge through drill and practice. The subject content prerequisite not is learned in circumstance. The greatest collective seating arrangement used by the traditionalists is rows.

Figure 1 Students sitting in the row

The rows are the emblematic setting for a teacher-centered classroom and/or individual learning. The teachers align the students in such a way as they all look the 'front' of the class. The teacher conducts the teaching from this 'front' place. This type of physical set-up can be an effective method of behavior administration.

III. TRADITIONAL TEACHING

In broad-spectrum sense, the traditional teaching model is concentrated on mastery of content, with fewer prominence on the expansion of skills and the development of inquiring attitudes. The existing system of education is teacher centered, with the teacher engrossed on giving out information about "what is known." The students are the receivers of the knowledge, and the teacher is the distributer. Much of the assessment of the learner is fixated on the prominence of "one right answer." Traditional education is supplementary worried with grounding for the subsequent grade level and in-school success than with serving a student cram to learn during whole life.

Traditional classrooms incline to be closed systems where evidence is filtered through layers to students. In general, the practice of resources is restricted to what is accessible in the classroom or indoors the school. Use of expertise is focused on learning about the technology rather than its application to enhanced learning. Lesson plans are used to consolidate the various steps in the learning process for the whole-class approach. On-target questions that would incline to root unconventionalities from the plan are met with, "We will get to that later." It has following advantages as given below:

- It stretches the teacher for revealing the hidden knowledge of the concerned topic.
- It helps teacher to indeed regulate final goals, course content, association, pace and track of a demonstration. In distinction, more student-centered methods are dealing with surprising student ideas, questions and comments.
- It motivate the students to give more attention in a subject.
- It can accompaniment and elucidate text material.
- It counterparts convinced discrete learning partialities. Some students depend upon the organization provided by highly teacher-centered methods.
- It facilitates large-class communication during the classroom.

Although this method has these advantages but it has following disadvantages as given below:

- It places students in an unreceptive rather than an energetic role, which hinders learning.
- It inspires one-way communication; therefore, the lecturer must mark a cognizant effort to develop aware of student problems and student sympathetic of content without verbal feedback.
- It necessitates a substantial quantity of unguided student time outside of the schoolroom to permit sympathetic and long-term preservation of content. In distinction, cooperating methods (discussion, problem-solving sessions) allow the teacher to effect students when they are vigorously working with the material.

This teaching method requires the teacher to learn operative writing and dialogue skills [6]

IV. LITERATURE REVIEW

White et al. (1998) developed an instructional theory and consistent curricular constituents that made scientific inquiry available to a widespread variety of students, including fresher and lower accomplishing students. They assumed that this could be attained by distinguishing the prominence of met cognition and constructing an instructional methodology that developed students' met cognitive knowledge and skills through a process of scaffold inquiry, reflection, and generalization.

Kyza et al. (2002) discussed how an inquiry-support software, the Progress Portfolio, could assistance students to participate in contemplative inquiry. They argued that self-regulation was one of the furthermost life-threatening components of thoughtful inquiry and presented an experiential case of how the Progress Portfolio tool was designed to permit students to develop self-regulated in their learning. Even though there was a rich literature on self-regulation, little had been written about group self-regulation in inquiry-based science. Preliminary results from a study with middle school students show that students did use the Progress Portfolio tool to occupy in self-regulating perceptive activities, such as setting goals, planning, and monitoring their work.

Chih-Chung et al. (2006) investigated the effect of inquiry-based teaching on 8th graders' observations about education atmospheres in the physical science classes. There were 295 8th graders contributed in the study, in the experimental group included five classes (n=155) that taught with three units of inquiry-based teaching which last for three months. In the control group, teachers castoff the textbooks to clarify five classes of students (n=140). The "What Is Happening In this Class?" (WIHIC) questionnaire was applied in both groups beforehand and afterward eight months to gather students' perceptions about the constructivist learning

surroundings. Results presented both inquiry-based and textbook-based teaching, the inquiry-based instruction would meaningfully ($p<.001$) increase students' observations definitely.

Chin et al. (2007) investigated the effect of inquiry-based mathematics teaching on extraordinary achievers' met cognitive capabilities. The research subjects were 28 eleventh graders high performance in learning mathematics. A assorted methodology combing qualitative and quantitative approaches was used to examine students' metacognition in an inquiry-based classroom setting. The main research instrument for gathering quantitative data was the Metacognition Inventory questionnaire which was showed beforehand and afterward the inquiry-based teachings.

Biermann et al. (2009) described creation of a new introductory course in Physics to help counter attrition rates in major. It included three components: research techniques, faculty discussions of their own research and completion of a research project. Biermann noted importance of having students learning how to do science, not impartial learning about science.

Brickman et al. (2009) validated superior enhancements in students' science literacy and research services using inquiry lab teaching. We also originated that inquiry students gained self-assurance in scientific aptitudes, but traditional students' gain was superior prospective menstruating that the traditional curriculum promoted over-confidence. Inquiry lab students valued extra dependable science experience but recognized that undergoing the complication and preventions faced by enthusiastic scientists was stimulating, and explained the extensive reported student confrontation to inquiry prospectuses.

Jones et al. (2009) quantified that the knowledge about IR within prescribed courses of study empowered users of search engines to use them additional intelligently and efficiently, while providing the preliminary point for the examinations of new researchers into original exploration technologies. Although IR could be trained in an outmoded style of formal classroom teaching with students being led through the details of the subject and predictable to replicate this in assessment, the nature of IR as a theme made it an perfect subject for inquiry-based learning methods to teaching. In an inquiry-based learning approach students were familiarized to the ideologies of a subject and then stimulated to develop their understanding by answering structured or open problems. Functioning through resolutions in following class discussions enabled students to escalate the obtainability of different solutions as planned by their classmates. Following this approach students not only acquire the details of IR techniques, but meaningfully, obviously learnt to smear them in resolution of problems.

V. INQUIRY-BASED TEACHING MODEL

Richard Suchman had introduced the Inquiry model which is based on the evidence in which the rational strategies used by scientists to response students' problems and query into the unrevealed can be educated to students. With the help of these enquiries of the students, the students are being motivated to generate the queries regarding the events. The model was recognized from investigating the approaches used in inventive research personnel. The basic components of the inquiry process were recognized and these enquiries were made into an instructional model called inquiry training. The Inquiry teaching model is projected to deliver students steadfastly into the scientific process through workouts that bandage the systematic practice into minor eras of classroom time period. The training has ensued in an amplified sympathetic of science, supplementary inspired thinking, and skills for obtaining and inspecting information as students inaugurate facts, form concepts, and then produce and crisscross explanations or theories. The students are being observed as active learners convoluted in teaching process in the classrooms. The inquiry model help students to mature the capability to intellect the significance of scientific queries into forms with which they know about occurrence of the evidence that are teaching at time. It make the material more readily retrievable. The wide-ranging objectives of inquiry teaching models are described as given below:

1 It is dedicated to grow the knowledgeable branch and assistances essential to rise questions and examine answers inhibiting from their natural interest;
2 It helps the students to acquire and process data logically.
3 It encourages intelligent policies which can be practiced to discovery out why things are occurring.

The new-fangled approaches can be refined straightforward and added to the students' existing ones and supportive inquiry supplements thinking and ropes students to acquire about the diffident, gifted nature of knowledge and to heighten substitute descriptions.

This model oscillates from other inquiry models in the way the data are offered. The students collect data in a replicated process through questioning instead of actual manipulation of data. Thus, the method is more process concerned for improving students' ability to relate data to the inferences formed during teaching.

The Inquiry-based teaching motivate the students in following manners as given below:

- During first phase it manage is the student's conflict with the puzzling state.
- During two and three phases, this model concentrate on the data gathering operations which is the series of questions asked by the students. These questions are being replied in form of yes or no.
- During fourth phase, the students associate the information obtained during the data-gathering phases and try to illuminate the incongruity.
- During the last phase, the students examine the problem-solving strategies which are being applied during the inquiry.

In this model, the responsibilities of the teachers are initiated with paradigm of the problem situation, judging the inquiry events and replying to students' inquiry probes with the essential information. It support students in establishing an emphasis in their inquiry and simplifying the conversation of the problem situation among the students. Let's define the term inquiry before studying the phases of the inquiry-based teaching model.

The Inquiry suggests participation that hints to sympathetic. Additionally, participation in education implies possessing

skills and attitudes that authority the teachers to pursue resolutions to the questions and issues during creating new-fangled knowledge.

The term inquiry may be defined in the multiple ways. The Inquiry term is defined as the process of looking for fact, information, or knowledge or seeking information by questioning. Individuals bring on the procedure of inquiry from the birth time to the death. From birth, the children observe faces, they recognize the objects, they place things in their mouths, and they go toward voices. The process of inquiring begins with assembly information and data through applying the human senses such as seeing, hearing, touching, tasting, and smelling.

Unfortunately, present traditional educational system has weakened the regular process of inquiry. The students become less vulnerable to scrutinize questions as they change through the grade levels. In traditional schools, the students stuff not to ask too many questions, in its place to listen and reprise the expected answers.

Some of the dissuasion of natural inquiry process may originate from a deficiency of understanding about the deeper environment of inquiry-based learning. There is even a propensity to view it as fluff learning. Effective inquiry is supplementary than unbiased enquiring questions.

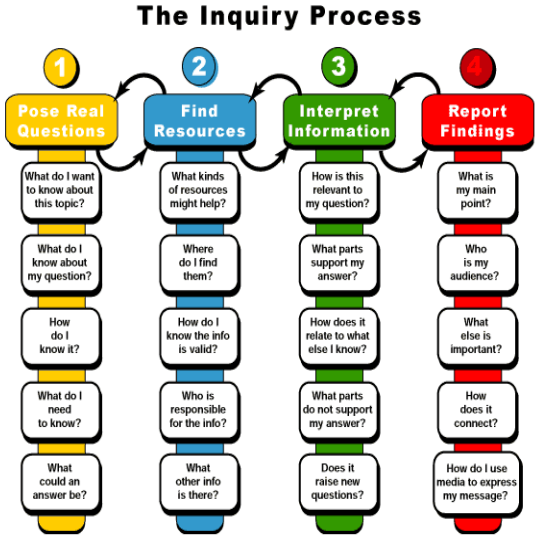

Figure 2 Inquiry Process

A complex process is complicated when individuals endeavor to adapt information and data into beneficial knowledge. Convenient application of inquiry learning involves several factors as given below:

- Circumstance for questions.
- Outline for questions.
- Emphasis for questions
- Dissimilar levels of questions.

Well-designed inquiry learning yields information formation that can be widely applied. This definition hugs numerous different approaches to inquiry-based teaching, including following types as given below:

Structured inquiry

The teacher conveys the students with an energetic problem to examine, as well as the dealings, and materials, but does not alert them of predictable outcomes. The students are being considered to regulate associations between variables or otherwise over generalize from data collected..

Guided inquiry

The teacher provides only the resources and problem to examine. Students plan their own practices to solve the problem.

Open inquiry

This approach is similar to guided inquiry, with the addition that students also express their own problem to investigate. The Science fair activities are often examples of open inquiry.

Learning cycle

The students are complicated in an activity that broadcasts a newfangled perception. The teacher then brings the recommended term for the perception. The students take possession of the concept by smearing it in a rehabilitated contextual**.**

II. OBJECTIVES OF REASEARCH WORK

It discusses about comparison between Inquiry-based teaching and traditional teaching system in secondary school. It has following objectives as given below:

1 To demarcate the restrictions of traditional teaching system using Inquiry-based teaching model.

2 To improve the academic achievements of 9th class students in Social Science subject by means of Inquiry-based teaching model.

For this purpose there are following steps done with the help of following tools as given below:

- The review of literature has been completed through the comparative study.
- The data collection has been prepared with the help of Achievement test.
- The data analysis has been finished by means of Statistical techniques.

The study has been done on the basis of the Achievement test. The study will consist following:

- Total 60 Secondary school students
- 30 boy students belong to urban area
- 30 girl students belong to urban area.

III. FINDINGS

The achievement test of maximum 30 marks has been conducted for collecting the primary data. The results of the study are given in the following tables

Table-1 Difference between the academic achievement in social science taught by inquiry-based teaching and traditional teaching model in urban area school

Model	N	Mean	t-value
Traditional Teaching	60	16.3	1.1641E-06
Inquiry-based teaching	60	21.8	

Table-1 conclude that there is significant difference between Difference between the academic achievement in social science taught by inquiry-based teaching and traditional

teaching model in urban area school at 0.05 level of significance which is not significant. There are following findings of the study carried out given below:

- There is no significant difference between the technical achievements of boys' & girls' student through Inquiry-based teaching model.
- There is no significant difference between the technical achievements of boys' & girls' student of different ages through Inquiry-based teaching model.
- There is no significant difference between the technical achievements of boys' & girls' student of rural & urban areas through Inquiry-based teaching model.
- There is no significant difference between the technical achievements of boys' & girls' student in different subjects through Inquiry-based teaching model.

REFERENCES

[1]. Xitao Fan and Michael J. Chen, Academic Achievement of Rural School students: A multi-year comparison with their Peers in suburban and urban schools, Journal of Research in Rural Education, Spring, 1999, Vol. 15, No. I, pp. 31-46.

[2]. Joseph Sunday Owoeye, School Facilities and Academic Achievement of Secondary School Agricultural Science in Ekiti State, Nigeria, Asian Social Science, Vol. 7, No. 7; July 2011, pp. 64-74.

[3]. P.K. Paul and N. K. Mondal, Impact of mid-day meal programme on academic performance of students: evidence from few upper primary schools of burdwan district in west Bengal, International Journal of Research in Social Sciences, Volume 2, Issue 3, 2012, pp. 391-416.

[4]. Sunday A. Adeyemo & Veronica T. Babajide, The Influence of Social and Economic Disadvantage on Students' Academic Achievement in Senior Secondary Schools Physics, International Journal of Educational Research and Technology, Volume 3 Issue 2 June 2012, pp. 03- 10

[5]. Dr. Jasraj Kaur, Parental Encouragement as a Predictor of Academic Achievement of College Students, Quest International Multidisciplinary Research Journal, Vol - II , Issue – I, June – 2013, pp. 5-8.

[6]. L. R. Saikia and Manju chutia, Academic achievement in rural and urban secondary schools of kamrup district, Indian Streams Research Journal Volume 3, Issue.1, Feb. 2013, pp. 8-13.

[7]. White, Barbara, Todd A. Shimoda, and John R. Frederiksen. 1999. Enabling Students to Construct Theories of Collaborative Inquiry and Reflective Learning: Computer Support for Metacognitive Development. International Journal of Artificial Intelligence in Education 10: 151-182.

[8]. Marx, Ronald W., Phyllis C. Blumenfeld, Joseph S. Krajcik, Barry Fishman, Elliot Soloway, Robert Geier, and Revital Tali Tal. 2004. Inquiry-Based Science in the Middle Grades: Assessment of Learning in Urban Systemic Reform. Journal of Research in Science Teaching 41 (10):1063-1080.

[9]. Beerer, M.K., and M.A. Bodzin. 2004. "How to develop inquiring minds: District implements inquiry-based science instruction." Journal of Staff Development 25 (4), 43-47 (Online).

[10]. www.nsdc.org/publications/articleDetails.cfm?articleID=9, 3 Jan 2008 Bibens, F. R. 2001. "Using inquiry effectively." Theory Into Practice 19 (2): 87-92.

[11]. Blumenfeld, P. C., B. J. Fishman, J. S. Krajcik, R. W. Marx, and E. Soloway. 2000. "Creating useable innovations in systemic reform: Scaling up technologyembedded project-based science in urban schools." Educational Psychologist 35 (3): 149–164.

