

SUMMARY, CONCLUSIONS AND SUGGESTIONS

CHAPTER-VII

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CHAPTER-VII

SUMMARY, CONCLUSIONS AND SUGGESTIONS

7.1 INTRODUCTION

Textbooks have always been considered as standard means of instruction in a given subject of study. They can be used for self-learning by the student either in the class room or at home. A textbook stimulates the interest of the student and provides extended and organised learning experiences. According to Buckingham (1960), the textbook in the modern sense is a learning instrument usually employed in schools and colleges to support a programme of instruction. As Dave (1968) suggested, a textbook is usually designed for producing a variety of interactions inside the class room and outside it, which ultimately result in to learning. Thus a textbook is a powerful instrument for generating a variety of educative insteractions.

Taneja (1972) indicated that a textbook is equally important for the teacher as it defines and delimits the content of teaching. It helps in planning as well as conducting his programme for teaching. Stressing the importance of textbooks Brown (1978) has mentioned that there is no substitute for the textbook. New developments like tape recorder and television play only secondary part to the textbook as an aid to the teacher. Thus a textbook is one of the most widely used instructional aids to establish communication between the student and the teacher.

Some advanced countries of Europe and America are making effort to reduce over emphasis given to the textbooks. However, Gaiind (1958) has pointed out that textbooks have become an inseparable and integral part of most of the education systems. In developing countries like India, the textbook is the only instructional aid easily available to majority of the students. Textbooks are helpful in developing expected aptitudes, attitudes and concepts. In India, textbooks also play an important role in forming national integration. It is accepted by all concerned that education in our country is significantly controlled by the quality of the textbooks. Thus textbooks have the place of pride in our system of school education. Because of this reason we in India still have to concentrate on perfecting our textbooks.

7.2 TEXTBOOKS IN THE WORLD

Due to the education explosion in the modern age even the production of textbooks has been increased. Out of fifty two crores or more volumes that are published in the world every year about fifty percent are textbooks of various subjects. The number of textbooks in relation to the number of subjects taught in each grade is still short in all the countries of Asia except Japan.

All the countries of the world prepare and produce their textbooks either through state organisations or private publishers. In two-thirds of the countries of the world the production of the textbooks is left to the private publishing

houses. In India, Pakistan, Soviet Union and some parts of Africa, state publishing houses have been established. In USSR the school curriculum is centralised. As reported by Tazkaff (1961) the soviet government has entrusted the ministry of education with the task of providing textbooks to the students of all the schools in which medium of instruction was Russian. In France the publication of school textbooks is with private publishing house. In Britain and USA, private publishers prepare and produce textbooks. In Iran textbooks alongwith teachers guides are prepared by the ministry of education and supplied free of cost to the students. In Pakistan, the textbook publication has come under the control of government since 1961. All types of textbooks whether in urdu or English are now produced by the provincial textbook boards. In India most of the states have established textbook organisations for preparation and production of school textbooks.

7.2.1 TEXTBOOKS IN INDIA

Before 1925, the selection and prescription of textbooks was purely an administrative function exercised by the heads of the education departments of different states. In 1935, the Central Advisory Board of Education (CABE) was established. Zaidi (1973) reported that the CABE critically examined the various aspects of Indian Education through expert committees. One such committee, appointed in 1943, commented that though excellent books were produced in certain areas, on the whole the books available did not

fulfil the educational, technical or economical requirement of the country. it was also observed that many times persons who were not experts in the subject were engaged by publishers to write the books on small remuneration. Some of the publishers had developed a tendency to profiteer in school books which ultimately resulted in high prices of textbooks. The private publishers did not take any sort of research in the field of textbooks.

7.2.2 TEXTBOOKS IMPROVEMENT PROGRAMME

The problem of improving school education began to receive attention soon after independence. In our system of education textbooks play a major role, hence improvement of the quality of the textbooks has been a major problem of the nation.

As a first step towards improving our textbooks the central Bureau of Textbook Research (CBTR) was established during the first five year plan. the main objective of CBTR was to remove common defects in the textbooks by undertaking research in textbooks and allied problems and by supplying its findings to the states. Accordingly, the CBTR collected the information regarding the procedures of textbooks, their ways of selection and publication. The CBTR published various reports in (1958) on textbooks, in (1959) on textbook production in India, textbook selection, production and distribution in India (1963) thus there was a systematic central level effort to improve our textbooks started with the establishment of the CBTR in 1954.

In 1961 CBTR merged with NCERT and was named as Department of Curriculum, Methods and Textbooks (DCMT). The DCMT also undertook few studies like the study of effect of price change on the quality of production and the comparative study of textbook illustrations.

In 1966, the functions regarding textbooks were shifted first to Department of curriculum and Education and then to the Department of Textbooks. However, the improvement of textbooks has been one of the important areas of work in NCERT, various department of NCERT have been engaged in the task of improving the quality of textbooks. The studies undertaken by NCERT include surveys regarding nationalised textbooks in 1969-70, 1971, 1975-75', 1977-78', 1978-79', 1979-80', 1980-81', 1982-83' and 1983-84. According to New Education Policy set up by NCERT in 1986, certain syllabus were prepared at national level (Central Level) and state government was expected to follow it. Ofcourse there was no hard and fast rule for state to follow but the syllabus was set with the idea that all the different schools in different states of India will have certain common syllabus though the production of textbooks wa the job of state Board of school textbooks. Though there was keen interest shown by the authorities in the beginning of the textbooks improvement but as per the Annjual report, of 1974-75 of NCERT it was till 1968 only surveys were carried out to know the status of textbook preparation, but no planned programme of improving the quality was though of.

7.3 NATIONALISATION OF TEXTBOOKS

Krishnamurthy (1966) reports that the state governments wanted to promote uniformity in standards, improve quality of textbooks and lower the prices, while Pal (1973) describing the situation remarks that it was because of the defects of textbook production, various states have nationalised the textbooks. The objectives behind textbook nationalisation were as follows :

1. To produce quality textbooks.
2. To tackle the problem of non-availability of suitable textbooks especially in regional language.
3. To ensure uniformity in the standards of attainments of students through good textbooks.
4. To put an end to the unhealthy practices in the textbook trade.
5. To prevent private publishers from profiting in school textbooks.

7.3.1 IMPLEMENTATION OF NATIONALISATION OF TEXTBOOKS IN VARIOUS STATES

Uttar Pradesh was the first to take initiative in nationalisation of textbooks for primary schools in 1942-43. Jammu-Kashmir, West Bengal was second to nationalise the books in 1948. In Bihar nationalisation took place in 1950, Kerala 1951, Haryana and Punjab in 1952, Madhya Pradesh in 1953, Rajasthan in 1955, Andhra Pradesh, Karnataka in 1958, Tamilnadu in 1960, Nagaland in 1962, Assam, Orissa in 1963,

Maharashtra in 1968, Gujarat in 1969, Tripura and Sikkim in 1975, Himachal Pradesh in 1979, was the last state to nationalise its textbooks. Nagaland, Manipur and union territories have not fully nationalised their textbooks. In spite of nationalising the textbooks the general level of textbook still remained poor. Shortcomings like failure to revise books for long periods, misprints, poor production, failure to supply books in time still remained to be overcome.

Gujarat was the sixteenth state to nationalise its textbooks in different subjects in 1969. But even after the nationalisation of the textbooks in state, only the government textbooks were used only in Gujarati medium schools. English medium schools used the books of private publishers. The books were reviewed in 1975-76, 1981-82, but even till then most of the English medium schools made use of mathematics textbooks of private publishers. It was only after 1986-87 onwards the schools started making use of government textbooks because of the force from Nagar Prathamik Shikshan Samiti. Thereafter hundred percent schools made use of government textbooks. In Gujarat mathematics textbooks for standard V and VI were implemented in June 1989 and standard VII textbook in 1990.

7.4 REVIEW OF THE RELATED LITERATURE

By keeping in mind the above developed framework of the study a thorough search was carried out among the numerous researches carried out in the field of textbooks. Number of research studies were available in India and abroad. Among

these studies in India and abroad the investigator has chosen only those studies which were related one way or other to the present studies. Recommendations made by UNESCO at international level and by NCERT at national level have helped a lot to the textbook research workers. The investigator also took the help of these two in many ways at different levels. Most of the studies being at Ph.D. level were found to be complete in many respects, as they treated only some specific aspects of the textbook such as content, physical aspect, end-of-chapter exercises etc. Most of the studies were carried out for the existing textbooks or a comparative study with previous textbooks.

As discussed in chapter-III apart from NCERT's recommendations the following reviewed studies were of great use to the investigator. To analyse the academic content studies such as Walwalkar (1971), Joshi (1972), Gopalkrishnan(1977) Lalithamma (1981), Roy (1986) Menon (1986) for questioning status of technical terms and illustrations. For physical aspects studies by Singh (1984), Hartley (1990) for analysing end-of-chapter exercises along with Bloom's texonomy of educational objectives. Studies by Vaghamare (1971) Even to study the students and teachers opinion and to carry out over all evaluation the above studies were very useful.

7.5 RATIONALE OF THE STUDY

Textbook preparation, production and distribution is a continuous process. Especially there is an evidence of a

changing style in school textbooks. Despite of the best textbooks written by expert authors, revision after certain interval is essential because there is always a scope for improvement particularly in a subject like mathematics where new knowledge is pouring in at tremendous rate, more frequent revision is necessary to make the content up-to-date. But this cannot be effectively done unless the textbook programme is supported by adequate research. Textbook which fully explains itself is a guide to the students inside as well as outside the classroom. The teachers lean upon it for the planning and preparation of their lessons. A textbook can be used as an effective tool in instruction only when it fulfils the purpose for which it is written. Evaluation of any kind is carried out to check the extent to which predetermined goals are achieved. Textbook evaluation furnishes evidences of strengths and weaknesses of a textbook, it is to judge how best the textbook serves as an instructional medium and instructional material to its users-the students and teachers.

The present study was undertaken to evaluate the mathematics textbooks for standard V, VI (English) published and implemented in June '1989 and standard VII in 1990 by Gujarat State Board of School Textbooks.

The present study was a modest attempt to find answers to a few questions regarding the various aspects of the textbooks.

1. Is the physical and academic aspects of the textbooks suitable ?
2. Do the textbook cover all the topics suggested in the syllabus prescribed by Gujarat State ?
3. Do the textbook provide adequate content ?
4. Do the textbooks cater to the needs of the teachers and students ?
5. Do the textbook provide appropriate exercises to help the learner to learn and teachers to teach ?

7.5.1 STATEMENT OF THE PROBLEM

The title of the present study is "Evaluation of Mathematics Textbooks for standard V, VI and VII published by Gujarat State Board of School textbooks."

7.5.2 OBJECTIVES OF THE STUDY

1. To study academic aspects of the textbooks with respect to :
 - A) Content
 - B) Organisation
 - C) Presentation
 - D) Language
 - E) Illustration
2. To study the physical aspect of the textbooks with respect to :
 - A) Typographic complexity.
 - B) Design

- C) Attraction
 - D) Nature of material used
 - E) Size
3. To evaluate the exercise at the end of each chapter.
 4. To study the students and teachers opinion regarding the suitability of mathematics textbooks understudy.
 5. To asses the textbooks on the basis of the prescribed syllabus of gujarat state with respect to :
 - A) Listing the contents and their logical sequences.
 - B) Introduction to each chapter.
 - C) Inadequacy in content.
 - D) Illustrations.
 - E) Printing mistakes in ilustrations and exercises.

7.5.3 EXPLANATION OF TERMS

1) TEXTBOOK

A systematic organisation and preparation of selected and summarised instructional material based on the prescribed syllabus keeping in view the needs and the interest of the students to facilitate teaching and learning for the accomplishment of the desired goals of the subject for a particular level or class (NCERT-1970) Here Mathematics textbook means mathematics textbooks prepared by Gujarat State Board of School textbooks implemented in standard V and VI in June 1989, and in standard VII in June 1990.

2) EVALUATION OF TEXTBOOKS

Evaluation is a process of determining the value of an attribute or a thing in relation to predetermined objectives. Textbook evaluation therefore means finding out the worthwhileness of a book as a teaching learning tool in relationship to the course of the study and the objective of the course assigned to the age group.

7.5.4 DELIMITATIONS OF THE STUDY.

The study was limited to the present mathematics textbooks for standard V, VI and VII (English medium) published by Gujarat State Board of School textbooks. (standard V, VI implemented in June 1989 and VII in June'1990).

7.6 CRITERIA FOR EVALUATION

Textbook as a major curriculum material was first discussed briefly with the historical perspective based on its evaluation in India and abroad, beginning from the ancient period till the present, this was followed by a discussion on the position of the textbooks in general. Based on the studies of Yore & Denning (1989), Goel & Sharma (1987) the investigator was able to enumerate and developed the needed framework for the study. The structure, function and major characteristics of the textbooks in general. helped the investigator to get a general idea of the criteria to be set for evaluation of the mathematics textboks under study. The

investigator did not find even a single study directly related to mathematics textbooks of higher primary i.e. standard V, VI and VII. The frame work of the study was further strengthened by referring to the several studies and frame work in them.

Textbooks demand not only good suitable and effective usages but also appropriate questionings, positioning of the formula, technical terms attractive and relevant illustrations through activities, figures, graphs, these were conceptualized on the bases of carin and Sund (1970) Hartleys (1990) contribution in the field of textbook design was found to be very useful in connection with the physical aspects of textbook. For strengthening the message in textbook design Von Restorff's (1933) studies and her isolation effect or Von Restorff effect and a recent study by Panda (1990) were found to be useful in conceptualizing physical aspect of the textbook. Analysis of end-of-chapter exercises was conceptualized by specially referring to taxonomy of educational objectives (Bloom, Et Al, 1956).

7.7 METHODOLOGY

Based on research studies and articles available, different types of tools were designed according to the nature of the objectives. A brief note on sample, tools, process of data collection and content analysis sheet have been presented in lines to follow.

7.7.1 SAMPLE

There were 430 English Medium Primary schools in 19 districts of Gujarat State. There were 450 mathematics teachers engaged in teaching of mathematics from standard V to VII. Out of 450 teachers 220 teachers were selected randomly as respondent of the questionnaire. In some schools there were two teachers teaching in above three classes whereas in some of the schools there were three and schools having more divisions of classes had four different teachers in different classes. A purposive sample of 100 students of each class i.e. V-100, VI-100, VII-100 (for each textbook) was chosen for obtaining students opinion.

7.7.2 TOOLS

1. Questionnaire for teachers of standard V, VI and VII.
2. Questionnaire for students of standard V, VI and VII.
3. Interview schedule for teachers of standard V, VI and VII.
4. Interview schedule for students of standard V, VI and VII.
5. Content analysis sheet for standard V, VI and VII.

1. QUESTIONNAIRE FOR TEACHERS

Based on research studies, questionnaire prepared by gujarat state board of school textbooks and articles available in the field of textbooks research, the investigator constructed a separate restricted type response

(Yes/No). The questionnaire for standard V, VI and VII was of same type.

2. QUESTIONNAIRE FOR STUDENTS

Based on research studies and articles available in the field of textbook research the investigator constructed a separate restricted type response (Yes/No). The questionnaire for standard V, VI and VII was of same type.

3. INTERVIEW SCHEDULE FOR TEACHERS

From 430 English medium primary schools in the state of Gujarat, 220 teachers were respondents for questionnaire for standard V, VI and VII (altogether). From these 220 teachers, 98 mathematics teachers who were well experienced having ten to fifteen years teaching experience in higher primary classes (V to VII) with total mathematics background were interviewed. The various information regarding the textbooks under study was collected in informal way.

4. INTERVIEW SCHEDULE FOR STUDENTS

Bright students whose achievement score in mathematics was more than 70% were interviewed for knowing their views about the mathematics textbooks in use. 100 students of standard V, 100 students of standard VI and 100 students of standard VII were interviewed from English medium schools from various districts of Gujarat State.

5. CONTENT ANALYSIS SHEET

In any process of textbook evaluation where communication process is involved like between the learners and the textbook, the content of the text occupies the central position. communication, that is the way in which content is presented is full of experiences and its causes and effects are different. Therefore the investigator felt that one single system to describe substantive categories would not be enough. The investigator therefore made use of a scientific method in which various aspects of the content communicated were put in a short summary fashion. This way of writing was known as content analysis. According to Fox (1969) content analysis is a procedure for categorisation of verbal or behavioural data for the purpose of classification. In this study, content analysis of the mathematics textbooks of standard V, VI and VII have been carried out at manifest level. This has been done by keeping in mind criteria for the objectives of the study. (without making nay alterations) whereas content analysis at latent level has been carried out by making an attempt to put it in indirect way at certain places wherever it was required (meaning did not change).

7.7.3 COLLECTION OF DATA

The data for the present study was collected through the following process.

1. The questionnaires were administered and data was collected from sampled teachers and students by mailing

the questionnaire to the far of schools from Baroda and by personal contacts from the schools which were in Baroda and nearby Baroda.

2. Interviews were conducted with 98 well experienced teachers teaching mathematics in standard V, VI and VII in the English medium schools of Gujarat.
3. Interviews were conducted with 100 students of standard V, 100 students of standard VI and 100 students of standard VII studing in English medium schools in the state of Gujarat.
4. The evaluation diaries were supplied to some of the mathematics teachers and collected after completion of academic year so that they could note the problems faced by them whicl teaching the topics.
5. A content was analysed with the help of content analysis sheet.
6. The investigator went through the books, recorded the information from each textbook under study in the information sheet.
7. Questions given at the end of the chapter exercises were carefully categorised by the investigator with the help of the experts.

7.7.4 ANALYSIS OF DATA

Data obtained by the restricted responses of questionnaires of students and teachers (Yes/No) were analysed first by finding their frequencies followed by calculation of average rating scores for each items based on the two criteria set in chapter IV, for interpretation of the average rating scores, the responses were combined in to the groups for each item. The students and teachers opinion given were analysed carefully by going, through them and classifying the relevant views of the majority into different aspects of the textbooks under study. (objective I TO IV) and their presentations were made.

7.8 MAJOR CONCLUSIONS OF THE STUDY

Below are the major conclusions of the study.

7.8.1 MAJOR CONCLUSIONS OF STANDARD V TEXT BOOK

1. The cover page photograph of great mathematician Bhaskaracharya was appropriate but it was not very colourful and attractive. More over the name of the mathematician was not given anywhere therefore picture carried very little importance.
2. The book was bound with simple ordinary paper instead of end paper binding. The paper used in the textbook was of very poor quality and not at all durable.
3. Among the pre-text pages "A note for teachers" was not mentioned but it was given under the title "Planning and teaching of the textbook". This was not specifically for teachers, therefore teachers never

took any interest to see what it was ! In order to make the use of the textbook effectively there should be a separate teachers guide or "Teachers' handbook".

4. Selection of the content, organisation and presentation of the content was good and as per the syllabus of Gujarat State Board of School textbooks.
5. Size, typography and printing was found to be good.
6. There were no questions on entry behaviour and outcomes for any chapters through out the book. the chapters were introduced by recalling the previous knowledge. Expected learning outcomes help to know how far students have followed the chapter. It is an indirect tool instrument to measure how far student have learnt.
7. There were enough exercises at the end of each chapter but the examples in the exercises were not satisfactory, hence there was a need for a practice book and a workbook.
8. None of the chapters or end-or-chapter exercises in the textbook was activity oriented.
9. There was no uniformity in the illustrations in all the chapters. The illustrations ranged from two to ten. Moreover the illustrations were solved only by one method. There should have been two alternate ways wherever possible for solving each example.
10. 100% of teachers and students marked "Area Topic" as very difficult to follow so it should be deleted from standard V and suggested to keep in standard VI or VII textbook.

7.8.2 MAJOR CONCLUSIONS OF STANDARD VI TEXTBOOK.

1. The cover page photograph of great German mathematician Eistein was appropriate but it was not very colourful and attractive. Name of the mathematician was not given any where therefore picture carried very little importance.
2. The book was bound with simple ordinary paper instead of end paper binding. the paper used in the textbook was of very poor quality and not at all durable.
3. Among the pre-text pages 'A note for teachers' was not mentioned but it was given under the title 'Planning and Teaching of the textbook'. This was not specifically for teachers, therefore teachers never took any interest to see what it was ! In order to make the use of the textbook effectively there should be a separate teachers' guide or teachers' handbook.
4. Selection of the content, organisation a presentation of the content was very short but students could follow it. It was as per the syllabus of Gujarat State Board of School textbooks.
5. Size, Typography and printing was found to be good.
6. There were no questions on entry behaviour and expected outcomes for any chapters throughout the book. The chapters were introduced by recalling the work done in standard V. Expected learning outcomes are important, as it helps the teachers to know how far students have followed the topic. It is an instrument for measuring

how much students have followed on completing the chapter.

7. There were twelve chapters with end-of-chapter exercises. Exercises were there but examples in the exercises were not enough. There was one chapter 'Brackets' which was newly introduced and it contained only eleven examples-Hence there was an absolute necessity for practice book and workbook.
8. None of the chapters or exercises in the textbook was activity oriented.
9. There was no uniformity in the illustrations in all the chapters. The illustrations ranged from two to thirteen. Except "Polynomials" there was only one solving method for the examples. There should have been two alternate ways wherever possible for solving each examples.
10. 100% of the teachers felt that course for standard VI was too short compared to standard V. So few more chapters should be either added or exercises should be increased. The course at present is completed earlier than the schedule for Academic year.

7.8.3 MAJOR CONCLUSIONS OF STANDARD VII TEXTBOOK

1. The cover page photograph of geometrical instruments were colourful but still not attractive as the paper used for binding was of very poor quality and had no lusture.

2. The book was bound with ordinary paper and binding was very loose. It should have been with end paper binding. The paper used in the textbook was of very poor quality and not at all durable.
3. Among the pre-text pages "A note for teachers" was not mentioned but it was given under the title "Planning and Teaching of the Textbook". this was not specifically for teachers, therefore teachers never took any interest to see what it was ! In order to make the use of the textbook effectively there should be a separate teachers guide or "Teachers' handbook".
4. Selection of the content organisation and presentation of the content was satisfactory and as per the syllabus of Gujarat State Board of School textbooks.
5. Size, typography and printing was found to be good.
6. There were no questions on entry behaviour or expected outcomes for any chapters through out the book. The chapters were introduce by recalling the previous knowledge. Expected learning outcomes help the teachers to know how far students have learnt. It is an indirect instrument to measure learning.
7. There were enough exercises at the end of each chapter but the examples in the exercises were not satisfactory, hence there was a need for a practice book and a workbook.
8. None of the chapters or end-of-chapter exercises in the textbook was activity oriented.
9. There was no uniformity in the illustrations in all the

chapters. The illustrations ranged from two to fourteen. Moreover the illustrations were solved only by one method. There should have been two alternate ways wherever possible for solving each example.

10. 100% of teachers were happy with the books at the same time they felt that geometry portion was too short-only two chapters, that too linked to each other 'Quadrilateral and 'types of quadrilateral', therefore few more topics could be added.

7.9 SUGGESTIONS FOR THE IMPROVEMENT OF THE PRESENT MATHEMATICS TEXTBOOKS OF STANDARD V, VI AND VII

1. The present curriculum should be reviewed according to the needs of the learners and the teachers with suitable provision for refreshment courses for mathematics teachers in English also.
2. The teachers who write textbooks should have knowledge and experience of teaching in that particular class, to know the level of students of that particular age group.
3. The physical aspects of the textbooks should be improved i.e. cover design, binding of the book, papers used in the book. If the cover page is attractive then students are also attracted to the books.
4. Content of the standard VI textbook should be more elaborated except chapter -IV on 'Integer' and VII on 'Polynomial'.

5. The revision of the textbooks should incorporate the facts i.e. activities should be added in all the three textbooks. If the chapters are activity oriented then mathematics will be a fun for primary students and they will find the subject interesting.
6. There should be some higher level cognitive categories of questions (problems/examples) in the exercises of standard VI and VII textbooks.
7. Exercises should be enriched with adequate examples of different categories of cognitive domain according to Blooms taxonomy.

7.10 SUGGESTIONS FOR FURTHER RESEARCH

Present study was limited to only V, VI and VII standard mathematics textbooks of English medium similar studies can be carried out for other subjects textbook in different medium.

1. A comparative study on mathematics textbooks of Gujarat State (primary) and Central Board Secondary Education (CBSE) textbooks should be done.
2. A comparative study should be conducted on mathematics textbook of standard VI of Gujarat Board and mathematics textbook of standard VI of Maharashtra Board (neighbouring state).
3. A comparative study of Indian mathematics textbooks of primary classes with that of developing country such as Srilanka, Bangladesh, Pakistan (neighbouring country).
4. A study of textbooks in developing world.

5. A critical evaluation of mathematics textbooks for standard I to IV of Gujarat State.
6. A study of content of the mathematics textbook of standard IV.
7. A study of exercises in language textbook (Gujarati, Marathi, English etc.).
8. A study of illustrations and end-of-chapter exercises of mathematics textbook of standard VIII of Gujarat State.
9. A comparative study of standard X textbook of Gujarat State with standard X CBSE textbook.
10. A study on content analysis of the textbook.(any subject)
11. A comparative study of the social studies textbook of standard VII of gujarat State with NCERT textbook used in standard VII of CBSE.
12. A quantitative and qualitative analysis of mathematics textbook of standard X of Gujarat State.
13. Preparation and Evaluation of mathematics textbooksof standard VIII, IX, X (secondary) of Gujarat State.
14. A comparative study of mother tongue textbooks prescribed for primary classes in English in the state of Gujarat.
15. A critical evaluation of Mathematics textbook of standard IX in the state of Gujarat.
16. A study of content, presentation and organisation of mathematics textbooks at lower primary classes (I to IV).