CHAPTER – 1

INTRODUCTION

AND STATEMENT OF RESEARCH PROBLEM
“There is no place for laziness in pure education. When a child feels boredom in education and hard work, it is not his fault but it is the fault of education and teachers.”

- Mahatma Gandhi

CHAPTER – 1

INTRODUCTION AND STATEMENT OF RESEARCH

PROBLEM

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1.1 Problem Statement and Concept:

Introduction:

All good scriptures are the lifelong good friends of human beings. In today’s development age the scriptures have no boundaries. Researchers are eyes and wings to cross the boundary of vast knowledge.

In this developing era where there are many problems and to overcome these problem is a periodical matters. For success and for the nature and diagnostic solution of a problem a research is attempted.

Swami Vivekanand had said, “All great achievements are hard and difficult. Good things cannot be got easily. It creates need of collective ability for high ideals.” For this according to Shamaladas Premjibhai Suthar, three A’s required.

In this period of rapid change the needs of students are main constraint, they still need three “A’s”.

(i) The ‘A’ of Acceptance

(ii) The ‘A’ of Achievement

(iii) The ‘A’ of Affection

Among the living beings, human being is an intelligent animal. No two individuals are similar in all matters.

Generally, there are two differences that are found in an individual (1) Physical, and (2) Mental. Mental differences are found in terms of educational abilities, interest, attitude, personality, habit etc. Sometimes it is found that some people have just one ability in more proportion.
In today’s modern age of science and technology and industries, it is essential to identify abilities in a man because decisions related to their daily life style are based on the proportion abilities within them.

Learning abilities are also found to be different between two children. Some children have more ability to learn whereas some have very less ability to learn.

The results of many past researches show that effects of many factors are found among individuals.

Ravindranath Tagor has said, “Great is the world around and small is the corner where my mind dwells.”

The constitution of independent India guarantees education for all. The central government had enacted an act in 2005 in the new name of “Education for All” and had adopted a strict attitude for its implementation. Besides, the state government had engaged curricula of various subjects and has reduced the passing marks of 35 to 33 to qualify in exams to encourage the students. In subjects like Mathematics and Science the number of failure students is found to have decreased. But, what can such students do for development of themselves and the nation? The introductions of OMR system in std. 10 have shown increase in marks and percentages but how much is the reasoning ability of these students? Can the students survive in Science Stream? Such questions have inspired the researcher to think as a teacher of Maths in Science stream and therefore the researcher has taken this research.

In real life whatever important achievements are achieved by reasoning ability, they prove the importance of reasoning ability. In the age of modern science, the
role of reasoning ability has shown what a man can achieve when his reasoning ability develops.

Reasoning ability is an important characteristic of human beings. Intellectual ability mainly depends on reasoning ability.

The researchers on experiments on intelligence and reasoning have proved that high reasoning ability shows high intellectual ability.

Reasoning ability shown intensity of intelligence. Sometime highly educated people have vast knowledge and truthful facts but they do not have the practical intelligence to use the knowledge or facts. Therefore the practical intelligence always succeeds in solving difficult problem of a real life.

How much and what can a student think on the basis of educational achievement and how is his reasoning ability? These are the questions which are based on reasoning ability when a problem arises in an individual’s life he can think logically. Reasoning is an aim oriented thinking.

Man uses reasoning in more proportion in life. We use reasoning to bring solutions to overcome various situations in life. Without reasoning it is not possible to move ahead in life and the reasoning ability does not develop without its extensive use. Social life is based on reasoning ability. The measurement of reasoning ability guides a student educationally and professionally and the students become aware of their ability.
1.2 Background of the Problem:

India has entered into the twenty first century after independence with rapid progress. The importance of industrial and technological development had been accepted for India’s overall development and gradual progress, which is based on individuals. Therefore, it is essential that an individual should possess good adaptation and specific intelligence. It is necessary to bring about rapid changes in attitudes and values of an individual in the prevalent society. If an individual understand the feeling of work reasoning and if the individual is intelligent, he can understand the future needs and contribute to the development of nation. For this, it is necessary that an individual should have reasoning ability to think. Some thinkers say that reasoning is the main basis of intelligence.

The analysis of the questions of the intelligence measurement test clarify that the questions of sub-test are based on reasoning. Therefore, it is said that, reasoning is a truth in intelligence. It can be assumed that general intelligence could be the reasoning ability and therefore during the teaching work of various subjects in school, attempts would be made to develop reasoning ability among the students. It is believed that if a student’s thinking ability is low, he cannot understand quickly, children with high reasoning ability can make a good career and be helpful in the gradual development of the nation. A student with high reasoning ability has work knowledge and can achieve high educational achievement. The success of a student’s educational achievement can be known by testing his reasoning ability.
Generally when a problem arises in life or when an answer to a problem is to be found or when a path is to be paved from a difficulty an individual thinks logically. Thus, reasoning is an aim oriented thinking. Man uses more reasoning in life. Without reasoning an individual cannot move ahead in life, and his development is hindered. It becomes necessary in schools to make attempts to develop reasoning ability by measurement of the reasoning abilities. The success of social life of a man depends on selection of an appropriate profession. It becomes necessary for secondary school teachers to measure the reasoning ability of students.

The curricula are constructed by keeping in mind various levels of the students. In today’s rapidly changing age the uses of various tools of technology and computer with scientific approach and skills have proved fruitful in life. The subjects of science stream are essential to achieve various social positions like doctor or engineer. Mathematical ability becomes useful in life at many places.

The national government has taken several steps like elimination of exams, not to fail students and not to show percentage of the obtained marks etc. to develop the scope of primary education. When a student enters into std. 11 after completing primary and secondary education which stream should he opt for? This is the most difficult question for the student and his parents. Generally high achieves in std. 10 opt for science stream and sometime the parents of medium achievers force their children to choose science stream without knowing their ability and attitude. As a result, such students lag behind in their studies and experience difficulty in understanding the content. As a result, the
dropout ratio increases among such students. When expectations are not fulfilled the students become victims of depression.

Therefore, the researcher has conducted the research to study more about problems. It is necessary to know which results are related with logical scientific aptitude after the measurements related to science stream of the students, which will be useful for both students and parents.

The measurement of reasoning ability – the IQ test can help in getting positive advantage of the specific abilities of the students.

1.3 Importance of the Problem:

When a child is born, it is born with problems. Along with its overall development, problem arises in every field of life. As a child grows and reaches to the adolescent stage, many problems arise in his life among which the problem of educational career becomes most important problem in his life. After secondary education, the selection of stream in std. 11 becomes a major problem. At that time the role of teachers and parents as a guide becomes more important for the students.

The progress of a nation depends on the educational level of its citizens. The basic aim of education is overall development of an individual. Every individual has two types of abilities – general and specific ability. This inherent ability in students continuously interact with environment and students physical, mental and cognitive development occurs through formal and informal experiences obtained from the surrounding environment.
Man’s great ability lies in his head. The development of science and technology are the outcome of the reasoning ability that lies in a man’s head. The journey to Mars after the completion of the journey from earth to moon is based on the human reasoning ability. In the human head lies the reasoning ability that turns impossible into possible. Due to thinking ability a man is identified as a thinking animal. Man gets the subjects of thinking from nature. His mind dwells with questions like why so? and how it happened? Instead of accepting facts obtained from observations, which result in thinking process. From birth to death man has to face many problems, and the mental process continues in his mind till the solution is not attained. Logical thinking begins with a question and it ends with an answer. It is utmost necessary for future generation to completely development the ability of logical thinking lying in the needs of children. A teacher has to identify the reasoning ability of a student and to measure the aptitude of the student.

1.4 Verbal form of the Problem:-

“A study of the reasoning ability and guidance for stream selection for std.10th students of Ahmedabad district.”

1.5 Definition of key terms:-

The following are the definitions of certain key words used in the problem.
**Study:-**

Study means to collect data by spending time and money on a subject, to analyze and interpreter the collected data and to acquire knowledge on the subject.

- The process of acquiring knowledge about a subject in one’s own attempts is called study.
- Application of mind to books, arts or any subject for the purpose of acquiring knowledge.
- Study means devotion of time and thought for getting knowledge. It means things to be investigated.
- It means to examine carefully or to give care and consideration.
- Study means to conduct deep and precise research on a subject and draw inferences.

**Reasoning:-**

Psychologists consider reasoning as a practical perception. Reasoning means to solve a problem by practical imagination. In the reasoning process the mind creates relation, establishes correlation and obtains solution with reality for achievement of an aim. The process of reasoning is called a process of imaginary or ideal experiments.

“Reasoning ability means an ability to solve difficult and complex problem by intensive internal observation.”*

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*NUTAN SHIKSHAN ADHUNIK MANOVIGYAN PAG DANDI, DHANVANT DESAI, ARVIND TRIVEDI, SHILA MEHTA, OCTOBER-1958, A.R.SHETH*
Stream:-

According to Kothari Commission, in the 10+2+3 stream of education, the following are mainly the streams at 10+2 level:

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10+2  
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Science Stream  General Stream  Vocational Stream
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The science stream includes those subjects which require high reasoning ability and intellectual ability. These subjects are Mathematics, Physics, Chemistry, Biology etc.

The general stream the commerce consists of subjects like Statistics, Elements of Account, Economics, Business Management, Commercial Correspondence and other subjects of education. These subjects are suitable for students having medium reasoning ability.

Arts include Languages, History, Geography, Civics and other subjects which require low reasoning ability.

The vocational stream includes various disciplines from Engineering to office management which require varied levels of reasoning ability.

- **Definitions of key terms included in the study:-**

The following are the definitions of certain key words included in the study.
Secondary School:-

In terms of New National Education Policy, the school in which the education from std.9 to std.10 is given to children of 13 to 14 years keeping in mind their combined objectives.

Students of std.10:-

After formation of the Kothari Commission, the students of the age of 13 to 14 years studying in std.10 in the first level of 10+2+3 structure are the students of std.10.

Std.10:-

As per Kothari Commission, std.10 is one of the two students viz std.9 and std.10 of secondary education system included in the new 10+2+3 system.

1.6 Objectives of the Study:-

The following are the objectives of the study:

(1) To study the reasoning ability of students of std.10 studying in secondary schools.

(2) To study the level of intelligence of the students of std.10 studying in secondary schools.

(3) To study about effects of various levels of intelligence on reasoning ability of students of std.10 of secondary schools.

(4) To study reasoning ability of students of std.10 in terms of cast.

(5) To study reasoning ability of students of std.10 in terms of Area.

(6) To provide guidance to students of std.10 of secondary schools on the basis of their testing.
1.7 **Identification of Variables:-**

Variable means an affecting factor.

1. **Dependent Variable:-**

   Here reasoning ability & I.Q. are dependent variable.

2. **Independent Variable:-**

   ![Diagram of Area and Gender]

   Here, Area and Gender are independent variables.

   The scores of Reasoning Aptitude test for Gujarati medium secondary schools of std.10 of urban and rural areas of Ahmedabad.

   ![Diagram of Boys and Girls]

1.8 **Limitation of the Study:-**

   The following are the limitations of the study:

1. The study is confined to the students of std.10 of secondary schools of urban and rural areas of Ahmedabad.

2. The study is confined to 340 students of urban areas and 340 students of rural areas of Ahmedabad studying in std.10 in secondary schools.
(3) The study has been conducted on the students of std.10 of the academic year of 2014-15 in the Gujarati medium secondary schools, therefore the findings of the study cannot applied to other institutions.

(4) The study is confined to the factors like intelligence ability and gender effecting on reasoning ability of std.10 of secondary schools.