CHAPTER-I
INTRODUCTION

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CHAPTER-I
INTRODUCTION

1.1 INTRODUCTION

Intelligence in psychology involved in calculating, reasoning, perceiving relationships and analogies, learning quickly, storing and retrieving information, using language fluently, classifying, generalizing, and adjusting to new situations.

Alfred Binet (1960), the French psychologist, defined intelligence as the totality of mental processes involved in adapting to the environment. It is generally accepted that intelligence is related to both heredity and environment. Studies done on families, among identical twins and adopted children, have also suggested that environment is a critical factor in determining the extent of its expression. For instance, children reared in orphanages or other environments that are comparatively unstimulating tend to show retarded intellectual development.

In recent years, controversy regarding intelligence has centered primarily around how much of each factor, heredity and environment is responsible for an individual's level of intelligence. Psychological measurement is a close and important concern of all those who are keenly interested in education. No two children in the world are alike. They differ in their abilities in one way or the other. Education must be given according to the abilities and needs of the children,
and needs of the children depend among other things, upon their innate abilities. Hence, there is a need to study such abilities of children with the help of psychological tests.

In education it was accepted that good educational administration should consider the difference between individuals, because of the fact that each student is different in mental ability or intelligence.

According to Baron(1955) “The nature of each student is different in physical and mental aspects because individual's mental ability was different”. Therefore intelligence is a very important factor in education. So that if the teachers know their student’s intelligence, they can understand and manage experiences and accordingly supports them to learn according to their intelligence and abilities which is very useful in education and for national development.

The psychologists and educators studied researches about intelligence for a long time. The concepts of intelligence concluded from researches were as follows:

- Intelligence as a general intellectual capacity.
- Intelligence as adaptability.
- Intelligence as learning ability.
- Intelligence as a group of trait.
- Intelligence as whatever intelligence test measures.
There are several methods to know IQ. The popular method to measure IQ is intelligence test. Tonghao (1980) said, "The intellectual measurement is to measure capacity in different ways. The different tests could measure intelligence differently."³

New demand of an overall study of a child's intelligence especially when a child is receiving instruction in the elementary school is greatly felt. Garrett (1965) says “In childhood there is a fairly well unified and generalized ability which may be label abstract intelligence”. In advance foreign counties number of mental ability tests are developed. Still attempts are going on to develop tests with different contents and various factors. One of the major reasons for rapid increases of testing in the schools has been the guidance movement and second is the increases in the number of states wise testing program.

1.2 IMPORTANCE OF STUDY

Several authors advocated Intelligence as an important factor in predicting success and the capacity to solve the problems. Intelligence focuses on the individual's ability to recognize and uses his or her ability to solve problems and may be very well key to an individual's survival. It is also important for daily functioning. Intelligence allows us to think more creatively and it is also useful to solve problems.
Intelligence tests are constructed to test person's capacity, should be reliable to know the achievement of learning or work in the future. We believe that each person is different, so are their capacities. In developed countries, like USA, IQ tests are used for testing intelligence. Every student has their own intelligence record, to know his or her abilities. This is also convenient for teachers to develop students according to their educational objective.

The advantages of the intelligence test are as follows:

1. Classification of students: By knowing the different students, the teachers can group according to their capacities and provide suitable learning. Thus it can help students for achievement in education.

2. Selection of an individual: Selecting individual for suitable work. The intellectual testing is very useful to manage students for suitable curriculum or the right man in the right job.

3. Diagnosis of abilities: It is a useful tool to know students achievement or failure in learning.

4. Forecasting the achievement: Intelligence test would be used as tools to predict the probability of their subjects progress.

5. Selection of a subject: It helps teachers to advise their student which subject would be suitable for them.

6. It would help the teachers and parents to understand their children well.
Looking to the importance of I.Q and unavailability of standardized I.Q test for upper primary school students, the investigator has decided to and standardized I.Q test for upper primary school students of Gujarat state.

1.3 STATEMENT OF PROBLEM:

By present research the society at large & upper primary school students in particular will get standardized intelligence test. This standardized I.Q test will be more useful & beneficial to parents and teachers to give academic guidance to upper primary school students. The problem of present research study is worded as:

"CONSTRUCTION AND STANDARDIZATION OF INTELLIGENCE TEST FOR UPPER PRIMARY STUDENTS OF GUJARAT STATE IN RELATION TO CERTAIN VARIABLES"

In order to avoid the confusion and misunderstanding about the terms involved in the statement of the problem, it is essential for the investigator to clarify the terms involve in the statement of the problem. They are as follows:


1.4 CLARIFICATION OF IMPORTANT TERMS:

In order to avoid the confusion and misunderstanding about the terms involved in the statement of the problem, the investigator clarified various terms as follows:
1.4.1 Construction

Construction means to construct the items for the test. It is revealed from the history of the development of tests of intelligence, that most of the tests are adapted from foreign countries rather than constructed as original tests.

For the present study, investigator has accepted the concept of intelligence given by (1) A.S. Otis and R.T. Lennon, and (2) J.C. Flanagan. Otis and Lennon have developed Otis-Lennon Mental Ability Test (OLMAT) for Grade IV-XII, which are verbal test. Flanagan has developed Test of General Ability (TOGA) for grade K.G.-XII, which are non-verbal test.

For present study the construction of items is based on OLMAT and TOGA principle. Hence for the present test the term “construction” means to construct the original test items on the principles involved in OLMAT and TOGA.

1.4.2 Standardization

It will be recalled that in the initial definition a psychological test was described as a standardized measure. In the present study, the steps of test standardization like; construction of items, manuscript tryout, pre-piloting, piloting, item analysis and item selection for the test, finding out of reliability and validity for the test and establishment of norms with test manual. The intelligence test
was standardized through these steps. This systematic process of test development is called standardization.

In the present study, standardization process was carried out by different steps as described above.

1.4.3 **Intelligence Test**

Intelligence is an abstract concept. Intelligence is the ability to think clearly, reason logically or analytically, solve problems, understand complex concept and communicate knowledge to other. Though different connotations of general intelligence have been given by number of well-known psychologists and different psychologists have interpreted it differently. Hence with a view to clarify the concept of intelligence, whole chapter II is devoted. However the concept adopted by Otis-Lennon for OLMAT and Flanagan for TOGA have been accepted in toto for the present verbal and non-verbal test.

1.4.4 **Upper primary students**

In Gujarat education system is divided into three parts.


Secondary section consists of grade 8th to grade 10th. Higher secondary section consists of grade 11th and grade 12th. Primary section consists of 1st to 7th grade. In primary section there are two parts; One is known as lower primary (1st to 4th) and other is known as upper primary grade 5th to 7th. The students studying in grade 5th to
7th are known as upper primary students and their age group is 10 to 14.

For the present study the students studying in grade 5th to 7th in Government, Semi Government, and private schools during the academic year 2009-10 were considered as upper primary students.

1.5 OBJECTIVES OF STUDY

The research study has been undertaken keeping in view the following objectives.

1.5.1 To construct intelligence test for upper primary students of Gujarat.

1.5.2 To standardized intelligence test for upper primary students of Gujarat.

1.5.3 To study the intelligence of upper primary students in relation to Gender.

1.5.4 To study the intelligence of upper primary students in relation to area.

1.5.5 To study the intelligence of upper primary students in relation to age.

1.5.6 To study the intelligence of upper primary students in relation to Grade.

1.5.7 To study the intelligence of upper primary students in relation to E.I.

1.5.8 To study the intelligence of upper primary students in relation to S.E.S.
1.6. VARIABLES OF THE STUDY

In the present study the following variables are chosen:

1.6.1 Dependent variable

In this study the intelligence is studied as a dependent variable.

1.6.2 Independent variables

Area, Gender, Age, Grade, Emotional Intelligence and S.E.S are studied as independent variables.
1.6.3. Level of independent variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Levels</th>
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</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>(a) Boys</td>
</tr>
<tr>
<td></td>
<td>(b) Girls</td>
</tr>
<tr>
<td>2. Area</td>
<td>(a) Urban</td>
</tr>
<tr>
<td></td>
<td>(b) Rural</td>
</tr>
<tr>
<td>3. Age</td>
<td>(a) 9.5</td>
</tr>
<tr>
<td></td>
<td>(b) 10.5</td>
</tr>
<tr>
<td></td>
<td>(c) 11.5</td>
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<tr>
<td></td>
<td>(d) 12.5</td>
</tr>
<tr>
<td></td>
<td>(e) 13.5</td>
</tr>
<tr>
<td>4. Grade</td>
<td>(a) V</td>
</tr>
<tr>
<td></td>
<td>(b) VI</td>
</tr>
<tr>
<td></td>
<td>(c) VII</td>
</tr>
<tr>
<td>5. Emotional Intelligence</td>
<td>(a) High</td>
</tr>
<tr>
<td></td>
<td>(b) Low</td>
</tr>
<tr>
<td>6. Socio Economic Status</td>
<td>(a) High</td>
</tr>
<tr>
<td></td>
<td>(b) Low</td>
</tr>
</tbody>
</table>
1.7 HYPOTHESES OF THE STUDY

A hypotheses is a specific, testable prediction about what you expect to happen in your study. It is a preliminary or tentative explanation or postulate made by the researcher of what he considers the outcome of an investigation would be. It is an informal guess. It indicates the expectations of the researcher regarding certain variables. It is the most specific way in which an answer to a problem can be stated.

Keeping in mind objectives and variables the following hypotheses were framed.

1.7.1. There is no significant difference between the mean score of I.Q of upper primary boys and girls.
1.7.2. There is no significant difference between the mean score of I.Q of urban and rural upper primary students.
1.7.3. There is no significant difference between the mean score of I.Q of grade V & VI upper primary students.
1.7.4. There is no significant difference between the mean score of I.Q of grade VI & VII upper primary students.
1.7.5. There is no significant difference between the mean score of I.Q of grade V & VII upper primary students.
1.7.6. There is no significant difference between the mean score of I.Q of age group 10Yr. & 11.Yr of upper primary students.
1.7.7. There is no significant difference between the mean score of I.Q of age group 11Yr. & 12Yr. of upper primary students.
1.7.8. There is no significant difference between the mean score of I.Q of age group 12Yr.&13 Yr. of upper primary students.
1.7.10. There is no significant difference between the mean score of I.Q of upper primary boys having high & low E.I.
1.7.11. There is no significant difference between the mean score of I.Q of upper primary girls having high & low E.I.
1.7.12. There is no significant difference between the mean score of I.Q of upper primary students having high & low S.E.S.
1.7.13. There is no significant difference between the mean score of I.Q of upper primary boys having high & low S.E.S.
1.7.14. There is no significant difference between the mean score of I.Q of upper primary girls having high & low S.E.S.

1.8 DELIMITATIONS OF THE STUDY
The present study was delimited with respect to the following aspects
1.8.1 The present study was limited for the upper primary students of Gujarat state.
1.8.2 The present study was limited for the upper primary students who were studying in the Gujarat medium school.
1.8.3 The test has been standardized on the students of grade V, VI and VII of upper primary schools of Gujarat state.
1.8.4 As the language of the test is Gujarati. It can be used only by the Gujarati speaking and knowing upper primary students.
1.8.5 In the academic year 2009-2010, the education system was like I<sup>st</sup> to IV<sup>st</sup>, V<sup>th</sup> to VII<sup>th</sup>, VIII<sup>th</sup> to X<sup>th</sup>. The investigator has collected data from Grade V<sup>th</sup> to VII<sup>th</sup> & hence consider Grade V<sup>th</sup>, VI<sup>th</sup> & VII<sup>th</sup> as upper primary students.

1.9 SCHEME OF CHAPTERIZATION

The researcher had planned to divide this study into seven chapters. The scheme of chapterization for next chapter is as under:

1. **Chapter – 2 Theoretical perspective Intelligence**
   This chapter discuss the various theories of Intelligence and its components in detail.

2. **Chapter – 3 Review of related literature**
   The third chapter highlights on the review of related literature which was divided into pre-scientific stage and scientific stage. The different types of test developed in India and abroad was also discussed. In this chapter review of related research work done in India and abroad will be discussed.

3. **Chapter – 4 Research methodology**
   A vital chapter which discuss the procedures and processes involved in the preparation and validation of the tool, sampling
techniques, variables and research design of the study. In this chapter tabulation of data and method of data analysis will be shown.

4. Chapter–5 Construction and Standardization of Intelligence test

This chapter will be devoted to the process of construction & standardization of Intelligence Test. Construction of items, manuscript, pre pilot, pilot and final run out of the test will be done. Reliability, validity and norms will be established during the process.

5. Chapter – 6 Data Analysis And Interpretation of Related Studies

In this chapter related studies of some independent variables like Area, Gender, Age, Grade, S.E.S. and Emotional Intelligence and intelligence will be described. The analysis and interpretation of related studies data will be done.

6. Chapter-7 Summary, Findings and Suggestions

A brief summary of research study, findings, observations and suggestions will be made in this chapter.
REFERENCES


J.P.Sharma & et.al. (2000), (Ed) Fifth Survey of Educational Research New Delhi: NCERT.