

CHAPTER VII

EVALUATION OF CURRICULAR CONTENT AND MATERIALS

INTRODUCTION

The present chapter is concerned with the analysis and description of data related to curricular content and its organisation, curricular materials prescribed and produced for achieving the set objectives (stated in the previous chapter) of primary education in Bangladesh. Curricular materials are tools to translate and to realize the instructional objectives of specific subjects. They present the related content in a graded way and also interpret and describe the syllabus. Curricular materials constitute both content and techniques. Materials are meant for both teachers and students. In it, subject matter is appropriately simplified; it is presented sequentially and each section generally presupposes a knowledge of earlier section. The content materials can be presented in many ways, curriculum guide, syllabus, textbooks, workbook, teachers' handbook etc. In Bangladesh, the Government has presented the curriculum guide in printed form through the Report of the National Curriculum and Syllabus Committee published by the Ministry of Education. The report contains the content of the curriculum alongwith detailed syllabus for each subject and for each class. Further, the curricular materials include textbooks, workbooks, and teachers' handbooks prepared according to the

recommendations of the curriculum and syllabus committee. As one of the purposes of the present investigation is to study the suitability or appropriateness of the curricular content and materials, an attempt has been made to analyse the content and materials suggested by National Education Commission, prescribed by the National Curriculum and Syllabus Committee (NCSC) and published by the concerned organisation of Bangladesh. The chapter has been divided into six sections. Section I consists of a discussion regarding contents of the curriculum and their organisation. Section II provides analysis and discussion about syllabus in different subjects. Section III presents detailed analysis and discussion and evaluation of the textbooks prescribed in various subjects at different classes. Section IV deals with the evaluation of teachers' handbooks. Section V deals with the analysis and interpretation of findings of the interviews held with experts regarding the curricular content and materials. Section VI presents the major conclusions arrived at through the analysis carried out in the present chapter.

SECTION - II

1. Contents and Organization of the Curriculum :

The National Education Commission observed that primary education was facing acute problems, such as, the absence of realistic and life-oriented curricular content; want of graded and attractive textbooks; and also lack of library facilities. Keeping in view these inadequacies of the curricular content

and materials and in order to achieve the set objectives (discussed in the previous chapter), the Education Commission recommended that appropriate content and materials should be prescribed which would be useful for the development of mental and physical personalities of children. The curriculum framers' tendency to make the syllabus more difficult and to include more than necessary materials should be checked through proper evaluation by the experts in the respective areas. The Commission further stated that Bengali and arithmetic will be taught in classes I and II. It will also include physical exercise, games, vocal and instrumental music and drawing. Bengali, arithmetic, history, geography and general science should be taught from classes III to V. In addition, physical exercises, games and sports, vocal and instrumental music and drawing also should be taught. In preparing the syllabuses for the primary classes, the agro-based economy should be taken into consideration. There will be no necessity of learning any language other than Bengali. The four fundamental national principles should be reflected in the primary school syllabus. The teaching-learning procedure should be work-oriented and craft work should be compulsory. The course of agriculture could be incorporated in the syllabus. Emphasis should be given on introducing an integrated and balanced syllabus.

As various terms such as, correlation, fusion, board-fields, the core curriculum, integration, and experience-centred have been used to designate the organization of the

curriculum, it was difficult to name the curricular content suggested and organised by the Education Commission of Bangladesh. However, further analysis revealed that integration approach which included child-centred, functional, and experience-based curriculum had been suggested.

The National Curriculum and Syllabus Committee selected the following subject areas as the content for the primary education curriculum. These subjects were Mother tongue (Bengali), Mathematics, Music, Art and Craft, Paribesh Parichiti Samaj O Bijyan (Environmental Studies I, II), Physical Education, Islamiat, Buddhism, Hinduism, Christianity and English. The content areas were selected and organised on the basis of the following consideration. The committee realised that re-establishment of values was the most important pre-requisite for the solution of national problems. Therefore, the students should develop a sense of responsibility, perseverance, discipline and honesty. These values should be taught through language and literature. It is from this point of view only that religious education was made compulsory from Class I to Class VIII in the curriculum prescribed by the NCSC. For historical reasons, poverty and unemployment have taken acute forms in Bangladesh. So emphasis was given to Science and Technology in the curriculum for solving these problems. Thus, a new subject like Paribesh Parichiti which included social studies and natural science was introduced in the curriculum and it was made compulsory from the very beginning of primary education. The main purpose behind this

was to acquaint the students with the problems of the surroundings so that they develop necessary awareness and appropriate abilities for tackling the problems in a scientific manner. Further, it was considered necessary that teaching of science should be accompanied by the teaching of humanities to inculcate human and social values in the learners. Work-oriented education has been regarded as an integral part of general education in the curriculum. From this point of view, Paribesh Parichiti (Environmental Studies), physical education, and craft work were represented as parts of work-oriented programme. Study of these courses would help the children to solve the problems of daily life in a more efficient and effective way. Such an expectation would demand a realistic and integrated environmental education programme. It is for this reason that civics, economics, history, physics, chemistry, biology and geography have been included in one unified and integrated subject named Paribesh Parichiti.

Further, the committee held the view that imagination, thinking and inquisitiveness should be aroused in the children. For this, it was recommended that along with the mothertongue (Bengali) text, supplementary material for reading should be prescribed and lessons in music and fine-arts should be imparted. In order to imbibe spiritual and religious habits and values, religious education was made compulsory. Also to make the students conscious of their health and develop proper health habits, study of hygiene was introduced.

Yet, there appears to be some gap between the curricular content recommended by the National Education Commission and the content prescribed by the National Curriculum and Syllabus Committee. Instead of checking over-burdening of content areas to the children as recommended by the NEC, the curriculum committee introduced more subjects in the primary classes. The introduction of religious education was advocated in favour of, learning values in a general way. The knowledge of basic values could be 'learned through actions and situations rather than through formal instruction' and it could have been correlated with environmental studies. Further, for the re-establishment of values, the knowledge of common ethics could be inculcated alongwith other subjects. This would have been in line with the views regarding value education held by several great philosophers and educationists such as Mahatma Gandhi, A.Iqbal, A.N. Basu, etc. It should rather be better to stand on the point that religious education was introduced for achieving the modified constitutional directives instead of trying to defend it on purely academic terms.

The Education Commission did not find any necessity for learning any language other than the mothertongue (Bengali) at the first level of education. In spite of this recommendation, the curriculum committee introduced English from class III. The introduction of English at the primary stage perhaps reinvoked the British ill-fitting policy of 'downward filtration' in education. Further, the curriculum committee did not make any statement regarding the introduction of English

in the primary stage of education. A commendable innovation brought in by the NCSC was the introduction of Environmental Studies under the name Paribesh Parichiti which included social studies (history, geography, civics) and general science (physics, chemistry, biology etc.) although the NEC had not envisaged such an integrated approach. Through this attempt, the NCSC made the curriculum to be based on the latest concepts in teaching of environmental studies. Another significant factor was to introduce such courses like agriculture, craft, work-experience in their prescription and organisation of content.

SECTION - II

2. Analysis of Syllabus :

Investigations undertaken by Bloom and others (1976) have shown that to make the educational process more efficient and for imparting real education to students, for simultaneous improvement of the process of teaching learning and assessing, it is imperative that the objectives of teaching of each subject are specified and the contents of the syllabus are properly organized in the light of these objectives. It is clear from the above observation that the syllabus is the most crucial part of the curriculum and any obscurity in content of the syllabus would lead to confusion. The syllabus, therefore, must include all detailed information to make the process of teaching, learning and

evaluation meaningful. A dynamic and standard syllabus should include objectives and scope of the course, content outline in terms of units and topics and proper sequencing of content; suggestions for teaching/learning methods and activities; suggestions on evaluation techniques and tools to be used; and, essential books and supplementary reading lists. Merely stating appropriate objectives of teaching a subject will serve no purpose if the same are not reflected by the content of the syllabus. So to know whether the objectives are reflected through content of syllabus one has to study and analyse the syllabus. Also the analysis of the syllabus is important from the view point of content of the textbooks; because the content of textbook is always dependent on the content prescribed in the syllabus of that subject.

Hence taking into consideration the importance of analysing the syllabus, mothertongue (Bengali) mathematics, and environmental studies syllabi as prescribed by the NCSC are analysed in this section.

(i) Criteria for Analysing the Syllabus :

In order to analyse the syllabus it would be necessary to specify the criteria on the basis of which one could opine about its appropriateness. Therefore, an attempt was made first to derive a set of criteria from the report of the NCSC, NEC and also from other related researches and literature. According to these sources a syllabus at the primary level should reveal the following features.

(1) **Objectives :** The syllabus must mention the general broad objectives of primary education in clear terms, translating them thereafter into a set of specific instructional objectives. Whenever learning takes place, it manifests itself into observable outcomes and the syllabus must specify these observable outcomes of learning. Indeed there are some outcomes of learning which are not readily observable but are nevertheless important. While most of the cognitive abilities (like recalling, comprehending, interpreting, problem solving, analysing, synthesizing and judging) are observable, those within the affective domain of human behaviour (like appreciation, interests, aptitudes) are not readily observable but are certainly capable of manifestations that can be identified and associated with them. Thus syllabus should be capable of giving clear direction to the teacher with regard to development of intellectual abilities, skill, attitudes and other social and personal attributes.

(2) **Content :** In relation to content, the syllabus should be clear, unambiguous and specific to detail out all subject matter to be taught and, therefore, learnt. The content expansion must be done in such a manner that there is a logical sequence of topics indicating breakdown of major topics into sub-topics and an arrangement of order of dealing with them in any given situation of every level of teaching. The syllabus should avoid undue repetition of same materials in consecutive classes, and yet avoid discontinuation of any particular area altogether. The content should be adopted

to the changing age, intelligence and mental ability of the children. Content should not be overloaded. An integrated approach should be there in the syllabus. Emphasis should be given to the fact that student should acquaint themselves with the problems around them so as to face the real life situations in a prepared fashion.

(3) Methods and Techniques of Teaching along with Teaching/Learning Aids :

Methods and techniques of teaching and instruction in various content topics are to be indicated broadly. Details like aids to teaching/learning, classroom organisation, time allocation are all important to bring in effectiveness and uniformity in instruction. To make teaching/learning more rational and scientific, the techniques and methods must be derived appropriately from abilities to be developed and outcomes to be expected. The teaching aids should be selected from the environment of the children.

(4) Assessment Procedure :

Keeping in view the nature of the particular contents and the stage of development of the children, the syllabus should indicate appropriate assessment procedures. Accordingly, suitable tools and techniques alongwith their way of using should be highlighted. Also, guidelines should be provided regarding the framework for evaluation and reporting of the progress of each student.

(ii) Analysis of the Syllabi for the Primary Education in Bangladesh :

The syllabus prepared by the NCSC which is under study has listed the specific objectives of learning various subjects in each class included in the curriculum. However, it did not clearly state the overall outcomes of particular subjects for the whole stage of primary education. Also, the usual scheme of concentric plan for developing each subject in the various classes has not been followed, possibly with a view to avoiding repetition of topics in various classes, which might lessen the interest of pupils in the subject. The assessment procedure, types of questions to be framed, and procedure of keeping record of the assessment have been separately noted for each subject in each class. The provision for considering the materials for the slow and the gifted has been included in the syllabus but the differing needs of rural and urban children were not given proper attention in the syllabus. Sufficient details of each topic have been given in the present syllabus. It provides the sub-topics also. The framers of the syllabus expressed the view that the necessity for work-oriented education has been borne in mind in the preparation of the syllabi for environmental studies. While these features are discernible, based on a general observation of the syllabus, its contents and organization, a closer examination of the subject-wise syllabus would be essential to see whether the topics included could be justified on the basis of the objectives specified. Such an attempt has been made in the following.

(A) Languages :

The National Education Commission recommended that from Nursery to Class V there will be no necessity of learning any language other than Bengali as the burden of mastering additional languages could become a barrier to achieving the objectives of primary education. As was pointed out earlier, nowhere in the principles and policies of framing the curriculum did the NEC mention anything regarding the introduction of a second language at the primary stage. However, the syllabus prescribed by the NCSC (1976) has introduced two languages, viz. Bengali (mothertongue) and English. The prescribed syllabus in both these languages have been analysed in the following.

Mothertongue (Bengali) :

It could be observed that each of the syllabus as contains nine major sections namely, (i) introduction, (ii) objectives, (iii) contents, (iv) instructional aids and materials, (v) teachers' work, (vi) activities of the students, (vii) evaluation or assessment techniques, (viii) guidelines for preparing textbooks, and (ix) procedure for preparing teachers' handbook. Each section had been further divided into sub-sections clarifying in detail the content of the section. It seemed that the syllabus of mothertongue has been prepared quite systematically. One of the main components of the syllabus, namely, allocation of time, has been presented at the end of the syllabi in a tabular form for all the

CHART - I

OBJECTIVES : BENGALI

CLASS - I-V

Class - I

- (a) To nourish and develop imagination, thinking and creative abilities of the child.
- (b) To teach speech habits with correct and clear articulation.
- (c) To follow the subject matter attentively and to comprehend it by being attentive and to be able to reproduce it in his own words.
- (d) To understand the subject matter well and to read with correct and clear pronunciation. To encourage the child to acquire reading ability nicely and clearly. pleasure and intensive reading. To teach a child how to write nicely and clearly.

Class - II

- (a) To nourish and develop the child's imagination, thinking feeling and creative ability and to extend the horizon of knowledge.
- (b) To help in acquiring the ability to express himself naturally and easily and for this to increase the stock of words.
- (c) To improve the child's attention, understanding and retentive power.
- (d) To read freely and spontaneously and to help developing his mental ability for understanding the subject matter to create love and enthusiasm of the child for additional reading.
- (e) To teach how to write nicely in a clear legible manner.

Class- III

- (a) Objectives (a) & (c) are same as in Class II.
- (b) To increase the stock of words of the child and to develop conversational and descriptive abilities.
- (c) To enjoy pleasure in silent reading and reading aloud and to develop the understanding ability to grasp the real meaning.
- (d) To increase the curiosity and pleasure and to encourage the child to study additional and new subjects.
- (e) To equip the child with ability to describe orally and in writing and on any incident, object or a sight observed within the experiences of pupils.
- (f) To practise the habit of writing quickly, correctly, nicely and in a tidy way.

Class- IV

- (a) Objectives (a) to (g) are same as in Class III.
- (b) Elementary knowledge, on words, parts of speech and sentences etc.

Class- V

- (a) Objectives (a) to h) are same as in Class IV.
- (b) Forming the habit of cursive writing in a correct and tidy way.

subjects and all the classes. The behavioural objectives have been stated clearly in the syllabus. The subject matter also has been mentioned accordingly. In the syllabus of class I and class II there was no mention of the total size of the vocabulary. How much vocabulary should be introduced in the stages could have been specified explicitly. The distribution of periods with regard to teaching mothertongue in class V has been mentioned in the syllabus which is applicable for all other classes also. In relation to content, the subject matter has been presented very clearly, logically, sequentially and specifically in the syllabus. The subject matter for the text has been categorically specified and stated in the syllabus of class III, IV and V which can be seen in Chart I. There is provision for oral and written examination for the children of all the classes for assessing their achievement. But the provision for written examination for the children of all the classes for assessing their achievement and the provision for written examination for the children in class I seems to be unscientific. Further, there is no mention of tools and technique for assessing day to day learning in mothertongue.

English :

In the syllabus, it has been stated that provision has been made for teaching English from class III since English is an international language and it is essential to provide

a good foundation in this language. The study of language at the primary level, however, should as far as possible be functional in providing the students with skills which can be used in real life situations outside the schools. From this angle, there is no justification for providing skills in English to the primary school children as in their practical life situations outside school in Bangladesh they have only to face Bengali since Bengali is the state language. However, the prescribed syllabus has presented the contents in a systematic way as in Bengali. The expectations are quite modest as a maximum of 225 words are to be introduced as vocabulary in class III and additional 250 in class IV; further 250 in class V. Five rhymes have been suggested for memorization without being used for reading, writing or translating into Bengali in the syllabus. This type of memorization is a psychological pressure to the young children. The work suggested for the teachers is appropriate but teachers of the primary school may not be in a position to follow it. It would have been worth examining whether the translation approach in teaching English through Bengali should be a more appropriate alternative.

(B) Mathematics :

The syllabi in mathematics have been prescribed in an integrated way. The children for class I have the scope for reading and writing in the mathematics syllabus. The contents prescribed have realistic integration with the content of other subjects like environmental studies. The contents

CHART - 2

OBJECTIVES : MATHEMATICS

(CLASS I - V)

- Class : I :
- a) To make the child conscious of the necessity of number with reference to the environment around him.
 - b) To make the idea of "set" clear to the child and to build up the idea of number from that.
 - c) To give an elementary idea to pupils about the group quality of number, character of continuity and use of number in counting.
 - d) To understand to basic skills of addition and subtraction and to help the pupils to apply them faultlessly.
 - e) To develop the children's attitude of argument (reasoning) on the concept of mathematics using modern ideas.
 - f) To treat the subject matter of Mathematics and to make it interesting following the methods of psychology.
 - g) To make the problems of Mathematics realistic and informative in accordance with the demands of the country and the society.
 - h) To teach Mathematics in coordination with other subjects in the curriculum.

- Class : II :
- i) Objectives (a) to (h) are same as in Class I.
 - j) To teach Mathematics in coordination with other subjects in the curriculum.
 - k) To teach the comparisons between two sets based on the ideas of equal and equivalent sets.
 - l) To enable the formation of numbers upto 100 based on ten's
 - m) To develop the ideas of addition and subtraction based on examples of sets.
 - n) To teach how to acquire the primary technique of multiplication and division.
 - o) To teach uses of addition, subtraction, multiplication and division in solving easy problems of daily life in relation to mutual transactions and accounting.
 - p) To give elementary knowledge on length weight and measurements of time.

contd.....

Chart - 2 (contd.)

Class : III : a)

The concept of numbers will be further extended made meaningful and firmly rooted to the minds of children.

b)

The child will acquire the primary knowledge and skills about the first Four Rules for addition, subtraction, multiplication and division and will learn to use them meaningfully.

c)

The child will realise the following ideas and will learn their application
(1) Properties of addition and multiplication, Associative law, Commutative law, Distributive law of multiplicative identities. Subtraction as the reverse operation of multiplications.

(2) Measurement-length, weight, capacity, coins and area.

(3) Fractions-simple fractions.

(4) Elementary knowledge of Geometry: Informal geometry and geometric symbols.

(5) Arrangement of facts - Arrowgraph, bargraph.

(6) Use of sings : To express the unknown numbers through sings, use of ' ' and

d)

The child will develop reasoning and thinking in his minds and he will learn to solve one step and two step problems.

e)

Natural inclination of the child towards interesting topics of Mathematics will grow in his mind.

f)

The child will be curious and inquisitive of the subject of mathematics.

Class : IV :

a)

Concept of numbers will be further extended and deeply rooted in children.

b)

The child will achieve active ideas on the construction of numbers stem and will develop a praise worthy inclination to it.

c)

The child will be able to develop logical thinking ability and analytical power.

d)

He will be able to do necessary accounts work in his daily life.

e)

He will be able to appreciate the utility of studying mathematics and will develop an interest in the subject.

f)

The pupil will realise the following ideas and will learn to apply them:

contd.....

Chart - 2 (contd.)

Class: IV :

- 1) Realisation of the importance of place value and digit value and their application in practical fields-multiplication and division by 10, 100, 1000 etc.
- 2) Explain in the methods of the fundamental four rules using the place value and the digit value. Fundamental four rules and the laws of their relations (cumulative law etc.) carrying and borrowing).
- 3) The fundamental four rules of decimal and vulgar fractions and laws of their relation. Number upto two decimal places and fractions of two digits.
- 4) Acquiring more perfect knowledge of geometrical figures introduced earlier to the pupils. Recognition of vertex, edge, comparing two geometrical figures through informal test and observation whether one is greater or smaller than the other or whether the two figures are congruent.

Class: V :

- Objectives (a) to (e) are same as in Class IV.
- f) The child will realise the following ideas and will learn their applications and uses.
 - (1) Extension of the concepts of multiplication and division and explanation of their operational processes. Solution of mixed problems on multiplication and division Unitary method.
 - (2) Tests of the divisibility by 2, 3, 4, 5, 9 and 10. Ideas of L.C.M. and H.C.F. by using union and intersection of sets. Determination of L.C.M. and H.C.F. by factorisation.
 - (3) Explanation and techniques of the First Four Rules of decimal fraction with the help of graph, geometrical figure and other materials.
 - (4) Elementary idea on percentage. Expression of decimal fraction as vulgar fraction in percentage and their inverse processes.
 - (5) Different measures used in daily life.
 - (6) Determination of distance between two points with the help of co-ordinates of points on the number line. Idea of mid-point and points lying on the line joining two points. Idea of the convex surface and the path in geometry.
 - (7) Drawing of angles and classification of angles.

SUBJECT : MATHEMATICS

CLASS I	IDEA OF A SET OF OBJECTS	FINDING COORDINATES	LEARNING NUMBER UP TO 5	IDEA OF ZERO	LEARNING TO COUNT	LEARNING TO COMPARE	UNION OF SETS & IDEA OF ADDITION	USE OF SYMBOL OF PLUS	KNOWING SHAPES & GEOMETRIC FIGURES
	DEFINITION OF SETS & IDEA OF SUBTRACTION	EXERCISES ON SUBTRACTION	MEASUREMENT	LEARNING NUMBERS UP TO TEN	KNOWING COINS & COUNTING	USE OF NUMBER LINES	LEARNING NUMBER	KNOWING SHAPES & GEOMETRIC FIGURES	KNOWING SHAPES & GEOMETRIC FIGURES
CLASS II	RECAPITULATION OF IDEAS ON NUMBER UP TO 20	IDEA OF EVEN AND ODD NUMBER	IDEA OF SUBTRACTION	IDEA OF MULTIPLICATION	IDEA OF FRACTION	USE OF SYMBOLS	MEASUREMENT	COINS	GEOMETRICAL FIGURES
	LEARNING TO READ & WRITE LARGE NUMBER	EXTENSION OF IDEAS ON PAGE VALUES	RECAPITULATION OF SETS AND SUB - SETS	MEASUREMENTS & UNITS	IDEA OF FRACTION AND THEIR USES	USE OF REASONING	ANALYSIS OF GEOMETRICAL PROPERTIES OF A SOLID OBJECT	SUCCESSIVE ORDER & ARRANGEMENT OF FACTS & THEIR TREATMENT	USE OF SYMBOLS
CLASS III	WRITING AND READING NUMBER UP TO ONE CRORE CONCEPT OF MILLIONS & BILLION	ADDITION IN ROWS AND SUBTRACTION OF NOS. OF NOT MORE THAN SIX DIGITS	LEARNING MULTIPLICATION UP TO 16 X 10 & MULTIPLICATION UP TO 9999 X 99	USE OF SENTENCES "WITH, IF, THEN"	FORMING CONCEPT OF FACTORS AND MULTIPLES USE OF IDEA OF SET	EXTENSION OF CLASS OF NUMBERS	FORMING CONCEPTS OF DECIMAL FRACTION CONVERSION VICE-VERSA	SOLVING TWO STEP PROBLEMS USING IDEAS OF ADDITION AND MULTIPLICATION	MEASUREMENT
	DETERMINATION OF APPROXIMATE VALUE UP TO CERTAIN DECIMAL PLACES	RECOGNITION OF VERTICALS EDGES & FACES OF GEOMETRICAL FIGURES	USE OF SYMBOLS	DECIMAL FRACTION AS THE EXTENSION OF THE COLLECTION OF NUMBERS	PREPARATION OF BUDGET AND ACCOUNTS	MEANING OF WORDS "AND", "OR" USED IN MATHEMATICS	USE OF FIGURES AND ARGUMENTS IN SOLVING VARIOUS PROBLEMS		
CLASS IV	NUMBER REVISION OF LESSONS FOR CLASS IV	DEFINITION OF STRAIGHT LINE IN TERMS OF TWO LETTERS AT TWO ADJACENT POINTS	IDEA OF LENGTH OF STRAIGHT LINE IN TERMS OF TWO LETTERS AT TWO ADJACENT POINTS	MEASUREMENT	MEASUREMENT	MEASUREMENT	MEASUREMENT	MEASUREMENT	MEASUREMENT
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CLASS V	NUMBER REVISION OF LESSONS FOR CLASS IV	DEFINITION OF STRAIGHT LINE IN TERMS OF TWO LETTERS AT TWO ADJACENT POINTS	IDEA OF LENGTH OF STRAIGHT LINE IN TERMS OF TWO LETTERS AT TWO ADJACENT POINTS	MEASUREMENT	MEASUREMENT	MEASUREMENT	MEASUREMENT	MEASUREMENT	MEASUREMENT
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have been prepared keeping in view the expected outcomes. The syllabus of mathematics from classes I to V also contains nine sections like the syllabus of language. The structural presentation of the mathematics syllabus is well graded. The content of the syllabus have been presented logically and sequentially. It can be observed from Chart 2 that the syllabus did not consider the maturity of the children in the primary level as the syllabus of mathematics seemed to suffer from overburdening. For instance, the children of age group 5+ have to complete sixteen major units, including the idea of sets, measurement, coins and counting, use of number lines, knowing geometrical shipes and figures etc. It appears that the syllabus of mathematics is modern and up-to-date. But it is doubtful whether the teachers of the primary schools are well equipped for this. It has been observed that the curriculum was introduced without field trial and without providing training to the teachers for practising the same syllabus. It seems that too much emphasis has been given to geometry in the syllabus. It can be seen that the modern concept of measurement has been introduced in the syllabus but at the same time outdated local measures also are there. Preparation of budget account, and preparing the graphs and figures in accordance with the real situation and subject matter are highly appreciable inclusions. On the whole, the syllabus of mathematics seems to be somewhat difficult for the children of the age group 5+ to 9+. The present syllabus and textual materials have been carefully prepared to provide

necessary skills, logical treatment of mathematical ideas, necessary understanding of the nature of subject and its functional and utilitarian aspects. However, greater attention should have been paid to better graded placement of mathematical concepts, integration of arithmetic and geometry so that intuitive and informal conceptual background of the growing child are built into the textual materials.

(C) Environmental Studies :

It has been observed in the previous section that the National Education Commission had suggested teaching history, geography, and science in the elementary stage. But the NCSC introduced environmental studies at the primary level in an integrated way which consisted of social studies and science. It is a highly laudable step taken by the curriculum and syllabus committee. Through this message, the Committee tried to cope with the modern thought adopted by UNESCO regarding the trends in environmental education. UNESCO (1977) states that Environmental Education is to be related to the processes that involve the identification and development of values and clarification of concepts in order to develop problem solving skills - both mental and manual, which would lead to an understanding and appreciation of the interdependence of man, his culture and his physical surroundings. It defines the structure of environmental education as an area of study which is (a) value oriented, (b) problem centred, (c) interdisciplinary, (d) community oriented, (d) based on student initiated activities and involvement, and (f) present and

future oriented. The major emphasis of environmental education curriculum is on learning situations where the young may learn to see the range of problems associated with their immediate needs and with those of the nation and all mankind. The environmental studies content is therefore selected so as to ensure the coverage of environmental aspects from the immediate to the wider environment of the child with a balanced concentration on both the bio-physical and the socio-cultural aspects.

The environmental studies curriculum, as recommended by the National Curriculum and Syllabus Committee reflects two main approaches. At the class I and II level, immediate environment is taken as the main source for organising activities for knowing and improving the environmental awareness of the children through experience. At classes III to V, environmental studies consist of social studies and science. The implication of teaching environmental studies, as a body of information does not emphasise the division of content into separate subjects but attempts to integrate concepts about the environment in an interdisciplinary perspective. It can be observed from Chart 3 that integration has been attempted in the case of social studies and general science by putting them together under environmental studies. It can also be observed that the syllabus of environmental studies also includes work education in an integrated manner. The course comprises such activities as helping in work situations in the home, in the school and in the community. It is to be noted that this subject is to be taught without the help of

CHART - 3

OBJECTIVES : ENVIRONMENTAL STUDIES

(CLASS I - V)

- Class : I :
- a) To know about the family environment.
 - b) To know about the food and its sources.
 - c) To know about clothing.
 - d) To know about the place of shelter and housing.
 - e) To get an idea about the different kinds of home in the local environment.
 - f) To know about the same and domestic and animals.
 - g) To get an idea on directions, fine and distance.
 - h) To know about the environment of the school.
 - i) To know about the social environment of the locality/village.
 - j) To know about occupations of different people living in the local environment.
 - k) To know about the local transport system.
 - l) To get an idea on cleanliness.
 - m) To get practical knowledge about entertainment and festivals.
 - n) To be aware of the natural environment.
 - o) To get an idea on heat and light.
 - p) To get an idea on weather and season.
- Class : II :
- a) To gather knowledge on family environment.
 - b) To know about family relations and friendship.
 - c) To know about home and furniture.
 - d) To know about local market places, transport and communication system.
 - e) To know about the environment of the school in details.
 - f) To get an idea on local environment, peculiarities of nature through observation.
 - g) To form an idea on air and water.
 - h) To form general idea on living being and matter found in the local environment.
 - i) To know about the necessity and preservation of food.
 - j) To grow a sense of security in the life of the child.
 - k) To know about hygiene and environment.

Chart - 3 (contd)

Class : II : l) To form the habit of cleanliness.
m) To arouse a sense of social behaviour courtsey and discipline.
n) To form an idea on local culture.
o) To form an idea on national function.
p) To know about the local history.

Class : III : a) Acquiring an idea on the family of the pupils and members of the family in the locality. Relation with relatives, neighbours, guests and others. To be aware to the manners and conduct in respect of them and to be conscious of the society, social duties and responsibilities. Development of mental faculties and personality through learning of rules for collective life and living.

b) To know about the people, in the environment of the pupil, with different occupations and to be respectful to their diligence and labour. To know about food, dress, houses, transport and communication system of the above environment.

c) To form a general idea on the pupil's own region and area (quarter, ward and village) grown in coordination with natural and cultural heritage and acquisition of knowledge through observation illustrative and informative in nature and to be acquainted with the development work of the area.

d) To be acquainted with the ways of life and the activities of the people according to environment.

e) To be able to distinguish the environment between the present and past and between the present people with the people of the begone days.
Acquisition of knowledge on the history of establishment of human authority and superiority over the animal world and nature.

contd...

Chart : 3 (contd.)

- Class : IV :
- a) To know about different works of men in relation to the progress of social system.
 - b) To know about the change of environment and its effect on man, animal & plant.
 - c) To obtain general idea about the bigger area then the people own area constructed with natural and cultural and to be acquainted with the different development projects. To acquire knowledge about these areas through observation, examples and informative media.
 - d) To be acquainted with the life and living and culture of different areas and know about the tribal life and culture of special areas such as chakma and garo. Acquiring knowledge on cultural heretage by being acquainted with historical examples culture.
- Class : V :
- a) To know about Bangladesh as an independent country, her national flag, symbol and national song, the peoples and the administrative system and to be acquainted with a duties and responsibilities as a citizen and develop themselves as a good citizen of the country.
 - b) To know about the historical evolution from ancient times to present days, gradual passing over and emergence of Bangladesh. To acquire knowledge of the national history and tradition and to be imbued with the national ideas and national feelings.
 - c) To know about the location of Bangladesh and geographical features (such as natural economic, social and cultural and population etc.).
 - d) To know about the human society of the world and United National and to know about Bangladesh in relation to them and to know about the roles of United Nations in different development programmes of Bangladesh.

Subject : ENVIRONMENTAL STUDIES (SOCIAL STUDIES)

Class III :	Social Environment	Pupils' Own Environment	Region & Regional Environment	Different Ways of Life and Activities	Human Environment
Class IV :	Environment and Living Conditions	Change of Environment and Man's Life	Region and Regional Environment	Life & Living in Regions & Cultural (in the perspective of Bangladesh)	
Class V	Bangladesh as an Independent Country	Emergency of Bangladesh	Location of Bangladesh & Geographical Features	Bangladesh and Human Society of the World	

OBJECTIVES : ENVIRONMENTAL STUDIES (SCIENCE)

- Class : III :
- a) Elementary idea of the world and the universe.
 - b) Elementary idea of the world as a place for human habitation audits natural environment.
 - c) Characteristics of earth's surface-acquiring primary knowledge on soil, water, air, weather.
 - d) Acquiring general knowledge on the animal world, and hygiene for keeping health.
 - e) Acquiring knowledge on the means and usefulness for preservation of environment.
 - f) Appreciate the importance and success fo science through stories of discovery.
- Class : IV :
- a) Introduction of earth and planets of the universe.
 - b) General ideas on different environments and reasons for changes in environments.
 - c) Elementary knowledge on the characteristics of earth's surface,soil,water, air and water and climate.
 - d) Elementary knowledge on animal and world and a man, influence of weather and climate.
 - e) Acquisition of knowledge on the usefulness of healthy environment and its preservation.
 - f) General ideas on the usefulness for preservation of environment and natural resources and the wags and means to preserve it.
 - g) Reflecting the importance and success of science through stories of discoveries.
- Class : V :
- a) To acquire ideas on the wonders of the world and the universe.
 - b) To obtain ideas on man and environment and the mutual relations and independence environment and aceleence.
 - c) To acquire general knowledge on the characteristics of earth's surface, soil weather and climate and matter and energy.
 - d) To acquire general knowledge keeping health and on mutual dependence of naimal world, plants and animals.
 - e) To appreciate the importance of scientific attitude on the problems of population influx and food and nutrition.
 - f) To acquire general knowledge on agiculture and agriculture system of Bangladesh.
 - g) To acquire knowledge about the natural resources of Bangladesh.
 - h) To understand and appreciate the success of science through stories of discovery.

Subject : ENVIRONMENTAL STUDIES (SCIENCE)

{ The World and
the Universe
{ Man and Environ-
ment
{ Inanimate
World
{ Animal
World
{ Hygiene

Class III:

{ Preservation
of Environment
{ Stories of
Discovery

{ The World
and The
Universe
{ Man and Environ-
ment
{ Inanimate
World
{ Animal
World
{ Healthy
Environment

Class IV :

{ Preservation
of Environment
{ Stories of
Discovery

{ The World and
The Universe
{ Man and Environ-
ment
{ Inanimate
World
{ Animal
World
{ Food, Nutrition
and Population

Class V :

{ Agriculture and
Development
{ Natural Resources
of Bangladesh
{ Stories of
Discovery

prescribed textbooks, in class I and II. The syllabus prescribed for this stage of education appears to be very heavy, and beyond the capacity of the children. It is overloaded with information instead of emphasising processes.

SECTION-III :

3. Textbook for Primary Education :

Textbook is one of the important curricular materials which help in generating educative interactions in the classroom between the teacher and the learner, and also between the learner and the co-learners as a result of which instructional objectives can be achieved. Admittedly in some instances, they are used as the only source of securing information for the students. In many situations, textbook is the course of study for a subject. Therefore, a textbook may be defined as a systematic organisation and presentation of selected and summarised instructional materials, based on the prescribed syllabus, keeping in view the needs and interests of the pupils to facilitate teaching and learning for the accomplishment of desired goals of the subject for a particular class. It is evident that textbook is instructional material and it only contains selected materials in condensed form and is organised in a systematic way for the attainment of instructional objectives of a subject for a particular class.

(i) Functions of Textbooks :

The essential function of textbook is to make the knowledge, which does exist, available to learner in a selected and ordered way. In fact, textbooks are prepared in the manner so that they may be used by the teacher to fit his own particular teaching situation. It helps the teacher to organise and develop major ideas, relationships, knowledge and skills in the students in a particular subject area. Textbook can help in cultivating desired attitudes and values in the learners' mind. As a learning aid, textbook can be used before the lesson, during the lesson, after the lesson and for self-learning. A textbook can be helpful even to the inexperienced teacher as it provides a guide for him in his teaching. It helps to reinforce learning that originates in the classroom or laboratory, in field-trip or outside the school. Such reinforcements come from self-study and homework as well as independent reading.

In view of its important function, text books are and will remain the most commonly used teaching aids in the schools of the world. The importance though, of course, varies from country to country. Still, it is universally recognized as a basic teaching tool; special emphasis is being given increasingly to the textbook in those countries where additional reading materials are not widely available to school children. This is particularly true of the developing countries of the world. Bangladesh, being a developing country is not an exception in this regard.

The provisions for textbooks of adequate quality and quantity have been a problem in Bangladesh that has been a matter of concern to the educational authorities of the country for many years, particularly at the primary school stage.

(ii) Characteristics of a Textbook :

A textbook of high quality attempts to present the materials in consonance with the syllabus of a particular course in a manner and language which can be easily understood by the children for whom the book is written. Moreover, it is built upon what the children have learned previously and is a preparation for what they will be expected to learn at the next level ideally; yet, the reading of textbook does not present the sum total of classroom instructions. Rather it serves as the thread of continuity and the central focus for learning that is expected to take place. It provides a basis for learning, knowledge, attitudes and skills in a specific subject for which it is written and it may have to be supplemented by numerous other resources like supplementary books, handbooks, guidebooks, workbooks, community resources and so forth. In this sense, no textbook should be taken as self-sufficient, although it must comprehensively cover the whole syllabus. A textbook with the characteristics described above cannot be prepared single-handedly. It needs the involvement of a group consisting of subject specialist, educationist, classroom teacher and so on.

(iii) Machanism of the Preparation of Textbook for
Primary Education in Bangladesh :

Before 1960, production and distribution of almost all the textbooks at the school level of education in this country were in the hands of private publishers. Only a few books of classes IX and X were published by the Education Board as there was a public examination at the end of Standard X. These books were on Bengali, English, Arabic, Urdu, Sanskrit etc. for classes IX and X.

As a general rule, the publishers were to submit the manuscript of the books written by different authors according to the syllabus, to the Directorate of Public Instruction for approval. The approval of the book would be notified through announcement in the Government Gazzete. A number of books for the same subject and class in this process used to receive such approval as textbooks. The approved books were then published by the publishers and made available in the market. The school would select, out of many, one set for each class. This system had created vested interests among education officers, publishers and vitiated the moral atmosphere of educational instructions.

In 1961, a Textbook Board was established by the then Government as an autonomous body under the direct control of the Ministry of Education of the erstwhile East Pakistan with a view to monitoring the production and distribution of good quality books for school children at a reasonable

price. The tectbook Board in course of time took the responsibility of producing and distributing all the text-books of both primary and secondary levels of education in the country. The Textbook Board since then, has been supplying the textbooks at reasonable prices.

While preparing a book, the Board used to appoint experts in respective subjects individually or in a group to write manuscripts. The manuscripts were then reviewed, edited by a group of experts in textbook preparation in the subject concerned. One or two manuscripts were selected and the authors were paid a stipulated amount in exchange of copyrights which were vested in the Board who published the books. Finally, the books were printed under the direct control and supervision of the Textbook Board for being distributed through their agents.

This process of production of textbooks was not above criticism. Favouritism in appointing writers by the Board was the main point of such criticism. However, recently a new strategy had been adopted specially in the production of science textbooks. According to this strategy, sample manuscripts were first invited from the interested writer or a group of writers through advertisement in the dailies, on a specified portion of the syllabus. The sample manuscripts were then assessed by experts. The best writers, on the basis of the assessment of sample manuscript by the experts, were selected for writing the text books. The existing text-books of classes I to V have been prepared through this process.

(iv) Number of Textbooks in the Primary Stage :

There are, at present, 22 textbooks for the primary stage of education. Out of these 22, five are for mothertongue and five for mathematics (one for each class), three for environmental studies (Social Studies), three for environmental studies (Science) and three for English, one for each class from classes III to V; three for religious education from classes III to V with one book for one religious group in each class. Details in terms of date of publication of various textbooks etc. are given below.

Title	Date of Publication	Class for which meant	No.
1. Mothertongue	1982(III), 1981(III) 1980(IV,V)	I - V	5
2. Mathematics	1982(I), 1980(II, III, IV), 1981(V)	I - V	5
3. Paribesh Parichiti	1981(III), 1982(IV, V)	III - V	3
4. Paribesh Parichiti (Bigjyan)	1980(III), 1981(IV), 1982(V)	III - V	3
5. English		III - V	3
6. Religious Education		III - V	3

(v) Supplementary Book for Primary School Children :

Besides the specific textbooks for each of the classes, there are other supplementary books and work books and handbooks for the student as well as for the teachers. There are five

Bengali supplementary readers for classes I - V (one for each class). It is worthwhile to mention that recently the Government has issued a circular forbidding the use of supplementary readers. There are two workbooks in Mathematics for classes I and II (one for each class) and the English workbook for classes III to V (one for each). Only in 1981, five teachers' guides have been published by the National Curriculum Development Centre with the financial help of UNICEF. Out of these five teachers guides, one is for class I and II; one is for Bengali for classes III, IV and V; one is for mathematics for classes III, IV and V; one is for environmental studies, religious education, art and craft, physical education and music for classes III, IV and V; and one is for English for classes III, IV, and V. It has been learnt that the textbook writers while submitting the manuscripts of each textbook also submitted the teachers' guides. But, the Textbook Board did not print them as they did not consider it commercially profitable.

Procedure :

Study of the textbooks of mothertongue, mathematics, environmental studies (Samaj) and environmental studies (Bigjyan) from classes I to class V was done in accordance with the plan depicted in the fifth chapter. The investigator prepared an analysis sheet for analysing the textbook according to the criteria discussed in the preceding section. Information about the above-mentioned textbooks of all

classes were fed into the analysis sheet by the investigator himself. The data from the analysis sheet were tabulated suitably for interpretation. Data were also obtained with respect to textbooks in different subjects in the form of perception of teachers. In all, such data on teachers' perception were collected from 50 primary school teachers.

Criteria for Textbooks Evaluation :

Criteria specify the evidence on various aspects of the textbook on the basis of which inference can be made as to whether a particular principle of writing the textbook has been observed or not. It is against these criteria that each and every aspect of the textbook has to be evaluated. Such criteria can be developed on the basis of available literature and opinion of experts in the field. Also evaluative criteria and the tools of evaluation can be developed on the basis of the principles of textbook preparation.

Not many researches have been conducted in Bangladesh in the field of textbook in general, and even in particular, to evolve any objective criteria which could be used for evaluation or analysis of textbooks in Bangladesh. It is evident from the statement of the National Education Commission (1974) that there is need for research in the preparation and production of textbooks. The textbooks which were prepared a decade ago are still being followed in the schools with only minor modifications. The Commission also suggested that

the curriculum and syllabus Committee should clearly lay down the criteria and principles for the preparation and printing of textbooks. In accordance with the recommendations of the Education Commission the National Curriculum and Syllabus Committee of Bangladesh has formulated some guidelines or criteria for preparing the textbooks and other curricular materials. Excepting this little effort, no other systematic attempt has been made so far in this direction within Bangladesh.

In India, some attempts have been made by the NCERT, in the direction of evaluation and improvement of textbooks. The Council has conducted a number of seminars on textbook research and has evolved a criteria for preparation and evaluation of textbooks in different subjects which have been published in the form of brochures. The investigator has considered the literature published by the experts of the NCERT and the theoretical norms and criteria suggested by the National Curriculum and Syllabus Committee of Bangladesh in arriving at a formal set of criteria for evaluating the textbooks. This has been described in the following:

A complete analysis of the textbook will reveal that there are two types of features which become apparent, viz., (1) Physical features (2) Academic features. These two categories can further be analysed into specific aspects as presented below.

TEXTBOOK

PHYSICAL ASPECTS.	CONTENT ASPECT
Size	Content: its presentation, organisation
Cover	
Binding	Language
Quality of Paper	Illustrative Materials
Printing	Exercises
Total Number of Pages.	

For the present study, the investigator has adopted as the criteria, the specific guidelines set for the preparation of textbooks by the National Curriculum and Syllabus Committee while preparing the syllabus. Thus, each textbook is being examined under the present study with respect to the following five aspects.

- (1) Physical aspects of the textbook.
- (2) Content of the textbook and its organisation and presentation.
- (3) Language of the textbook.
- (4) Illustration used in the book.
- (5) Exercises provided in the book.

Detailed explanation of these items are provided here below, which can be taken as the operational definitions adopted by the investigator to be applied for evaluating the textbooks in Bengali, Mathematics and Environmental studies, used in the primary schools of Bangladesh.

(1) Physical Aspects :

- i) Cover of the Textbook : The design of the cover page of the textbook should be attractive, bright and appealing. The paper used for the cover should be thick enough and the cover should be multi-coloured.
- ii) Quality of Paper : Best Quality of Paper and ink should be used in printing textbooks. The paper should be white and thick.
- iii) The textbook used by the pupils should be bound so that they stand up to rough handling.
- iv) Size of the textbook : The number of pages, the length and breadth of the textbook on various subject in the primary stage should be as follows:

	Total Page					Length & Breadth				
	I	II	III	IV	V	I	II	III	IV	V
Mother tongue	50	80	100	125	150	9"x7"	9"x7"	8½"x6½"	8½"x6½"	8½"x5½"
Mathematics	60	100	100	100	100	7"x9"	7"x9"	7"x9"	7"x9"	7"x9"
Environmental Studies	-	-	50	60	75	-	-	8½"x6½"	8½"x6½"	8½"x5½"
Environmental Science	-	-	60	80	80	-	-	9"x7"	9"x7"	9"x7"

v) **Type Face (Printing):** The following type sizes are recommended for textbook of different classes by the NCSC. 72 point for alphabets, 48 point for word, 38/24 point for sentences in the textbook of mother-tongue for class I. For class II, 12 point for conjunct letter, 18 point for reading text and 12 point for exercise in the mothertongue textbook; while for the classes III to V, it was 12 point pica in all cases. In mathematics, the textbook text should be pica bold, and exercise in pica. In environmental studies textbooks, printing should be in 12 point pica.

vi) **Clarity in Printing :** The NCSC emphasized that the printing of all the textbooks should be faultless and clear.

(2) Presentation of Content and its Organisation in Textbooks :

In this study, presentation includes only the order of lessons or formation of some kinds of units of lessons. This is because the NCSC has already mentioned in their report, what kinds of content are to be included in the textbooks and how those contents are to be presented and organised in the textbooks. This study will only examine whether those conditions are fulfilled in the textbooks in accordance with the direction laid down in the syllabus.

- (i) Nature of content in conformity with syllabus:
The textbooks relate to syllabus. So, the nature of the content should be in line with the set content of the syllabus. In Bangladesh, NCSC has already stated the nature of the content of the textbooks. Thus a close examination of the textbooks has been made with the help of the prescribed content of the said syllabus.
- (ii) Number and Length of lessons in the Textbooks: The NCSC has specifically mentioned the number of lessons, units, and the length of the lessons in different textbooks at different stages.
- (iii) Clarify in Presentation : The content is to be presented in a simple and clear manner arranging the material in a logical and sequential order so that pupils may digest the material in an easy and methodical way through a gradual process.
- (iv) Integration of Materials : The NCSC recommended that the textbook should be in such a form that the children can learn reading and writing at the same time. The content should be correlated among all the subjects. It should afford opportunities to pupils to experience problem solving.
- (v) Presenting variety of concepts or situations: The textbook must contain a variety of stories, poems, concepts, facts, ideas, problems etc. involving various situations according to childrens' mental ability.

(3) Language :

The language of the textbooks may be analysed on the same lines, but in primary classes alphabets, vocabulary, forms of language, mode of spelling will be the items to be mainly considered. These items are mostly considered in language textbooks, but it is true that the other textbooks for primary stage should also follow the same language structure which are developed through language textbooks.

- (i) Use of Alphabet : The NCSC recommended that all the Bengali letters except the three letters like ঞ, ঠ, ড, (ঞ, ঠ, ড) should be used in the Bengali textbooks alphabetically at grade I. Emphasis should be given on words and sentences in the textbook but not on letters. The textbook should contain familiar words of graded difficulty. Conjoint or compound words should as far as possible be committed in the textbooks of first grade.
- (ii) Vocabulary : Only words and idioms will be included under vocabulary in this study. NCSC suggested that vocabulary should be built up gradually so that new words are introduced keeping in view the child's capacity at each age level.
- (iii) Form of Language to be used : The NCSC suggested that all the textbooks must be written in spoken language but there may be exceptions in case of rhymes and verses.

(iv) Mode of Spelling : There is obviously need for maintaining similarity of spelling through out all textbooks. It means that the spelling of a word should be same in all the cases.

(4) Illustrative Materials :

The NCSC suggested that there should be pictures, charts, diagrams in the textbooks wherever they are necessary. They also mentioned that in each and every lesson, the language textbook should be set with bright and attractive pictures, and in case of mathematics, appropriate pictures, charts and diagrams should be set and the same should be followed in case of environmental studies. The quality of the illustrative materials should be examined with respect to the following aspects:

- (i) Size : The size of the illustrations must be meaningful to the child. The illustrations of different sizes viz, stamp, passport, card and full page will be counted in different textbooks.
- (ii) Clarity and Attractiveness : The illustration of all the textbook should be clear and attractive. The NCSC suggested to use multi-colour illustrations, so that they can motivate the children.
- (iii) Relevance : Illustration should be placed at such a point that it may be conveniently referred to while the students are reading the text.

(5) Exercises :

The exercises given in the textbooks will be analysed on the following dimensions:

- (i) Number of Exercises : The NCSC suggested that sufficient number of exercises should be provided in all the textbooks. The exercises of each textbooks will be counted and will be examined in relation to the corresponding lessons.
- (ii) Variety of Exercises : There should be variety of assignments and exercises which should test pupils' knowledge, attitudes and skills. They should also test the pupils' ability for application of knowledge in new situations.
- (iii) Adequacy : Exercises should be well distributed covering all the major aspects of the unit. Adequate exercises are to be provided to test the knowledge of pupils with regard to language proficiency, mathematical skill and knowledge about environment.
- (iv) Forms/Types of Questions in the Exercises : The NCSC suggested to provide essay type, short-answer, and objective types questions in the exercises. The objective type question may includes such types as multiple choice, matching, right/wrong, true/false and Yes/No. The committee also suggested providing work experience tasks in the lessons.

EVALUATION OF MOTHERTONGUE TEXTBOOKS :

(A) Physical Aspects :

All the five Mother tongue textbooks on actual measurement were found to be 9" x 7" size. The NCSC prescribed 9" x 7" size for the mother tongue textbooks of classes I and II, while 8½" x 6½" size for classes III to V. Thus, with respect to size, the textbooks were in broad conformity with the recommendations made by the NCSC. The cover of all the mother tongue textbooks were found to be made of thin paper. In order to make the cover attractive to the students, pictures with different colours were printed on the covers. The majority of the respondent teachers (60 per cent also opined that the cover of the textbook was attractive. All the mother tongue textbooks were found to have stitched binding with frail thread. This was not in line with the NCSC prescription which required that all books upto 64 pages should be centre-stitched by thread and the books with more than 64 pages should be sewn with thread. Also, 93 per cent of the teachers felt that the binding of the book was not durable enough to withstand rough handling by the children over the year. The mother tongue textbook for class I and II were found to have been printed on white paper while the books for classes III to V were found to be on 'newsprint' paper. This kind of paper is brownish in colour and its surface looks rough and is less durable. The NCSC recommended that the paper for printing of the textbooks for primary school children should be white

and thick. The textbook board seems to have ignored this criterion. Among the teachers, 93 per cent felt that the quality of paper was not good. It might be noted that the price of newsprint paper is comparatively cheaper than the white paper available in the country. The purpose behind the use of newsprint paper in printing textbooks was, perhaps, to keep the price of the same low and within the purchasing capacity of common people. However, it is questionable whether the quality should have been compromised for economising on the cost, considering that textbooks are the only reading and reference material available to a large section of teachers and students of our country. The total pages of the mother-tongue text-books were found to be 56, 95, 87, 100 and 120 for classes I, II, III, IV and V respectively. The NCSC clearly mentioned the total pages for the mothertongue textbook of each class in their reports. They prescribed 50 pages for class I, 80 pages for class II, 100 pages for class III, 125 pages for class IV and 150 pages for class V. Thus a noticeable deviation had been made in respect of total pages of mothertongue textbooks in all classes. On examination of the textbooks, it was found that the size of letters used were in consonance with the criteria set by NCSC. Deviation was found only in the case of classes III to V where 10 point letters had been used instead of 12 point in exercises only. It was found that except the mothertongue textbook of class I and II, the printing of all other textbooks lacked clarity. This might be due to the

inferior quality of paper. Among the teachers also 77.78 per cent opined that the printing of the textbooks was not clear.

(B) Content : Its Presentation and Organisation :

The NCSC had clearly mentioned in their report about the total number of lessons for the mothertongue textbooks of each class. It was found that except for minor variations, the position regarding the number of lessons of the textbooks were in conformity with the specification of the NCSC. The NCSC suggested that the length of a lesson in Bengali for class II should be as small as possible. It should not be more than four pages, including exercises. For the textbooks in class III, and IV, it should be within 5 pages, including exercises. And for class V the length of a lesson should not be more than six pages with exercises. It could be observed that the length of lessons was within the limits prescribed by the NCSC. Also, 71.11 per cent teachers held the view that the length of lesson was appropriate for the children of the respective stages. On examination of each of the five textbooks, following features could be noted. The presentation of the content of the textbooks of class I began with the introduction of oral lessons consisting of pictures of known objects and animals followed by construction of sentences through pictures, rhymes in pictures, reading and writing. The subject matter of the lesson was based on realistic situation of life such as family life and relation,

natural scenery and beauty, season, food, fruits, drink etc. One lesson introduced referred to the cart, moon of Id-day, activities on the Id-day, river, market etc. The concept of Id has further referred to in different ways, such as, 'We will pray in the Idgah'. The presentation of content was in general conformity with the syllabus.

A closer examination of the content and its organisation of all other mothertongue textbooks also revealed that they were in conformity with the content prescribed by the NCSC. When teachers' perception on mothertongue textbooks were obtained, 53 per cent teachers felt that the content of the textbooks had been presented in such a way that the children could recognise the content matter themselves. They also felt that the content could create interest in the children. It could, on the whole, be concluded that the content of the mothertongue textbooks were in conformity with the content prescribed by the NCSC.

It was found that the compilation of materials in the textbook of mothertongue were partially in accordance with the age and ability of the children. 46.67 per cent teachers held the view that the books were written in accordance with the gradual development of the children. However, one of the experts specifically mentioned that the story named as 'बुढ़ा बूढ़ा' for class II was not appropriate for the age and ability of the children of standard II.

NCSC suggested that the textbook must contain a variety of stories, poems, concepts, ideas, etc. involving various situations. 88.44 per cent teachers opined that the textbooks included a variety of stories and poems. Thus, it can be stated that the textbooks were in consonance with the recommendation of the NCSC.

(C) Language :

The mothertongue textbooks of all the five classes were written in spoken Bengali language. 75.56 per cent teachers opined that except the poems and verses all the textbooks were in spoken language. Analysis revealed that the textbook for class I has been written according to sentence method. 91.11 per cent teachers were also of the same view. The use of alphabets and the use of vocabulary were in accordance with the guidelines given by the NCSC. The spelling used in all the mothertongue textbooks were not uniform. 77.3 per cent teachers observed that the textbooks lacked uniformity of spelling. For instance, the spelling of 'বিশ্ব' has been used in the story "বিশ্ব ও মহাকাব্য" but same word has been used with a different spelling "বিশ্ব" in the poem "করে বিশ্বাসী" in class II. Similar differences were observed in the spelling of 'সুখী' ও 'সুখী', 'বিশ্বী', ও 'বিশ্বী' . Also, 64.44 per cent teachers felt that all the mothertongue textbooks were written keeping in view the gradual development of the vocabulary of the children. The NCSC recommended to prepare the books in using more spoken language, to maintain

the uniformity in spelling, and prepare the textbook according to the ability and stock of vocabulary of the children. Thus it appears that the criteria as stated by NCSC were not fully followed although there was no serious deviation.

(D) Illustrations :

Examination of the mothertongue textbooks of all the classes revealed that the illustrations used in the books were of only one colour except in the textbooks of classes I and II. 93.33 per cent teachers also observed that all the textbooks were not provided with different coloured illustrations. In fact, 84 per cent teachers opined that the pictures were not even clear and bright. Sixty six per cent teachers felt that the illustrations and pictures used in the textbooks did not motivate the children, while 71 per cent teachers felt that the size of the illustrations were inappropriate. However, the presentation of the illustration and illustrative materials appeared to be adequate in all the textbooks. The NCSC suggested that the illustrations should be in different bright colours, relevant, clear, and attractive. It appears that the illustrations used in the textbooks-classes III to V deviated from the criteria set by the NCSC with regard to colour, clarity and appeal.

(E) Exercises :

Examination of each of the five textbooks in mother-tongue showed that the exercises were provided in the textbook of class I alongwith the lesson i.e., within the main content.

It is an appropriate approach for the beginners in reading, speaking, listening and writing. The exercises were provided in other textbooks at the end of the lesson. It was found that at the end of each lesson the exercises began with the meaning of words followed by objective type questions, short answer type questions, etc. About 64 per cent teachers felt that the language of the exercises were relevant, and 93.33 per cent respondents felt that there was proper conformity between the exercises and the text materials. According to 71.11 per cent teachers, the knowledge obtained by the learners from the text sound be measured by the exercises given in the textbook was admitted. Sixtyeight per cent teachers held the view that the exercises provided were not in accordance with the age of children and that the exercises did not provide any scope for applying childrens' imagination and creativity. Fiftyfive per cent teachers opined that the activities suggested in the textbooks were not compatible with the age group, while 60 per cent teachers thought that the exercises given in the books were practicable. It appears that the exercises in the textbooks mostly fulfilled the criteria, specified by the NCSC, except that the activities suggested were not in accordance with the age of the children as opined by majority of teachers.

Table : 7.1

Teachers' Perception with respect to Mother-tongue Textbooks :

Specific Items	Percentage of Responses	
	YES	NO
I. <u>PHYSICAL ASPECT</u>		
Attractiveness of the cover	60	40
Durability of the bindings	7	93
Quality of paper used	7	93
Clarity in printing	22.22	77.78
II. <u>CONTENT ASPECT</u>		
Appropriate length of lessons	77.11	22.89
Easily recognisable and understandable	53	47
Consideration of age and mental ability	46.67	53.33
Variety	88.44	11.56
III. <u>LANGUAGE</u>		
Use of spoken language	75.56	24.44
Presentation in Sentence method (Standard I Textbook)	91.11	8.89
Uniformity in spelling	22.7	77.3
Gradual development of the vocabulary	64.44	35.56
IV. <u>ILLUSTRATION</u>		
Use of multi-colour illustrations	6.67	93.33
Clarity and brightness	16	84
Motivating capacity	34	66
Appropriateness	71	29
V. <u>EXERCISES</u>		
Adequacy	91.11	8.89
Relevance	64.44	35.56
Conformity with the text material	93.33	6.67
Assessment of childrens' achievement	71.11	28.89
Consideration of Age and ability of children	32	68
Suggested activities in exercises	45	55
Practicability	60	40

EVALUATION OF MATHEMATICS

(A) Physical Aspect :

All the five mathematics textbooks on actual measurement were found to be 9" x 7" in size. The NCSC prescribed 9" x 7" size for the mathematics textbooks of all the classes. This size is therefore in coherence with the criterion relating to the size of books set by the NCSC.

The cover of all the mathematics textbooks were found to be made of thin paper. In order to make the cover attractive to the children different colour prints had been used. The cover of the textbook of classes I and V looked attractive due to the use of bright coloured pictures of children and diagrams of mathematical instruments. However, 78 per cent teachers opined that the cover of the textbooks were not attractive.

All the mathematics textbooks were found stitched bound with frail thread, although the NCSC prescribed that all books upto 64 pages should be centre-stitched by thread and books with more than 64 pages should be section sewn with thread. 93 per cent teachers felt that the sewing, binding and the paper used for cover were not good.

It has been observed that the paper used in the textbook of mathematics in class I was white while the books for classes II to V were found to be printed on 'news print paper'. 93 per cent teachers felt that the quality of paper

used in the mathematics textbooks was not good. Eventhough NCSC suggested to use good quality of paper, the Textbooks Board had deviated from the criteria.

It was found that the total number of pages of the textbooks were 64 for class I, 100 for class II, 116 for class III, 140 for class IV and 147 for class V. The NCSC prescribed 60 pages for class I, and 100 pages for classes II to V for each book. Thus considerable variation was found with regard to the total number of pages used in all the textbooks of all classes.

On examination of all the textbooks in mathematics, it was found that the printing size in all the books were pica. The NCSC suggested that the text material in classes I and II should be pica bold and exercises should be pica only while all other books should be pica throughout. It appeared that the textbook board did not make any difference between the text material and exercise in the textbook of classes I and II.

It was observed that the printing of all the textbooks were clear. The textbook of class I was clearer than the others. 62.22 per cent teachers were of the view that the printing of all the textbooks in mathematics were clear. Only, some pages of mathematics textbook in class III were not clear.

(B) Content : Its Presentation and Organisation

It was found that the number of units/chapters in the mathematics textbooks were 6 in class I, 16 in class III, 15 in class IV, and 13 in class V. The NCSC prescribed 16 units, 11 chapters, 9 chapters, 13 chapters and 14 chapters for classes I to V respectively. Thus only minor deviations were observed from the NCSC criteria.

It was found that the contents of the textbooks in mathematics for all the five classes had been presented in accordance with the syllabuses, as presented in the previous section. Also, 60 per cent teachers opined that the content of mathematics textbooks were in conformity with the syllabus and it were appropriate; 70 per cent teachers considered that the contents were related to the modern concept of mathematics; 90 per cent teachers expressed the view that content of the textbook were presented sequentially and continuously, and 85 per cent teachers agreed that there was coherence and continuity among different chapters. While only 65 per cent teachers opined that the contents of the text clearly spelt out the substance of mathematics, majority of the teachers (70 per cent) agreed that the contents had been introduced with the idea of local materials and resources which was in line with the recommendations of the NCSC. The principles and concepts of mathematics as presented in the textbooks were interesting to the children according to 45 per cent teachers only.

Analysis revealed that contents in the textbooks of mathematics were very heavy in comparison to the mental ability of the children as so many materials were presented in each of the textbooks; 65 per cent teachers opined that the content of the textbooks were beyond the understanding capacity of the children. Some of the teachers commented that some concepts were very hard for the children such as set, and certain geometrical ideas.

(C) Language :

The mathematics textbook in all the five classes had been written according to the approved alphabets with spoken language. But the vocabulary used in the textbooks indicated that some of the vocabulary in the textbook of classes I and II were very new and were not easily understandable to the students of the respective classes. 67 per cent teachers felt that the language used in the textbooks were not simple, although the NCSC suggested to prepare textbooks with a very simple language. Thus, it could be seen that the language of the textbooks of mathematics was not according to the NCSC criteria.

(D) Illustrations :

Examination of the mathematics textbooks of each of the five classes showed that only the textbook of class I provided illustrations with black and red colours. The remaining four books were only in black colour which was actually the printing colour of the whole book. Only the pictures presented in

class I textbook were clear. The illustrations given in the textbook were not even adequate. 96 per cent teachers also opined that the illustrations in the mathematics textbooks were not adequate. 50 per cent teachers felt that the illustrative pictures were not clear and correct. But most of the teachers (80 per cent) admitted that the placement, type, position, and size of the illustrations were appropriate. 76 per cent teachers opined that the illustrations of the textbooks helped in making abstract thinking realistic. The NCSC recommended that the illustrative material should be clear, relevant and appropriate in type, size, placement etc.

(E) Exercises :

Each mathematics textbook consisted of many chapters. In the beginning of each chapter in each textbook some concepts and examples have been given, thereafter the exercises had been presented. It appeared that the number of exercises and examples were not adequate. In fact, only 29 per cent teachers opined that the number of exercises and examples were adequate; 52 per cent teachers considered that the exercises are placed sequentially and orderly; 60 per cent teachers opined that the exercises were adequate for measuring the childrens' achievement; 54 per cent teachers were of the view that exercises were based on real life situations; and, 84 per cent teachers opined that exercises of the textbook did not fulfill the needs and desires of the children. However, 51 per cent teachers held the view that the exercises provided

in the mathematics textbooks were adequate for the average intelligence children to achieve mastery on the basis of the principles and exercises provided in the book. The NCSC suggested that the exercises in mathematics should be realistic, understandable, clear and correct. Thus it appeared that the textbooks of mathematics were not fully in accordance with the NCSC recommendation.

Table: 7.2

Teachers' Perception with Regard to Mathematics Textbooks:

Specific Items	Percentages of Responses	
	YES	NO
I. <u>PHYSICAL ASPECT</u>		
Attractiveness of the cover	22	78
Durability of the binding	7	93
Quality of paper used	7	93
Clarity in printing	62.22	37.78
II. <u>CONTENT</u>		
Conformity with the syllabus	60	40
Relation to modern concept of mathematics	70	30
Sequence in presentation	90	10
Coherence with other books and chapters	85	15
Clarity of presentation	65	35
Content in relation to local material	70	30
Mental ability	65	35
Interesting	45	55
Easy presentation	50	50
III. <u>LANGUAGE</u>		
Use of simple language	67	33

IV. ILLUSTRATION

Adequacy	4	96
Clarity and Correctness	50	50
Appropriateness in type, size, placement	80	20
Realistic use	76	24

V. EXERCISES

Adequacy	29	71
Appropriate placement	52	48
Measurement of childrens' Achievement	60	40
Based on real life situation	54	46
Correctness of the given answers	66	34
Related to Needs of the children	16	84
Graded Organization	51	49

EVALUATION OF ENVIRONMENTAL STUDIES TEXTBOOKS (SOCIAL STUDIES):

(A) Physical Aspects :

All the three environmental studies textbooks on actual measurement were found to be 9" x 7" in size. This was slightly higher than the size prescribed by the NCSC. The cover of the textbooks of environmental studies were made of thin paper. However, in order to make the cover attractive to the students pictures in different colours were printed on the cover page. All the social studies textbooks were found stitched bound with frail thread. But the binding was affecting its durability. All the three textbooks of social studies were found to be printed on 'newsprint' paper. It was brownish in colour and its surface looked rough and was less durable.

The total number of pages in the social studies textbooks were found to be 51, 76, 65 for classes III, IV and V, respectively. The NCSC mentioned the total pages of social studies textbooks for each class in the report. They prescribed 50 pages for class III, 60 pages for class IV and 75 pages for class V. The data revealed that the total pages of the social studies textbooks for class IV was more than the prescribed pages, while the class V textbook was having less number of pages than the number of pages prescribed by the NCSC. Size of the letters used for printing the textbooks on social studies included 12 point and 10 point letters which was in accordance with the NCSC recommendations. It was found that except for the textbook of environmental studies in class III other two text books had clarity of printing. In some places of the class III textbook, printing was not clear.

(B) Content : Its Presentation and Organization :

There were minor variations in the number of chapters and units in comparison to the NCSC specifications for the textbooks of class III and class V.

It can be observed that the organisation sequence and presentation of materials in all the three textbooks of environmental studies were very systematic. It was also found that the chapters maintained continuity with the previous and the next ones. None of the concepts included in the book was beyond the capacity of the childrens' understanding.

All the three textbooks provided variety with respect to concepts and ideas. It was also found that within the same lesson various concepts and ideas had been incorporated in an integrated fashion.

(C) Language :

Examination of all the three textbooks revealed that they were written in spoken language, which was in line with the NCSC recommendation. But certain complicated words had been used in the textbook of class V such as, 'সংস্কৃত', 'সংস্কৃত' although the NCSC suggested to use only simple words.

(D) Illustrations :

Examination of the environmental studies textbook of all the three classes showed that in all, 24 illustrations had been used in class III textbook, 29 in class IV textbook and 21 in class V textbook. All the illustrations were in single colour. The pictures and the photos used in the books were extremely vague and so disproportionate to look at that it was difficult to identify what the picture was. They were not at all appealing to the children. With regard to number and size most of them were inadequate. However, the illustrations were relevant and the placement of the illustrations were also appropriate.

(E) Exercises :

It was found that in each textbook of environmental studies exercises were provided at the end of each lesson. In

all, there were 8 exercises with 25 major questions in class III textbook, 17 exercises with 119 major questions in class IV textbook, and 13 exercises with 92 questions in class V textbook. Most of the exercises consisted of objective type, short answer and short essay type questions.

EVALUATION OF ENVIRONMENTAL STUDIES TEXTBOOK (SCIENCE) :

(A) Physical Aspect :

All the three science textbooks were found to be 9" x 7" in size on actual measurement, which was according to the NCSC prescription. The cover of all the science textbooks were found to be made of thin paper. However, it was found that the cover and the get up of the textbooks were attractive to the students, although there was ample room for improvement. All the science textbooks were found stitched bound with frail thread, affecting their durability. All the science textbooks were found to have been printed on news print paper. It was brownish, rough and less durable. This was clearly in variance with the NCSC specifications which suggested for using good quality paper in printing of science textbooks. The total pages of the science textbooks were found to be 51, 68 and 70 for classes III, IV and V respectively, which represented considerable deviation from the NCSC recommendation. It was found that all the three books had been printed using 12 point letters which was in conformity with the NCSC specifications. Also, the quality of printing was quite high with respect to clarity and readability.

(B) Content : Its Presentation and Organization

It was observed that all the three textbooks of science presented the contents chapterwise. Further, each chapter had been divided into number of units. The science textbook of class III consisted of six chapters with eleven units, the textbook of class IV consisted of seven chapters with 19 units, while for class V there were nine chapters with 29 units. Thus the division were, by and large, in accordance with the NCSC criteria.

Examination of the textbooks revealed that the content of the science textbooks had been presented systematically. There was high level of coherence and continuity between the contents dealt with at different levels.

On examination of each of the three textbooks of science it was found that the books were written largely following the enquiry approach. Most of the topics were presented in terms of what do children observe around them. The pictures and diagrams had been presented for further clarification. The compilation of the materials showed that the science textbooks had been prepared fully keeping in view the childrens' age and ability.

It could be seen from the presentation and organisation of the content that the various types of concepts had been included such as inanimate environment and its relation and

dependence with man, population and food problem, nutrition and health etc. There was high level of integration among the variety of concepts included in the textbooks. It was also found that the concepts which had been introduced in class III were developed further using concepts in class IV and V. It appeared that a highly systematic approach had been adopted in relating and organizing various scientific concepts in the three textbooks.

(C) Language :

The science textbooks of all the classes had been written in spoken Bengali language, which was one of the prescriptions of the NCSC. It was also observed that the language of the textbooks was easily understandable to all the students.

(D) Illustrations :

It was found that there were 49 illustrations in the textbook of science for class III, 88 illustrations in class IV and 55 illustrations in class V. All the illustrations in all the textbooks were in single colour. There was no difference between the colour of printing of the text and the colour of illustrations. The pictures and diagrams, however, were quite clear although they could have been further improved by providing multi-colour prints. The illustrations used in the textbooks were also appropriate in size and placement.

(E) Exercises :

Each science textbook consisted of many chapters. These chapters were again divided into two or more sub-chapters according to need. At the end of each chapter or sub-chapter exercises had been provided for practice and self-testing of the students. It was found that there were 12 exercises with 70 questions in the text book of class III, 12 exercises with 92 questions in the textbook of class IV, while in class V textbook there were 18 exercises with 95 questions. The questions included in the exercises were of various types such as essay type, short answer, and objective type. They also included questions involving problem solving, model development and such other activities. The number of questions in various exercises were found to be inadequate in all the classes. The exercises were appropriate for stimulating original thinking and activity out on the part of the students.

TEACHERS' PERCEPTION WITH REGARD TO ENVIRONMENTAL STUDIES
TEXTBOOKS

(A) Physical Aspect :

It was found that most of the teachers, (95 per cent) observed that the cover of the textbook of environmental studies were good and attractive, while 90 per cent teachers opined that the binding of the books was not durable enough. Also, 97 per cent teachers felt that the paper used in the

books was not good looking and durable eventhough, the printing of the environmental studies books was clear.

(B) Content :

It was observed by 95 per cent teachers that the content of the environmental studies textbooks were in conformity with the prescribed syllabi. 75 per cent teachers felt that the content were sequentially organised in an integrated manner. There was considerable variety in the content was the observation of 83 per cent teachers; 80 per cent teachers felt that the content of the textbook catered to children of different intellectual levels. About 90 per cent teachers considered that there was gradual unity in organisation and clarity in presentation in the textbooks.

(C) Use of Language :

The NCSC suggested that the language of the textbooks of environmental studies should be in spoken language, simple and the vocabulary used to be within the understanding capacity of the children. It was observed that 70 per cent teachers perceived that the textbooks were written in spoken language; also, 83 per cent teachers opined that the language was simple.

(D) Illustration :

The NCSC had suggested using sufficient illustrations of suitable size in every textbook. Majority of teachers

(55 per cent) observed that the illustrations used in the textbooks were adequate; and 63 per cent teachers agreed that they were also suitable in size. But, 80 per cent teachers perceived that the illustrations used in the textbooks were not attractive. Further, 95 per cent teachers felt that the illustrations of the environmental textbooks were relevant although majority of them (58 per cent) pointed out that the illustrations were not clear.

(E) Exercises :

I It was found that 90 per cent teachers perceived that the exercises used in the textbooks were adequate and that they had been used keeping in view the textual material. 58 per cent teachers felt that the exercises provided were capable of measuring the childrens' achievement; 60 per cent teachers agreed that the exercises included in the environmental studies textbooks provided scope and motivation for additional reading to the children. It was only 40 per cent teachers who felt that the exercises made provision for work experience, while 60 per cent teachers opined that the exercises provided in the textbooks were practicable.

Table : 7.3

Teachers' Perception with regard to Environmental Studies Textbooks.

Specific Item	Percentage of Responses	
	YES	NO
I. <u>PHYSICAL ASPECT</u>		
Cover of the book good and attractive	95	5
Durable binding	10	90

I.	<u>PHYSICAL ASPECT</u>		
	Durable paper	3	97
	Clarity of Printing	90	10
II.	<u>CONTENT</u>		
	Conformity with syllabus	95	5
	Proper organisation	75	25
	Suitability for different intellectual levels	80	20
	Variety	83	17
	Integrated approach	75	25
	Unity of organisation	88	12
	Clarity in presentation	90	10
III.	<u>LANGUAGE</u>		
	Use of spoken language	70	30
	Use of simple language	83	27
	According to the vocabulary of the children	90	10
IV	<u>ILLUSTRATION</u>		
	Adequacy	55	45
	Suitable to grades in terms of size	63	37
	Attractive in terms of Colour	20	80
	Relevant	95	5
	Clear	42	58
V	<u>EXERCISES</u>		
	Adequacy	90	10
	Conformity with the text material	92	8
	Measurement of children's ability	58	42
	Scope for additional study	60	40
	Provision for work experience	40	60
	Practicability	60	40

SECTION - IV

TEACHERS' HANDBOOKS :

Teachers' handbooks are prepared in order to offer practical suggestions to the teacher, to provide specific techniques for developing the contents presented in the textbooks, and to extend and enrich the learning experiences that are offered to the students. It is a book for quick reference to information needed in the teachers' daily tasks as there is a real need for referring to a compact compilation of important facts, principles, theories, and data in each of the various phases of teaching-learning process. Another function of the teachers' handbook is that of stimulating teachers and others interested in the profession to further study in the field.

However, teachers' handbooks are designed as guides only, which contain helpful suggestions about instructional materials and aids, community resources and their appropriate use, teaching methods and procedures, assessment procedures, etc. These suggestions are only intended as means of helping teachers to come to a method of their own for presenting the material. Thus teachers' handbook must be considered as part of the instructional materials resources available to the teacher. A well-developed set of handbooks would guide the teacher in planning his teaching activity. Teacher can, with the help of handbook, go from a simple task to a more complex

task. The teachers handbook would give him a sequence of lessons already organised in a graded fashion.

According to the guidelines given in a UNESCO (1981) report, a teachers' handbook should specify curricular and syllabus goals; characteristics of methods of teaching and testing, weightage for lessons, skills and other matters; general introduction to exercises and drills, guidelines for the preparation of home assignments, suggestions for further reading and the like. It should also include guidelines for the maintenance of records of learners' progress, difficulties faced in teaching-learning, length of time to be devoted for teaching particular lessons, and so on. It should also contain the specific methods for particular lessons, relationship of one lesson with another, questions for the teacher to test the students' comprehension of what is studied, tips for conducting review lessons, information for giving additional exercises and reference information. Considering these roles, place and functions of teachers' handbook, the National Curriculum and Syllabus Committee of Bangladesh suggested to prepare teachers' handbooks for the primary school teachers. The Committee also laid down in their report, specific guidelines for preparing the teachers' handbook for each subject and each class. These guidelines which are reproduced below have been taken as the criteria for evaluating the teachers' handbooks in the present study.

Criteria for Evaluation of Teachers' Handbook on
Mothertonque :

- (a) Objectives of teaching Bengali should be clearly and elaborately stated in the teachers handbook.
- (b) Instructions regarding the expected behaviour of the children should be there with respect to each lesson in accordance with its major objectives.
- (c) There should be explanation and analysis of each lesson of the textbook for helping the teacher in imparting the lesson easily.
- (d) Detailed discussion of modern and scientific method of teaching mothertonque and its application should be there.
- (e) There should be detailed discussion and mention of teaching aids for each lesson and their appropriate use in the classroom. If necessary the picture of the aids can be given. It should be specifically mentioned that the teacher should use the locally available aids.
- (f) The language based activities which would have been given in the exercise at the end of each lesson of each book should be explained in detail.
- (g) There should be supplementary lessons and exercises in order to make the text lesson effective.
- (h) Explanation and examination technique should be provided
- (i) Objectives of teaching supplementary readers and method of their teaching should be specified.

Criteria for Evaluation of Teachers' Handbook on Mathematics :

- (a) The teachers' handbook on mathematics should provide the objectives of teaching mathematics in general and specific objectives for each class.
- (b) There should be necessary instructions for teachers regarding the content along with its presentation.
- (c) List of necessary teaching aids for mathematics in each class and for each lesson along with their use and implementation procedure should be there.
- (d) There should be instructions for organising various workshops and activities as a model or sample in the classroom.
- (e) It should specify details of various methods and techniques of teaching mathematics.
- (f) There should be clear specifications with regard to assessing students and record keeping techniques.
- (g) There should be a list of supplementary books for helping in teaching mathematics.

Criteria for Evaluation of Teachers' Handbook on Environmental Studies :

- (a) The teachers' handbook should provide detailed explanation of content/subject matter of each lesson in each textbook in such a way that it would be easily understandable to the primary school teachers.

- (b) There should be a description of the characteristics of local environment with reference to each lesson of each textbook; the teacher may choose any one of the description for his use.
- (c) It should provide a list of teaching aids in describing the content and which are easily available in Bangladesh context. The emphasis should be on collecting and making the aids with the help of locally available materials.
- (d) The content/subject matter should be presented in such a way that the children can participate actively with inquisitiveness in their environment.
- (e) It should indicate the use of appropriate charts and diagrams, models and pictures in describing the content.

Evaluation of Teachers' Handbooks :

Before taking up the actual analysis of individual handbooks, it might be mentioned that all teachers are provided with a set of four handbooks. One of these deals with class I and II covering all the subjects. However, within the

handbook details are given subjectwise. One handbook each has been developed for mothertongue and mathematics covering the curriculum prescribed for classes III to V. The other handbook is an omnibus one covering the courses in classes III to V with respect to remaining subjects namely, environmental studies, religious education and so on.

In the present section evaluation has been done subjectwise and not handbook wise. Thus, details are provided under three heads namely, Mothertongue, Mathematics and Environmental Studies taking the relevant sections from the various handbooks for covering the courses prescribed from classes I to V in the respective subjects.

Handbook on Mothertongue :

Structural framework of the teachers' handbooks on mothertongue is given in Table 7.4. It can be observed that the handbook on mothertongue for class I has been presented under three sections. In the first section, instructions have been provided for the text pages 3 to 18. It begins with listing of specific objectives of the lessons followed by details of aids and methods of teaching to be followed for every text page and oral and written assessment procedures. In the second section, instructions have been provided for the textbook pages 19 to 39. It also begins with listing of specific objectives, followed by pagewise detailed instructions for using teaching aids along with methods of teaching and assessment techniques. The third section deals with

pronunciation of difficult words in the whole text. The part which deals with the handbook of mothertongue for class II has also been divided into three sections. The first section begins with the explanation of the method of introducing conjunct letter and the system of framing conjunct or compound letters of two or more consonants. In the second section the expected behavioural changes, in a brief form are given followed by the explanation of each lesson with teaching aids and methods. The assessment procedure — oral and written for each lesson has been provided in the third section. The teachers' handbook on mothertongue for classes III to V begins with a general outline which consists of the description of mothertongue, its importance and place, followed by objectives of teaching mothertongue, various aspects of reading and writing mothertongue, and mode of language and spelling in the textbooks of primary level. Thereafter, bookwise guidelines have been presented. Every lesson of the text has been presented in the handbook with an introduction followed by the objectives of the lesson, brief idea of the lesson, methods of teaching with spelling and pronunciation, teaching aids, reference with explanation and notes, and assessment techniques to be adopted for assessing children with respect to the lesson.

It is evident that the teachers' handbook for mother-tongue which deals with class I and II did not state the objectives of teaching Bengali in general while the handbooks

dealing with classes III to V have stated the objective, although all the handbooks have stated the specific objectives of each lesson which are in consonance with the criteria mentioned. The analysis indicates that the teachers' handbooks on mother tongue, generally, fulfill all the conditions laid down by the NCSC.

Handbooks on Mathematics :

Structural framework of teachers handbook on mathematics given in table 7.2⁵ indicates that the handbook for class I begins with the specification of broad objectives of teaching mathematics followed by general guidelines with some examples and explanations. The total content of the textbook of class I has been divided into five lessons. Each lesson begins with specification of the objectives followed by presentation of examples, teaching aids and technique to be adopted. The procedures of assessment with the help of workbook have been given in the handbook. The next section of the handbook deals with the content of class II presented in 13 lessons. It begins with objective specification for each lesson followed by teaching aids, presentation with examples in details and instructions to help the children for using the workbook. The teachers handbook with respect to classes III to V begins with general objectives of teaching mathematics followed by a discussion of the methods of teaching, basic ideas regarding learners, content, teaching aid, list of teaching aids applicable for different content units, and assessment procedure,

in general. Thereafter, textbook with lesson and pagewise instructions have been provided in the handbook. Every lesson begins with introduction and discussion followed by specific objectives of lesson, aids to be used for the different units, and sub-units of the lesson teaching method in details, and techniques for assessment.

It can be observed that the teachers' handbooks have been prepared in accordance with the conditions set for the purpose by the National Curriculum and Syllabus Committee by presenting the general objective of mathematics teaching, specific objectives of each lesson, necessary subject matter, teaching aids and methods and procedure for assessment and recording. Only aspect that the handbook of mathematics did not provide was the list of reference books for teachers.

Handbook on Environmental Studies :

Table 7.⁶/₃ and 7.⁷/₄ presents the structural framework of the guidelines provided for teaching social studies and science, respectively. The section on environmental studies in the handbook for classes I and II begins with a general discussion about the learners; meaning, importance and the characteristics of environmental studies followed by the broad objectives of teaching environmental studies; detailed syllabus for both the classes; and various aspects of the content, lesson plan, teaching aid, teaching method and lesson plan for daily teaching with time allotment. Thereafter, an example of a lesson plan for class I and one for

class II have been given by adopting the following steps objectives, content, teaching aid, presentation and evaluation.



The section dealing with environmental studies in the handbook for classes III to V has been presented under two parts - social studies and science in accordance with the textbooks. The part dealing with social studies begins with a discussion of the importance of learning social studies, followed by objectives, techniques of teaching which includes textbook method, discussion and lecture with question answer, inquiry approach, observation, collection, analysis, the role of teacher, preparation, presentation, field work, follow up of field work, and working charts for teachers and students. Thereafter, classwise objectives with detailed syllabus have been given. Also, chapterwise guidelines for each textbook have been given by providing the outline of the concept or idea about content followed by teaching aids, work of teacher, students' work and assessment techniques.

The part dealing with science in the handbook for class III to V begins with an introduction, followed by discussion of the importance of learning science, statement of objectives of science learning, general information about the method of science teaching with special reference to environment, specific objectives of science teaching, content, teaching aid, method of teaching, experiment and field work and assessment procedure. Then, classwise objectives of

teaching science with its syllabus have been provided. Thereafter, bookwise guidelines have been presented. The chapterwise guidelines include reference to basic conceptual and content units, followed by teaching aids, teachers' work, students' work, and evaluation technique to be followed with examples.

It can be seen that the teachers' handbook on environmental studies have been prepared by providing detailed explanation of the subject matter and its characteristics, list of teaching aids, possible activities for teachers and students with chart, diagram model etc. which are in line with the recommendations of the NCSC.

Table 7.1 Structural Framework of the Teachers' Handbooks on Mother tongue.

Class	Sequence of Presentation
I	<ol style="list-style-type: none"> 1. Preparation of Reading and Writing (Page 3-18): <ol style="list-style-type: none"> a) Objectives (total 7 pages). b) Aids : Chart with picture and model. c) Method of teaching. d) Assessment : Oral and Written. e) Instruction for teaching every page of the textbook with examples. 2. Reading and Writing (Page 19-39, 39 to 54): <ol style="list-style-type: none"> a) Objectives (total 6 pages) b) Aids c) Methods of teaching. d) Assessment : Oral and Written. e) Instruction for teaching every page of the textbook with examples. 3. Instructions for Pronunciation of the text material of each page of the textbook.

CLASS Sequence of Presentation

- II
1. Explanation of the introduction of the conjunct letter and the system of framing compound or conjunct letters of two or more consonants.
 2. Behavioural objective in a brief form.
Explanation of each lesson of the textbook with teaching methods and aids.
 3. Assessment Procedure of each lesson oral and written.
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GENERAL OUTLINE

1. Mother tongue : Its importance and place.
 2. Objectives of teaching mother tongue.
 3. Mother tongue : Its various aspects of reading and writing.
 4. Form of language and spelling in the textbook of primary level.
 5. Reading and writing mother tongue and mode of spelling.
-

- III
to
V
1. Introduction.
 2. Title of the lesson.
 3. Basic idea of imparting the lesson.
 4. Method of presentation of the lesson.
 5. Teaching Aid.
 6. Reference used for teaching.
 7. Assessment of the lesson.
-

Table 7.2 : Structural Framework of the Teachers' Handbook
in Mathematics.

Class	Sequence of Presentation
I	<ol style="list-style-type: none"> 1. Objectives of teaching Mathematics. 2. General guidelines with example
I	<ol style="list-style-type: none"> 1. Objectives of teaching the lesson. 2. Presentation of lesson with example. 3. Assessment of the lesson with the help of workbook. (Total number of lesson is 5; same procedure has been followed for each of the lesson taken from the textbook).
II.	<ol style="list-style-type: none"> 1. Objectives of the lesson. 2. Teaching aid. 3. Presentation of the lesson. 4. Instruction for helping the students to use the workbook. 5. Evaluation.
III- to V	<ol style="list-style-type: none"> 1. General Outline. 2. Objectives of teaching mathematics. 3. Methods of teaching. 4. Discussion about Learners. 5. Discussion about content of mathematics. 6. Teaching Aids. 7. Assessment techniques in Mathematics. 8. List of Aids for teaching Mathematics.
III	<ol style="list-style-type: none"> 1. Introduction and discussion. 2. Specific Objective of the lesson. 3. Aids to be used for the lesson. 4. Teaching Methods and activities to be performed. 5. Techniques of assessment.
	<ol style="list-style-type: none"> 1. (Same procedures have been followed in preparing guidelines for classes IV and V)

Table 7.3 : Structured Framework of Teachers' Handbook in Social Studies.

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1. Importance of learning Environmental Studies.
 2. Objectives of teaching Environmental Studies.
 3. Techniques of teaching.
 - (a) Textbook method.
 - (b) Discussion and Lecture with question answer.
 - (c) Inquiry approach.
 - i) Observation.
 - ii) Collection.
 - iii) Analysis.
 4.
 - i) Role of Teacher in teaching Environmental Studies.
 - ii) Preparation of the lesson.
 - iii) Presentation.
 - iv) Field work.
 - v) Work after Field work.
 - vi) Working Chart for teacher.
 - vii) Working Chart for Students.
 5. Objectives of teaching environmental studies in classes.
 6. Detailed Syllabus.
 7. Chapterwise guidelines for each textbook.
 - i) Basic ideas about the lesson.
 - ii) Teaching Aid for the lesson.
 - iii) Work of Teachers.
 - iv) Students' activities.
 - v) Assessment Techniques.
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Table 7.4 : Structural Framework of Teachers' Handbook in Environmental Studies (Science).

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1. Introduction.
 2. Importance of learning Science.
 3. Objectives of learning Science.
 4. General Knowledge about method of teaching Science with special reference to environment.
 5.
 - (a) Specific objectives of Science Teaching.
 - (b) Content.
 - (c) Teaching Aid.
 - (d) Method of Teaching.
 - (e) Experiment and Fieldwork.
 - (f) Assessment Procedure.
 5.
 - (a) Classwise Objectives of Teaching Science.
 - (b) Classwise Syllabus.
 - (c) Bookwise guideline.
 6. Chapterwise guidelines for each textbook.
 1. Basic Concept in the Chapter.
 2. Teaching Aid for teaching the chapter.
 3. Teachers' work.
 4. Students' work.
 5. Assessment procedure to be followed with examples.
-

SECTION - VAnalysis and Interpretation of Experts' Views regarding the Curricular Content and Materials :

The researcher interviewed 15 experts who included curriculum specialists, subject specialists, experienced teachers and authors of textbooks. Personal discussions were held with them on the various aspects of curricular content and materials. For this purpose a specially designed interview schedule consisting of 24 items was used. A copy of the Interview Schedule is given in the Appendix. If the individual disagreed with the question, he was asked to clarify his view regarding the aspect asked for and that was recorded in the interview schedule. The opinion and views experienced by the experts during the interview have been summarised and presented in the following section.

- (1) Out of 15 persons interviewed, nine categorically expressed the opinion that they were satisfied with the quality of materials published by the textbook board for primary classes in Bangladesh. The remaining six experts expressed that the materials published by the board were not satisfactory with regard to physical aspects such as paper used, colour of printing, and procedure followed for preparation and production. All the experts were satisfied with the typeface and printing of the materials. Twelve persons expressed the view that the get up and design of the materials were

good. Thirteen experts told that the cover used for the textbooks were not durable. The majority of the persons interviewed were not satisfied with the status of availability of materials.

- (2) Out of 15 experts interviewed, 13 agreed that the instructional materials i.e., syllabus, textbooks, and teachers' handbooks covered the content of the curriculum. The remaining two experts expressed the view that more materials and content have been incorporated or presented in the textbook of mathematics and environmental studies. Ten experts were satisfied with the presentation and organisation of the published materials. Five persons had the view that the presentation of materials in mathematics textbooks were complicated and it was difficult for the children to make out the difference of the pictures given for illustration in most of the books due to the colour used for printing. Twelve persons were of the view that the materials had been prepared according to the sequence of content suggested by the curriculum Committee.
- (3) Nine experts were satisfied with the spoken language used in the materials while six held the view that the spoken language of different districts had not been considered; they particularly pointed out that the spoken language of Chittagong division along with the hill tract areas have been ignored.

- (4) Most of the persons were satisfied with the illustrative materials provided in the textbooks.
- (5) Ten of the experts thought that the exercises provided in the textbooks were suitable, while five expressed that they should be simpler. Twelve experts held the view that materials provided for assessing the students were satisfactory. Remaining three expressed that materials and suggestions provided for evaluation were quite traditional.
- (6) All the experts expressed the view that they were satisfied with the attempts made to correlate the reading books with the contents and goals of other subject areas in an integrated way. Further, it was found that all the experts interviewed were of the view that the directions given in the teachers' handbooks were sufficiently simple, clear and detailed.

SECTION - VI

FINDINGS AND CONCLUSIONS

1. The NCSC was created essentially to prepare a set of curricula based on the framework provided by the National Education Commission. The NCSC curricula are by and large in line with the NEC recommendations. However, with respect to the number of subjects to be studied at the primary level, the NCSC appeared to have deviated in a major way. Specifically, introduction

of religious education from classes I to V and that of English from classes III to V do not have any basis in the recommendations made by the NEC.

2. The NCSC failed to provide a proper rationale for introducing English at the primary level. The claim that English learning at the primary level would prepare the children for the real life situation outside the school cannot be fully justified. After all, in their life outside the school in Bangladesh children would face only Bengali, which also happens to be the state language. The only purpose served by this measure seems to be a better preparation for higher education, which even today is carried out, although unfortunately, through English medium in many institutions. However, in the process, primary education has come to be seen as one step for higher education rather than as a basic universal requirement for a balanced development of any individual.
3. Introduction of an integrated programme of environmental studies under the name of Paribesh Parichiti which included both social studies and general science is a commendable innovation made by the NCSC. It might be noted that the NEC had not made any explicit recommendation for adopting such an integrated approach.
4. A questionable suggestion made by the NCSC was regarding the evaluation procedure. The suggestion of the NCSC to evaluate students of standard I through written examination definitely lacked scientific basis. It should be noted

that majority of the primary school children live in rural areas, for whom formal training in reading and writing begins only after they join standard I. It is, therefore, doubtful whether it is appropriate to use paper-pencil tests for evaluating their achievement. The NCSC in this regard seem to have been overinfluenced by what prevails in the urban areas where children are introduced to reading and writing during the preprimary classes, which itself may not be a desirable trend. It would have been more useful if the NCSC had detailed out tools and techniques to be adopted for assessing day-to-day learning.

5. An important observation about the mothertongue syllabus given by the NCSC was that it made no mention of the specific vocabulary to be introduced for mothertongue in the beginning classes namely, standard I and II.
6. The syllabus in mathematics for all the classes seem to be over burdening. For instance, children of class I, that is the age group around 5+, had to complete sixteen units including the idea of sets, measurement, coins and counting, use of number line and so on. Attempt made by the NCSC to make the syllabus up-to-date by introducing concepts of modern mathematics was a step in the right direction. But, the Committee has failed to eliminate out-dated concepts and methods which has made the syllabus heavy and also, at times, inconsistent in its basic approach.

7. Again as was pointed out earlier, adoption of an integrated approach for introducing the concept of environment in an interdisciplinary perspective was quite appropriate. In accordance with this approach, a desirable step should be to emphasise scientific processes and attitudinal qualities. It is in this regard that the syllabus happened to be lacking as it was overloaded with information.
8. A properly developed syllabus should not only specify the content units to be covered but also indicate the weightage to be given to various topics by specifying the appropriate length of time to be devoted for each topic. It was quite surprising that the NCSC did not provide any such time allocations.
9. The prescribed textbooks in various subjects for different classes require considerable improvement with respect to their physical qualities such as printing, binding, paper quality, cover paper and so on. For instance, the quality of paper used for the cover as well as inside was extremely poor in all the textbooks. The books were not bound in a durable fashion considering that they were to be handled by young children. Clarity of printing was also lacking in some textbooks namely, the books in mothertongue for classes III to V and the mathematics textbook at class III. Some minor variations were also observed in terms of the NCSC prescriptions with regard to the size of the textbooks and the total number of pages in different textbooks.

10. As far as the number of lessons or topics to be included in different textbooks was concerned, there was a general consonance with what was prescribed in a syllabus. However, some variations were observed regarding the mothertongue textbooks. For instance, the textbook for class II include three prose and eight poetry lessons over and above the number specified in the syllabus; also three prose lessons had been added in class III, and number of lessons have been slightly reduced in the mothertongue textbook for classes IV and V.
11. It was observed that some of the lessons in the mother-tongue textbooks for class II were to a certain extent beyond the mental ability of the children.
12. The contents in mathematics textbooks were somewhat bookish and non-appealing to the students, as they lacked in terms of life-relatedness and focus on problem solving skills. It was also expressed by a majority of teachers that the mathematics textbooks failed to create interests to the students.
13. In order to make the lesson simple and understandable to all the students, the NCSC recommended to use spoken language with uniform spelling for representing the contents of different textbooks. It was found that the textbooks were, by and large, written using terms from spoken language. However, the books did not follow a uniform spelling causing thereby considerable confusion.

Further, use of some unknown and complicated words were also observed, although very rarely, in the textbooks of mathematics and environmental studies.

14. Another important recommendation made by the NCSC was regarding the use of illustrations. The Committee highlighted the need for using multi-colour illustrations in all the textbooks. But the recommendations seemed to have been completely ignored in the preparation of textbooks. It was found that multicolour illustrations had been used, atleast sparingly, only in the mother-tongue textbooks of classes I and II.

Further, it was the opinion of most of the teachers that the illustrations used in various textbooks were not only inadequate but also lacked in their appeal to the children.

15. The exercises presented in the textbooks were mostly in accordance with the guidelines provided by the NCSC. However, most of the teachers appeared to be dissatisfied with the textbooks in this regard. Teachers were of the view that the exercises given in the mothertongue textbooks did not match with the age and ability of the children; in mathematics textbooks, number of exercises were not related to the children's needs.

16. Another major recommendation of the NCSC was to prepare teachers' handbook in each subjects with a view to improving the quality of teaching. The NCSC specified

detailed criteria for the nature of contents and their organisation with respect to each subject. A close examination of the various teachers' handbooks, revealed that they had been prepared fully in accordance with the NCSC criteria. However, a few internal inconsistencies could still be observed. For instance, the handbook on mothertongue did not state the general objectives of teaching mothertongue, while this has been done with respect to all other subjects. Also, the handbook on mathematics did not provide any list of reference books contrary to the specific recommendation made by the NCSC.

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