CHAPTER - 1
INTRODUCTION

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CHAPTER:-1
Introductory

1.0.0 Introduction

This is a continuously developing age of science and Technology. The horizons of knowledge are expanding and new dimensions are continuously escalating due to the researches, research tools and various modifications on the basis of these researches. Curriculums are persistently modifying. As an ascetic of change the role of the teacher is becoming specific & unique. Due to advancement in technology and research, students can use various internet education media and multimedia tools. But these tools are available to limited sections of society and so its advantage is not infiltrated to each and every person of society. As a result, the difference is seen in the IQ level and skills among the students. Availability of proper resources and framing of proper curriculum can play important role in self development of student. To cope up with the need of present society, it is essential to frame the curriculum for the all-round development of the children.

The reach of the Education and scope of Educational Technology has considerably increased in the first half of the 21 century. Education is considered as an important factor for the national development along with its role as a mechanism for the human/individual development. After understanding the importance of the Education in the development of the society and the nation, the question arises of preparing good, competent and well prepared students or citizens of the future generation. Development of any country is based on the education imparted in the educational institutions. Education is very important and it provides pupils teaching skills and prepares them physically, mentally and socially. The main work of education is to identify the special abilities of a person and to develop them progressively. And to achieve this objective teaching provided merely by lecture and discussion method is not enough, instead the use of innovative methods of teaching would be more effective. Education transforms a person to live a better life. Education does make a remarkable effect on one’s personality. Education is the one which provides us the thrust in getting ahead and doing something constructive in our near future. The child is getting education from the school, where his/her specific abilities are developed. Children are getting the knowledge of various subjects in school,
but they are not capable of solving the various puzzles as they don't know how to make use of the acquired knowledge in different life-like situations.

*Moore & Bruder (1996)* highlight the importance of reasoning skills to learning: *(Reasoning) skills help students think clearly and logically, as answers to issues and problems usually entail making careful distinctions in arguments and as solutions to these issues also require logical and critical thinking (p.88).*

Reasoning, problem solving, and decision-making are overlapping aspects of human intelligence.

*Doronila (1998)* highlights the fact that students need to develop a “range of skills and competencies which would enable them to live and work as human persons, develop their potential, make critical and informed decisions, and function effectively in society”.

Classical literature written about the teachings of Socrates, and even writings of Plato, Aristotle, and other medieval and modern thinkers on student learning and their acquisition of knowledge, have noted the importance of reasoning skills in the analysis of academic and life issues (Kleinig, 1982; Ozmon & Craver, 1995; Moore & Bruder, 1996). It is essential to know the reasoning ability among the students of the secondary schools, so that their personality can be developed. By that, one can know that how much they are developed mentally.

A major task of any education system is to modify the present guidelines and tools so that students can learn more effectively. It should be also ensured that students could acquire skills for them to carry out their academic and problem solving tasks. In the present research work the investigator decided to prepare the reasoning capsules for the development of the students by measuring their reasoning ability at the upper stage of the primary education. The most obvious flaw of the present education system is that it does not provide any challenge to the potentials and yet it inculcates in the students a feeling of fear for their subjects rather than a feeling of attachment and understanding. Our present system of education is more of stereotype in nature which needs to redefine itself as per the need of the time. The system does not provide any challenge to the potentials and yet it inculcates in the students a feeling of fear for their subjects rather than a feeling of attachment, understanding and achievement for their knowledge. In other word the present education being the more of knowledge centered depends more on the student’s ability to memorize for bringing out good results and hence they are always in a kind of
fear of forgetting the short-lived knowledge, had it been ability centered or aptitude centered which are not just memory based but more of skill based, long lasting possessions to be achieved by the students and hence they will be free of the fear-conscious of forgetting the mere knowledge. To conclude one can say that the present education system does not discriminate as such in respect of knowledge standards in between the real talents and the so called talents.

The reflection of this fact can be seen in the low results of the competitive exams which are purely aptitude based in nature whether it be the assessment of mathematical aptitude or linguistic aptitude or problem solving aptitude of the students. These tests are very cautiously designed to assess possibility the future success of the candidates for a particular course or job and so they are called aptitude tests. But aptitude is not a possession like knowledge which could be acquired overnight by memorization, it is a personality attribute which takes years to be a part of a person’s never detachable composite whole. And by this reason only it is advisable to train the students for such aptitude development from their early development stage and not after they are through their developmental stage which is happening in the present scenario. Most of the students start preparation of the competitive exams only after they finish their schooling and give only some month’s time for its preparation. In fact it takes years to build the kind of aptitudes that are getting assessed in such tests and so the present research advocates the preparation of the students from their early development stage so that their proper aptitudes can be developed.

For this, the statements of the Problem is as follows:

1.1.0 Statement of the Problem

"Construction of Reasoning Capsules and Study of its Effects on the Students Studying in Std. VIII"

1.2.0 Importance of the Study

How much the study will be useful to the various related individuals? The answer of the question shows the importance of the study. The importance of the present study is as follows: Education is an important factor of the development of human life. So it is more important to give proper guidance by measuring the specific abilities of an individual. Generally, the teacher makes an estimate of the abilities of the students on the basis of the educational achievements and his/her own observations. But this type of estimating the
capacities of the students is not scientific. Intelligence tests no doubt forecast the learning
capacity and educational achievement of the students. Hence they are used abundantly.
Really it is not proper. Besides Intelligence other aptitudes are also necessary in various
occupations. Thus, the use of various aptitude tests has become essential. We can say
that estimation that in which occupation an individual would be successful and in which
occupation there is less probability to get success cannot be done only on the basis of IQ,
but it is necessary to be done on the basis of various capacities and competencies. Thus
the importance of aptitude tests is getting more and more increased.

The questions related to the measurement of reasoning ability are also included in the
competitive examinations that are organized for the recruitment of the clerks and officers
in the bank and for the selection of the individuals in these types of various fields as well
as National genius test organized by NCERT. Thus the students with this kind of training
in the schools can be trained for their future competitive challenges. Reasoning also is
such an important ability.

Various components are included in reasoning ability. Out of them if the capsules are
prepared by selecting the main five components keeping in view the age group of the
students of the Std. VIII, then a tool for measuring and developing reasoning ability of the
students of std. VIII can be prepared.

The literature prepared by this research work can be more useful in various fields of
education. The prepared material can be used for the Evaluation of the students by which
their problem solving attitude can be assessed or after identifying their inherent attitude
and aptitude for the guidance and counseling of both students and parents to blossom their
capacity. The tool can also be helpful to the other investigators in their research work. It
will develop the habit of thinking logically among the students and by that in extra
curricular activities, where there is the need of definite (firm) decision making skill, they
will be able decide themselves independently.

Moreover, the parents will be able to know the reasoning aptitude of their children and
they will be able to draw an inference that in which type of field their children will be
able to succeed. In schools also various games and sports can be arranged. Competitions
like puzzles and problem solving can be arranged on the basis of this literature.

This literature will motivate the teachers for preparing various capsules which will be
helpful for developing the logical application skill among their students.
1.3.0 Objectives:

1. To prepare capsules for developing reasoning ability.

2. To examine the effectiveness the prepared capsules experimentally to enhance the reasoning ability of the students of Std. VII.

3. To examine the effect of reasoning capsules on enhancement of reasoning ability of the students in the context of different variables under investigation.

This objective was divided into sub-objectives:

(i) To examine the effect of capsules on reasoning ability in the context of I.Q.

(ii) To examine the effect of capsules on reasoning ability in the context Parents Educational Level.

(iii) To examine the effect of capsules on reasoning ability in the context of Parents Yearly Income.

(iv) To examine the effect of capsules on reasoning ability in the context of Gender.

(v) To examine the effect of capsules on reasoning ability in the context of Area.

(vi) To examine the effect of capsules on reasoning ability in the context of Type of Institute.

4. To examine the effect of retention on the development of reasoning ability of the students of Std.VII.

5. To examine the effect of retention on the development of reasoning ability of the students in the context of the different variables under investigation.

This objective was divided into sub-objectives:

(i) To examine the effect of retention on the development of reasoning ability in the context of I.Q.

(ii) To examine the effect of retention on the development of reasoning ability in the context of Parents Education Level.

(iii) To examine the effect of retention on the development of reasoning ability in the context of Parent Yearly Income.
(iv) To examine the effect of retention on the development of reasoning ability in the context of Gender.

(v) To examine the effect of retention on the development of reasoning ability in the context of Area.

(vi) To examine the effect of retention on the development of reasoning ability in the context of Type of Institute.

6. To examine the effect of I.Q. level of students on the gain scores of the students.

7. To examine the effect of parents educational level on the gain scores of the students.

8. To examine the effect of parents yearly income on the gain scores of the students.

9. To examine the effect of Gender on the gain scores of the students.

10. To examine the effect of area on the gain scores of the students.

11. To examine the effect of type of institute on the gain scores of the students.

1.4.0 Hypotheses:

1. There will be no significant effect of capsules on the reasoning ability of the students.

2. There will be no significant effect of capsules on the reasoning ability of high I.Q. level of students.

3. There will be no significant effect of capsules on the reasoning ability of low I.Q. level of students.

4. There will be no significant effect of capsules on the reasoning ability of students having high level of parent’s educational level.

5. There will be no significant effect of capsules on the reasoning ability of students having low level of parent’s educational level.

6. There will be no significant effect of capsules on the reasoning ability of students having high level of parent’s yearly income.

7. There will be no significant effect of capsules on the reasoning ability of students having low level of parent’s yearly income.
8. There will be no significant effect of capsules on the reasoning ability of boys.
9. There will be no significant effect of capsules on the reasoning ability of girls.
10. There will be no significant effect of capsules on the reasoning ability of students from urban area.
11. There will be no significant effect of capsules on the reasoning ability of students from rural area.
12. There will be no significant effect of capsules on the reasoning ability of grant in aid school.
13. There will be no significant effect of capsules on the reasoning ability of self financed school.
14. There will be no significant effect of retention on the development of reasoning ability of students.
15. There will be no significant effect of retention on the development of reasoning ability of students have higher level of I.Q.
16. There will be no significant effect of retention on the development of reasoning ability of students have lower level of I.Q.
17. There will be no significant effect of retention on the development of reasoning ability of students whose parents have higher education level.
18. There will be no significant effect of retention on the development of reasoning ability of students whose parents have lower education level.
19. There will be no significant effect of retention on the development of reasoning ability of students whose parents have higher yearly income.
20. There will be no significant effect of retention on the development of reasoning ability of students whose parents have lower yearly income.
21. There will be no significant effect of retention on the development of reasoning ability of boys.
22. There will be no significant effect of retention on the development of reasoning ability of girls.
23. There will be no significant effect of retention on the development of reasoning ability of students studying in urban area.
24. There will be no significant effect of retention on the development of reasoning ability of students studying in rural area.

25. There will be no significant effect of retention on students whose are studying in self financed institutes.

26. There will be no significant effect of retention on students whose are studying in grant in aid institutes.

27. There will be no significant effect of Gender on the gain scores of students.

28. There will be no significant effect of I.Q. on the gain scores of students.

29. There will be no significant effect of parent’s education level on the gain scores of students.

30. There will be no significant effect of parent’s yearly income on the gain scores of students.

31. There will be no significant effect of area on the gain scores of students.

32. There will be no significant effect of type of institute on the gain scores of students.

1.5.0. Delimitation

The universe of population is too wide to study; and therefore one has to make the study limited. A study of any subject is on a wide scope which demands significant amount of time and efforts. And so the scope of any research should be limited. The researcher has accepted the following limitations of the research considering the time and scope of the research. The limitations of present study were as follows.

- Present study was limited for Gujarati medium students.
- There are many aspects of reasoning. In present study only four aspects (Series, Blood Relation, Coding & Decoding and Arithmetic Reasoning) were considered.
- Pre-test, Post-test and re-test were designed by researcher so it could be also considered as a limitation of the study.
- Method adopted for educating student to understand reasoning capsule could also be considered as a limitation of the study.
1.6.0 Definition of the terms

Definitions of the terms are as under:

- **Construction:**
  The Webster's Dictionary (1969), gives the meaning as,
  
  *To put together the parts in their proper place and order to build up, to erect to form.*

  According to P.G. Terry (1977), construction means,
  
  *Programmed instruction term for the construction of an answer either in writing or by performance actively, not by passive choice.*

- **Reasoning:**
  According to Arno F. Written (1997), Reasoning means,
  
  *Attempts to solve problems by combining two or more aspects from past experience.*

  According to R.P. Taneja (1989), Reasoning means,
  
  *Thought process involving influence or problem solving making use general principles.*

  Reasoning means putting two or more elements of past experience together to solve a novel problem.

- **Capsule:**
  - Any one thought or literature prepared by keeping in any independent idea.
  - Continues literature prepared on every activity of reasoning.

- **Study:**
  - Application of the mind to the acquisition of knowledge, as by reading, investigation, or reflection.

- **Effectiveness**
  It means,
  
  According to American Everyday Dictionary (1953)
  
  *Bringing out of the result intended*
An ability to make improvement in students score on a criterion

Fraser (1994, p. 104) defined it thus:

This is a measure of the match between stated goals and their achievement. It is always possible to achieve ‘easy’, low-standard goals. In other words, quality in higher education cannot only be a question of achievements ‘outputs’ but must also involve judgments about the goals (part of ‘inputs’)

Enhancement in reasoning ability of the students due to implementation of the programme experimentally.

- Gain Score:

  > The scores achieved after deducting the post test scores from the pre-test scores is called gained score.

1.7.0 Variable under Investigation

- Independent Variable
  - Reasoning ability

- Inconsistent variable: (sub-Independent Variable)
  - IQ
  - Parents education level
  - Parents yearly income
  - Gender
  - Area
  - Types of institutes

- Dependent Variable
  - The scores achieved by students in pre-test, post-test and re-test

- Control Variable
  - Medium
  - Area
  - Types of reasoning
  - Standard of student
1.8.0 Planning of the following chapters

Before every research work, it is essential to write the detail of every chapter in brief. The present study is divided into six chapters. It is extremely important to plan properly in advance to finish any work in time and efficiently. Understanding the importance of the planning the researcher has planned the following chapters of the present research in the below given manner.

CHAPTER-2 Theoretical Aspect of Reasoning

For the proper understanding of subject theoretical aspect of Reasoning is given in chapter no two. Theoretical attributes of types of reasoning, steps of reasoning, structure of reasoning etc. are also covered in this chapter.

CHAPTER-3 Review of Related Literature

The third chapter throws light on the past research studies carried out in the field along with a summary of major points by the investigator. It also reflects the desirability of present study.

CHAPTER-4 Research design

The forth chapter deals with the methodology adopted for the present study. It covers origin of the problems, methodology, population, sample, tool preparation-finalization, planning of the experiment, execution of experiment, execution of experiment, data collection, and the method of analysis.

CHAPTER-5 Classification, analysis and interpretation of the data

The results obtained through the statistical analyses are tabulated interpreted and discussed in the fifth chapter.

CHAPTER-6 Summary, Findings and Suggestions

In the last chapter, a summary of the report is given along with the major conclusions and suggestions for future researches.
References


5. Webster’s Seventh New Collegiate Dictionary (1996), (Calcutta: scientific book agency) p. 159


