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## A STUDY OF STATUS OF SCIENCE EDUCATION IN SECONDARY SCHOOLS OF DISTRICT YAMUNA NAGAR OF HARYANA

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### ABSTRACT:

Science is an objective, logical and repeatable attempt to understand the principles and forces operating in the natural universe. Science is a systematized body of knowledge. Science is not merely a collection of facts, concepts and useful ideas about nature or even the systematic investigation of nature, but Science is a method of investigating nature, a way of knowing about nature that discovers reliable nature about it. Science education gives students the opportunity to gain a better knowledge of how and why things function. Science can teach children about the world that surrounds them. Everything from human anatomy to techniques of transportation, science can reveal the mechanisms and the reasons for complicated systems. The information gained from science can be used to grasp new ideas, make educated choices and pursue the pursuit of a new passion. In the present study, the status of science education in secondary schools of Yamuna Nagar district of Haryana was studied by the researcher. A sample of 200 science students from 20 secondary schools (10 from rural areas & 10 from urban areas) were selected by random sampling technique. A self made questionnaire was used by the investigator to collect the data. A significant difference of laboratory/ library facilities was found in rural and urban secondary schools.

### INTRODUCTION

A basic education in science is essential for everyone to understand and appreciate the scientific and technical development and issues that affect our lives. Although science is taught in schools right from primary classes and it is generally believed that science education in this country is at crossroads. The number of students showing interest in pursuing higher education in pure science and research is dwindling. The premier institutions of science and scientific research in this country are not able to get young talents. Although the government of India has announced merit scholarships to those who opt for science in higher education the impact of such initiatives have been very limited. Attitudes towards science, scientists, and learning science have always been a concern for science educators. Attitude is very broadly used in discussing issues in science education and is often used in various contexts. Two broad categories are distinguishable. The first one is attitude toward science (e.g., interest in science, attitude toward scientists, or attitudes toward social responsibility in science). *Attitude towards science* can be defined as the feelings, beliefs, and values held about an object that may be the endeavor of science, school science, the impact of science and technology on society, or scientists. The second one is scientific attitude (i.e., open-minded, honesty, or skepticism). *Scientific attitude* is the desire to know and understand, questioning to all statements, search for data and their meaning, search for verification, and consideration of consequences.



Research studies that indicate positive correlations between achievement in science courses and positive attitudes toward science, attitude and certain characteristics of the classroom environments that include personal support, use of a variety of teaching strategies, innovative learning activities. Attitudes towards science and scientists influence views of science, future career awareness, and classroom participation. Students who have positive attitudes show increased attention to classroom instruction and participate more in science activities.

In the present social set up, science is more important for the common man. A little reflection will show what predominant role science play in our everyday life. It is the pivot of all civilizations. This is the subject which undisputed forms the very basis of entire world commercial system. There is no mathematics, no art, and no profession where science does not hold a key position. The accuracy and exactness of a thing is determined to a greater extent by the amount of science utilized in it. Even social science like economics, psychology, geography etc. makes abundant use of science. Even in medical area science is used to measure the doses, blood pressure, pulse rate, the body temperature etc.

### **JUSTIFICATION OF THE STUDY:**

Despite popular impressions of science, it is not the goal of science to answer all questions, only those that pertain to physical reality (measurable empirical experience). Also, science cannot possibly address all possible questions, so the choice of which questions to answer becomes important. Science does not and cannot produce absolute and unquestional truth. Rather, science consistently tests the currently best hypothesis about some aspect of the physical world, and when necessary revises or replaces it in light of new observations or data.

Scientific and technical skills are very essential for a variety of occupations in this world. Science has a unique status compared to other core school subjects. The actual curriculum implemented in most schools was different from the intended curriculum. Science is not taught in some Primary classes. In high schools, the science taught was neither relevant nor engaging and does not connect with the interests and experience of the learner, leading to disappointment. Many science teachers felt under-valued, under resourced and overloaded with non teaching duties. According to the UNESCO Science Report, India's global share of gross expenditure on scientific R & ID was only 2.5% in the year 2000. As far scientific research in the worlds, India's contribution is only 2.1% in forms of scientific publication too, India's share is just 1.9%. These figures predict a bleak future for Science in India. Even in India there are no proper books are provided in schools for science education which is most important part for imparting science education to the students, the proper equipment are not in the school for practical work. In some there are no lab facility in the schools, and the qualified teachers dare not available. So to study the status of schools for science education the present study is conceptualized by which proper system and status of science education was checked.

### **OBJECTIVES OF THE STUDY:**

1. To compare the laboratory/ library facilities of rural and urban secondary schools.
2. To compare the human resources available at rural and urban secondary schools.
3. To compare the students' opinion towards science education of rural and urban Secondary Schools.



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### **HYPOTHESES OF THE STUDY:**

1. There exists no significant difference of laboratory/ library facilities of rural and urban Secondary Schools.
2. There exists no significant difference of human resources of rural and urban Secondary Schools.
3. There exists no significant difference of students' opinion towards science education of rural and urban Secondary Schools.

### **DELIMITATION OF THE STUDY:**

1. The Study was confined to only one district of Haryana Namely Yamuna Nagar.
2. The study is delimited to 20 schools of District Yamuna Nagar of Haryana.
3. The study is delimited to 200 students' secondary schools of District Yamuna Nagar of Haryana.

### **RESEARCH METHODS USED**

Keeping in view the nature of the present study, descriptive survey method was used to collect the data.

### **SAMPLE:**

In present study was conducted on a sample of 200 students, from 10 schools of urban area and 10 schools of rural area located in Yamuna Nagar district. The schools were selected by random sampling technique.

### **TOOL USED**

For the collection of new and unknown data required for the study of any problem. For each and every type of research the investigator need certain instruments to gather new facts or to explore new fields. The selection of suitable for particular study depends upon various considerations. Such as objectives of the study, the amount of time at the investigation disposables, availability of suitable test, the scoring procedures and the case to interpret the test results, keeping these things in view, self made Questionnaire was used to collect the data

### **MAIN FINDINGS OF THE STUDY**

After proper interpretation and comparison of the views, findings shall be drawn and given in proper.

1. A significant difference of laboratory/ library facilities was found in rural and urban secondary schools. Further, it was also found that urban schools have more laboratory/ library facilities than rural schools.
2. No significant difference of human resources was found in rural and urban secondary schools.



3. A significant difference of student's opinion towards science education was found in rural and urban secondary schools. Further, it was also found that urban schools have good opinion towards science Education than rural schools.

## **EDUCATIONAL IMPLICATIONS**

The results of the study indicate that a lot need to be done in rural secondary schools to improve the quality of science education. It is found that the science teachers are the Head of the Institution and have to play a proactive role. The teachers concerned should put the facilities already available in the school to optimum use. Following are the strategies which should be implemented or used by the teachers:

- Teachers need to adopt innovative teaching strategies to make their classes interesting. To achieve this, the teachers are to be frequently exposed to professional development programmes for up-graduation of their content knowledge, skills and competences.
- In order to bring accountability into the system, there should be an evaluation of teachers preferably by their students. A suitable mechanism need to be developed for corrective measures if the quality of teaching is poor. The future promotions and financial benefits in the form of increments, etc. may be related to students' appraisal and also the yearly self-appraisal of teachers.
- Thinking is one of the most important human skills for progress. But unfortunately sufficient emphasis is not given in our schools to impart thinking skills in students through various activities. In many countries like Canada and Venezuela, schools are required by law to teach thinking. Research studies have shown that inculcation of thinking skills improves students academic achievement.
- Cleanliness in and around the school is to be given top priority. To enable students to take care of not only self-health but also of the health of their peers and of the school as a whole, topics/courses related to Health and Hygiene need to be implemented as a part of school curriculum all over the country. The teachers who have to impart such an education should be properly trained.
- In most of the schools, students work and learn in isolation. They are not given chance to work in groups so that students can help each other collaborators. Research studies have been shown that cooperative learning strategies and constructivist approach to teaching and learning are effective in improving the quality of education and enhancing students' academic achievement. In secondary schools, especially of rural areas, the teachers rarely make students think. There are hardly a few teachers who ask appropriate questions to students to help them in getting answers on their own through hard work and critical thinking.



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