



A Study of Abstract Reasoning of the Students of Standard IX of Ahmedabad City

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Abstract:

Abstract problems are often visual and typically do not involve social ideas. Abstract reasoning is usually assessed as part of intelligence testing. Abstract reasoning ability is important because it enables students to apply what they learn in complex ways. Many students with learning disabilities have weaknesses in abstract reasoning and can benefit from direct instruction in problem solving skills. They may also benefit from language therapy to help them learn to use language to understand and solve problems. In this paper, the researcher took the above mentioned research problem and find out the major conclusions.

Keywords: *Abstract, Abstract reasoning, Reasoning*

1. Introduction

Twenty First century is the century of the challenges and the bulk of changes. These Challenges and changes have changed the lifestyle of human beings. Life has become easy and leisurely and with this leisure life to some extent human beings has adapted themselves so much that it is difficult to think off the life without these amenable. Human beings have continuously strived and strive to develop and this development is obviously seen. With this development and the changes in the lifestyle the factors responsible for this changes that is the education is also changed. When it is matter of education it deals with many associated factors. As per philosophy, education is tripolar and thus it has three poles via teacher, student, and curriculum. Education deals with teaching learning process and also with the live human personalities. The teaching learning process aims to bringing about the desired changes in the students. To bring these changes the curriculum is applied. This curriculum includes the activities inside and outside classroom. The activities inside the classroom include the teaching and learning of different subjects like languages, Science, Maths and social science. All and most of the subjects in the curriculum comprises of different concepts and its application which is included to bring about the desirable change amongst the students. It further includes the concrete and abstract ideas and the reasoning about the same.

In intelligent quotient [IQ] testing, abstract concepts are considered by some as less biased than language based concepts. However, children who have been exposed to toys that build abstract reasoning skills, such as blocks, tinker toys, geometric toys, or other building and problem solving toys may improve their abstract reasoning abilities. Thus the teaching learning process includes the abstract reasoning also. The abstract reasoning being a part of the curriculum and

the necessity for the mental development of the student is included in the classroom teaching learning activities. It may be possible that the abstract reasoning may be affected by the gender, type of school, age, area, parental education, parental occupation, socio-economic status and the different psychological variables. The researcher being keen to know the effect of some of the variable on the Abstract Reasoning is decided to conduct this study.

2. Objectives of the Study

Every research work is based on certain objectives because without objectives one cannot get idea to plan his work. The objectives of the research project summarize what is to be achieved by the study.

1. To study the effect of gender on the abstract reasoning of 9th standard students of Ahmedabad city.
2. To study the effect of types of school on the abstract reasoning of 9th standard students of Ahmedabad city.
3. To study the effect of area (Rural and Urban) on the abstract reasoning of 9th Standard students of Ahmedabad city.

3. Hypotheses of the Study

A hypothesis guides the researcher. An investigator refers to the hypothesis to direct the thought process towards the solution of the research problem. It helps an investigator to collect the right kind of data needed for the investigation. A hypothesis is a logical supposition a reasonable guess, an educated conjecture. It provides a tentative explanation for a phenomenon under investigation. Hypothesis of the present study are as follows.

- Ho₁** There will be no significant difference between mean abstract reasoning score of male and female of IX standard students of Ahmedabad city.
- Ho₂** There will be no significant difference between mean abstract reasoning score of granted and non granted school of IX standard students of Ahmedabad city.
- Ho₃** There will be no significant difference between mean abstract reasoning score of rural and urban school of IX standard students of Ahmedabad city.

4. Tool of the Research

In the present study abstract reasoning tool will be used prepared by Dr. R. S. Patel. This tool being standardized on the secondary school students as the sample subjects therefore this test being most applicable and eventually latest. The said test shall be applied to the said sample.

5. Methods of the Research

The research method should be directly connected to the problem statement and goal of research because the research goal and problem may vary with different methods of research. Research is a purposeful, precise and systematic search for new knowledge, skills, attitudes and values for the re interpretation of existing knowledge, skills, attitudes and values. There are various kinds of research methods in education. The method of the present study will be the descriptive method of which survey method is used for this research.

6. Population and Sample of the Study

The population of the present study consists of the students of standard 9th of Ahmedabad city.

The researcher selected four granted and four non granted schools randomly from secondary schools of Ahmedabad city. In total the researcher selected eight schools randomly from Ahmedabad city. Further from these granted and non granted schools, the IX standard students were divided into males and females and selected in clusters as a whole. Further these males and females of IX standard were divided on the basis of area i.e. rural and urban. Thus a total of 160 granted student and 160 non granted students, 160 males and 160 females. Thus, a total of 320 IX standard students of Ahmedabad city was selected by multistage cluster sampling.

7. Analysis and Interpretation

Analysis of data is an important part of research design. It means studying the organized material in order to discover the inherent facts. *“Analysis requires alertness, flexibility and open mind on the part of the investigator.”* Once the research data is collected and the analysis has been made, the researcher can proceed to the stage of interpreting the results. Interpretation is not a routine and mechanical process. The process of interpretation is essentially one of stating what the result show. It calls for a careful, logical and critical examination of the results obtained after analysis. While interpretation of the data the objectives of the research, tool selected and used, limitations of the samples chosen and the hypothesis are kept in view. On the basis of interpretation the conclusions of entire research is obtained. In the present study, data collected were analyzed using different statistical techniques like mean, S.D and t-test.

The raw data are meaningless unless certain statistical treatment is given to them so the researcher groups and analyses the data to make the raw data meaningful or to draw some results from the data. The researcher collected the data and the data collected was analyzed and interpreted. The analysis and interpretation of the data is as follows.

H₀₁ There will be no significant difference between mean abstract reasoning score of male and female of 9th standard students of Ahmedabad city.

Table 1
Analysis of the students according to Gender

Variable	No. of students	Mean	S.D	t-value
Male	160	25.80	5.98	4.18
Female	160	22.63	7.48	

From the table 1it is evident that $t_{cal} = 4.18$ which is greater than $t_{0.01} = 2.58$ which indicates that t value is significant, at 0.01 level of significance. Hence the hypothesis that there will be no significance difference between mean abstract reasoning score of male and female of 9th standard students of Ahmedabad city will be rejected at 0.01 level. It means that there is difference between the abstract reasoning of the male and female of 9th standard students of Ahmedabad city.

H₀₂ There will be no significant difference between mean abstract reasoning score of granted and non granted school of 9th standard students of Ahmedabad city.

Table 2
Analysis of the students according to Types of School

Variable	No. of students	Mean	S.D	t-value
Granted School	160	23.05	7.1648	3.0592
Non-Granted School	160	25.4	6.5633	

From the table 2 it is evident that $t_{cal} = 3.05$ which is greater than $t_{0.01} = 2.58$ which indicates that t value is significant, at 0.01 level of significance. Hence the hypothesis that there will be no significance difference between mean abstract reasoning score of granted and non granted school of 9th standard students of Ahmedabad city will be rejected at 0.01 level. It means that there is difference between the abstract reasoning of the granted and non granted school of 9th standard students of Ahmedabad city.

H₀₃ There will be no significant difference between mean abstract reasoning score of urban and rural area school of 9th standard students of Ahmedabad city.

Table 3
Analysis of the students according to Area

Variable	No. of students	Mean	S.D	t-value
Urban Area	160	23.71	6.7633	1.2702
Rural Area	160	24.7	7.1386	

From the table 3 it is evident that $t_{cal} = 1.27$ which is less than $t_{0.05} = 1.96$ which indicates that t value is not significant, at 0.05 level of significance. Hence the hypothesis that there will be no significance difference between mean abstract reasoning score of rural and urban school of 9th standard students of Ahmedabad city will not be rejected at 0.05 level. It means that there is no difference between the abstract reasoning of the rural and urban school of 9th standard students of Ahmedabad city.

Findings

The researcher arrives at the following findings through the data analysed and interpreted.

1. There is a significant difference between the abstract reasoning of the male and female of 9th standard students of Ahmedabad city.
2. There is a significant difference between the abstract reasoning of granted and non -granted school of 9th standard students of Ahmedabad city.
3. There is no significant difference between the abstract reasoning of the rural and urban school of 9th standard students of Ahmedabad city.
4. The mean score of rural area students is more than the urban area students.
5. The Abstract reasoning of rural area students is comparatively more than the urban area students.
6. The mean score of non granted school students is more than the granted school students.
7. The Abstract reasoning of granted school students is more than the non granted school students.
8. The mean score of male students is more than the female students.
9. The Abstract reasoning of male students is more than the female students.

Conclusion

The important work for the researcher is to get findings. Researcher has included suggestions, findings and areas for further research in this chapter. In any research one is constrained to work within certain limitation which is always to be taken into consideration. The study conducted by the researcher is also bound by certain limitations. Hence, the conclusions of the study are not applicable to a very wide range. The researcher has just tried to light a lamp in the field of abstract reasoning and if this study can be useful to the teachers, Headmasters or Parents for guidance then the humble efforts of the researcher will prove fruitful.

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