ignou
THE PEOPLE'S
UNIVERSITY

Indira Gandhi
National Open University
School of Education

BES-125
Understanding Disciplines
and Subjects

Block

2

SUBJECTS IN SCHOOL CURRICULUM

EXPERT COMMITTEE

Prof. I. K. Bansal (Chairperson)
Former Head, Department of Elementary Education
NCERT, New Delhi

Prof. Anju Sehgal Gupta
School of Humanities,
IGNOU, New Delhi

Prof. Shridhar Vashistha
Former Vice-Chancellor
Lal Bahadur Shastri Sanskrit
Vidhyapeeth, New Delhi

Prof. N. K. Dash (Director)
School of Education
IGNOU, New Delhi

Prof. Parvin Sinclair
Former Director, NCERT
School of Sciences,
IGNOU, New Delhi

Prof. M. C. Sharma
(Programme Coordinator- B.Ed.)
School of Education
IGNOU, New Delhi

Prof. Aejaz Mashih
Faculty of Education,
Jamia Millia Islamia, New Delhi

Dr. Gaurav Singh
(Programme Co-coordinator-B.Ed.)
School of Education, IGNOU, New Delhi

Prof. Pratyusha Kumar Mandal
DESSH, NCERT, New Delhi

SPECIAL INVITEES (FACULTY OF SOE)

Prof. D. Venkateshwarlu
Prof. Amitav Mishra
Ms. Poonam Bhushan
DR. Eisha Kannadi
Dr. M. V. Lakshmi Reddy

Dr. Bharti Dogra
Dr. Vandana Singh
Dr. Elizabeth Kuruvilla
Dr. Niradhar Dey

Course Coordinator : Dr. Niradhar Dey, SOE, IGNOU, New Delhi

COURSE PREPARATION TEAM

Course Contribution
Unit 4 & 5:
Prof. Pratyusha Kumar Mandal
Department of Education in Social
Sciences and Humanities
NCERT, New Delhi

Unit 6: Dr. Niradhar Dey
School of Education
IGNOU, New Delhi

Content Editing
Prof. N. K. Dash
School of Education
IGNOU, New Delhi

Language Editing
Dr. Yalavanthi Nirmala
School of Education
IGNOU, New Delhi

Proof Reading
Dr. Niradhar Dey
School of Education, IGNOU, New Delhi

Format Editing
Dr. Niradhar Dey
School of Education
IGNOU, New Delhi

Mr. Chandra Shekhar
Former Research Assistant (ICSSR Project)
SOE, IGNOU, New Delhi

PRODUCTION

Prof. Saroj Pandey (Director)
School of Education
IGNOU, New Delhi

Mr. S.S. Venkatachalam
Assistant Registrar (Publication)
SOE, IGNOU, New Delhi

BES-125 UNDERSTANDING DISCIPLINES AND SUBJECTS

BLOCK 2   SUBJECTS IN SCHOOL CURRICULUM

Introduction to the Block

The Block, **"Subjects in School Curriculum"** deals with the answers to the questions such as:

- What is a curriculum and how does it differ from syllabi?

- What is the nature of various school subjects?

- What constitutes curricular materials?

- How are subjects and contents organized in school curriculum?

- How are the needs of students, teachers and evaluators taken into consideration in the formulation of school subjects and their transaction?

- What factors determine the choice of the subjects by the learners?

The above questions have been addressed in three Units of this Block. The first Unit (Unit-4), **"Subject Concerns in School Curriculum",** discusses the concept of a curriculum and its inter-relationship with the syllabi and how the syllabi delineate the subjects. It deals with the concerns like goals of education, instructional objectives, processes and contents that may be appropriate at different stages of school education. The Unit explicates the broad areas of school subjects such as Humanities, Social Sciences, Sciences and Mathematics which encompass the various subjects that are taught at the school level. It also discusses issues regarding integrated curriculum and establishes critical linkages among broad domains of school subjects. The Unit also elaborates various teaching-learning materials like textbooks, workbooks, manuals, secondary reading materials and other sources of learning, which define learning objectives and lay down content and practices for learning attainments and how such materials become crucial for achievement of educational goals. The last part of the Unit encourages debates and discussions that revolve around the rationale of dividing the curriculum into subject specific domains to facilitate learner-centred teaching-learning practices.

The second Unit (Unit-5) of this Block, **"Organising Subjects in School Curriculum"** discusses the premises and considerations, which provide bases for organising subjects at the school level. The Unit also discusses how contents in different subjects are selected and laid out to make these appropriate for different stages of school education. At the same time it also examines the evolutionary trends that have been observed in subject configurations in reference to their appropriateness in the Indian context. The Unit also addresses the need of the students, teachers, and the evaluators in the formulation of the School subjects and its transaction. Finally the Unit concludes with a discussion on the issues of uniform syllabus versus locally designed syllabus.

The third Unit (Unit-6) of this Block, **"Making Subject Choices"** discusses the broad structure of school education and therein the different options that are available for students to chart out their educational pursuits and to realise their innate aptitude and potential. Apart from these, the Unit also discusses the factors such as: learners and school; disciplines and subjects; employability and career; family; culture and society; and policy, which determine learner's choice for selecting the subjects.

UNIT 4 SUBJECT CONCERNS IN SCHOOL CURRICULUM

Structure

4.1 INTRODUCTION

Universalisation of school education is one of the most important features of modern nation states. The political, economic and social systems constituting modern nation states rely, to a very great extent, on such universalisation of school education. The quality of citizenship, which define the kind of state one will have, is shaped by such education. If a state wants to have a democratic system of government, it becomes imperative for that state to afford that type of education by which its citizens pick up both the principles and practices of democracy quite early in their lives. The same goes for the kind of economy and social system that a state would like to have for itself. In order to have a free market economy, a state needs to make provision for such education whereby a citizen can learn how a free market economy operates, what its fundamental premises are, which economic institutions help in its functioning, and how she would take part in its various processes. States wishing to become modern democracies have similarly felt the necessity of introducing education that would instil the spirit of mutual respect and peaceful coexistence. Scientific temperament and life skills demanding abilities of both literacy and numeracy at a mass scale have likewise been found necessary for moulding the lives and characters of citizens by modern states. Thus

it goes without saying how education at the school level is indispensable for the foundation, existence and continuing progress of nation states.

It is on the basis of such indispensability of school education that the present Unit discusses subject concerns in school curriculum by sequentially focusing on aspects like why we study certain subjects in schools, why these subjects are considered important, how the content is selected for the framing of the syllabi in these subjects, what kind of inter-relationship do these subjects have, how these subjects are laid out for learners and what kind of materials are provided for the teaching and learning of these subjects.

4.2 OBJECTIVES

After going through this Unit, you will be able to:

● discuss why school education concerns itself with certain subject areas and what is the nature of those subject areas;

● explain the concept of subject-based curriculum and the rationale for limiting the scope of each subject area;

● explain the inter-relationships among different subject areas;

● describe what constitutes curricular material vis-à-vis school education and also appreciate the qualitative aspects of such material;

● discuss what constitutes learner-centered pedagogy and how it helps in construction of knowledge; and

● make sense of the debate that is being pursued in relation to learner-centered pedagogy.

4.3 CURRICULUM, SYLLABI AND SCHOOL EDUCATION

All of you are familiar with the concepts of curriculum, syllabi and school subjects. In this segment, we discuss what a curriculum is, what distinguishes the curriculum from the syllabi and how do the syllabi delineate the subjects. It also discusses the concerns which all these three address, with reference to education at the school level, concerns such as goals of education, instructional objectives, processes, and contents that may be laid out at different stages of school education.

Broadly speaking, **a curriculum** is directional in nature. It provides the framework for the educational process to take place. It, thus, covers all facets of education. It could also encompass the entire spectrum of education, though from a practical standpoint, it may be confined to a certain stage or aspect of education, such as, school education, higher education, technical education, etc. In India, for example, the National Curriculum Framework (2005) covers the entire gamut of school education. Similarly, the National Curriculum Framework for Teacher Education, 2009 elaborates the context, concerns and vision underscoring teacher education in India. In certain instances, a curriculum may also refer to the scheme of teaching and learning across grades or classes in a given subject, such as, history curriculum from classes VI to XII. Such a curriculum includes various themes to be studied in particular classes in a graduated manner, their learning

objectives, and the pedagogical processes to be followed while transacting those themes with likely outcomes. In this sense, a curriculum goes beyond what is called a 'course of study'. In other words, it provides a perspective plan to a course of study. On the whole, it can be said that curriculum imparts order to education. As stated earlier, it is at its core directional.

A syllabus is more specific in nature. It provides a summary of topics meant to be covered at a certain stage of education, in a particular grade or a class, or in a given subject. For example, in Indian context a syllabus for the elementary stage may include topics laid out for teaching and learning from classes I to VIII in diverse subjects, such as, History, Geography, Social and Political Studies, Environmental and General Science, Mathematics, English, Hindi, etc. In comparison, the class VI syllabus may more specifically refer to the topics that a learner in that class would study in different subject areas. However, when it comes to a particular subject area or discipline, one refers to it as either 'social science syllabus for the elementary stage' or 'history syllabus for class VI'.

In educational context, subject is commonly understood as a body of knowledge in a given area. In this sense, it refers to what is often called a discipline, such as, history, economics, etc. However, it is not unusual for someone connected with education to talk of 'social science' as a subject though it is well-known that 'social science' is an amalgam of subjects or more precisely disciplines, such as, History, Geography, Social and Political Studies, Economics, etc. In some ways, therefore, efforts are made to distinguish between the two by referring to 'Social Science' as a 'subject area' and History, Geography, Social and Political Studies, Economics, etc. as 'disciplines'. This task is often left for the syllabus to do. Since school education also concerns itself with issues other than that of knowledge, the syllabus configures what may be regarded as a subject of study at the school level. Thus, instead of focusing on disciplines as such it categorises them into subjects. For example, disciplines like Physics, Chemistry and Biology are categorized into a subject called General Science. Similarly, to help students at the primary level acquire an understanding of their social and natural environment, topics are chosen from an array of social and general sciences to formulate a subject called 'Environmental Studies'.

4.3.1 Curriculum, Syllabi and Subjects – Inter-relationships

Curriculum, syllabi and subjects are intimately linked to each other. This is particularly so at the level of school education.

It is in the nature of curriculum to appreciate the context in which the desirable process of education is expected to unfold. These contexts differ from country to country, and even within countries, from region to region. So what may be considered as the desirable process of education in Germany or South Korea may not be considered as much desirable in India or in Bangladesh. This is because the curricular context practices in India or in Bangladesh differs from that of Germany or South Korea. By curricular context, what actually referred to, is the social, economic and political situation in a country. However, these are not static situations. Countries across the world wish these situations to change for the better. Education provides the means through which such change could be realised. Therefore, curriculum also contains elements of vision even while it appreciates the given context. Since such elements of vision are contextual and often come tempered with different degrees of practicability, in curricular parlance these are referred to as desirable but in terms of implication they become effective guidelines.

Thus, curriculum provides guidelines that are followed while drafting syllabi for various subjects. For example, the National Curriculum Framework (2005) provides five guidelines, namely:

i. connect curricular knowledge to life outside the school;

ii. ensure that learning shifts away from rote methods;

iii. enrich the curriculum in such a way that it goes beyond the textbooks;

iv. make examinations flexible so that these are integrated with classroom life; and

v. nurture an overriding identity informed by caring concerns within the democratic polity of the country.

These guidelines do not merely give expression to the social, economic and political situations which obtained in the country in 2005 but also present elements of vision which the curriculum sought to achieve by promoting (a) independence of thought and action, (b) sensitivity to others' feelings and well-being, (c) learning to respond to new situations in a flexible and creative manner, and (d) ability to work towards and contribute to economic processes and social change among school-going children. One finds an implementation of these guidelines in the syllabi of various subjects that were developed following the adoption of this curriculum. Let us take Social Science for an example.

Taking into consideration the five-fold guidelines of the National Curriculum Framework, 2005, the *National Focus Group Position Paper on Social Sciences* proposed 'an epistemological shift' in the study of social sciences at the school level. The objective behind this proposal was "to accommodate the multiple ways of imagining the Indian nation". Therefore, coming to specific subjects like History, it recommended that "Indian History should not be taught in isolation". Rather, as per its recommendation, "there should be reference to developments in other parts of the world". Besides, recognising the 'pluralistic character' of our society, it stated that the syllabus and textbooks in History should be developed in such a way that all regions and social groups are able to relate to these. In regard to textbooks, particularly, it stated that textbooks themselves should be seen as "opening up avenues for further enquiry". Therefore, in a country as vast as India, its recommendation was to have relevant local content as part of the teaching-learning process "ideally transacted through activities drawing on local resources". On the whole, the recommendation of the *National Focus Group Position Paper on Social Sciences*, as far as the history syllabus is concerned, was to focus on conceptual understanding rather than "lining up of facts to be memorised for examinations".

Based on the syllabus, which flowed from these recommendations, the textbooks in History for various classes thus sought to promote activity-based teaching and learning. As a result, apart from logically presenting the broad narratives on different themes, the textbooks also provided ample illustrations like time-lines, maps, pictorial presentations of various historical personalities and events alongside important sources for students to see, read and reflect upon. Besides, the textbooks have also provided pedagogically innovative in-text and end-text questions for students to think critically and develop critical historical perspectives on diverse issues. Finally, the textbooks also provided hints for students to go beyond the textbooks for further reading and do activities on any topic of their interest.

Such inter-relationships among curriculum, syllabi and subjects can be seen in regard to other subject areas as well.

4.3.2 Concerns Addressed by Curriculum, Syllabi and Subjects with regard to School Education

As the curriculum takes into account the context in which the desirable process of education is to unfold, it tries to grapple with the multiple concerns that lie embedded in that context. Much of these concerns are often found entrenched in the existing system of education. Thus it becomes an inescapable task for the curriculum to address these concerns and bring in changes in the existing system of education. Countries across the world have recognised the merits of doing so especially in the field of school education as it provides the foundation on which the edifice of education rests. A look at the formulation of the National Curriculum Framework, 2005 and the Social Science syllabi and textbooks in History will help us explain this issue.

As we have already noted, the National Curriculum Framework, 2005 put forth five guidelines for syllabi and textbooks development. These guidelines actually resulted from a realisation that "learning has become a source of burden and stress on children and their parents". Therefore, the challenge before the curriculum was to try and eliminate or at least substantially reduce this burden. Typically, most of us understand this burden on school-going children to be a physical one as it is not unusual to find people – parents, politicians and social activists – complaining against children carrying bagful of books and other assorted necessities on their backs to school. This is, of course, a concern that needs to be addressed. But what was more worrying from the point of view of the curriculum was the burden of incomprehension. In other words, the curriculum was concerned about the children's inability to understand and relate to what was being taught in their schools through textbooks and otherwise. This burden of incomprehension was reflected in examination after examination as students performed poorly and in a number of cases took to extreme measures like dropping out of school altogether. The National Curriculum Framework, 2005 emphasised on this issue and directed two immediate remedial measures to be taken up. One of them was to make the textbooks interactive and the second was to allow the children to construct their own knowledge and become an integral part of the teaching-learning process.

In relation to the first measure, we have already stated how the history textbooks have been made interactive. However, making a textbook interactive is not just about addressing a technical concern. It is rather about addressing much deeper curricular concerns.

In order to understand such concerns, we may take a look at what the National Curriculum Framework, 2005 says on the teaching and learning of social sciences, particularly History as a subject. It says content in social sciences should aim at raising students' awareness through critical exploration and questioning of the familiar social reality. This is because social sciences are often considered as non-utility subjects and therefore it is all the more necessary to emphasise that they provide social, cultural, and analytical skills required to adjust to an increasingly interdependent world and deal with the political and economic realities. In relation to history particularly a question that is frequently asked is about what a student will do after studying facts that have little relevance to the times that we are living in. The wider perception that a student studying history merely replicates what he/she studies in his/her textbooks often gets worsen by the stereotypical teaching-

learning material that we produce and the methods of teaching that we employ in our schools. Long syllabi and evermore voluminous textbooks also make the subject insufferably burdensome. This propensity towards providing information in detail leaves students with little option but to learn by rote. The reductionist approach often followed in explaining historical phenomena make our rich and varied history look so predictable that it divests students of any creative interest in the subject. Teachers' dependence on textbooks makes things worse. In certain cases more enterprising teachers do teach with the help of visual aids, yet the process of teaching and learning remains firmly within the ambit of the textbooks and thereby encourages only rote learning. In addition, keenness among subject experts and teachers to claim and demand mathematical accuracy in textbooks and student answers to questions in examinations make the teaching and learning of the subject uninteresting, monotonous and of little consequence.

It is to address such concerns that the syllabi in History had to be devised in such a way that students develop a sense of history and no longer see it as a set of facts about the past. Thus it had to focus on enabling the students to acquire a capacity to make interconnections between processes and events, between developments in one place and another, and see the linkages between histories of different groups and societies. This was to be done without overburdening the students with an excess of detail in the textbooks and also by allowing teachers adequate time to dwell on specific themes in depth. Consequently, the history syllabus at the upper primary stage focused on Indian history from the earliest times to the present covering one chronological period in one class thereby imparting understanding of the social, economic, political and cultural processes of that period in that class i.e. 'Ancient India' in Class VI, 'Medieval India' in Class VII, and 'Modern India' in Class VIII. Coming to the secondary stage, it made an attempt to familiarise students with some of the diverse forces and developments that have contributed to shaping the history of the contemporary world and India within that larger history. Taking off from there it chose a number of significant themes of World and Indian history at the higher secondary stage to let students learn the art and craft of history by delving deeper into those themes.

It is on the basis of such nuanced understanding of the curricular concerns that the syllabi in all subjects are developed. The development of textbooks follows similar understanding.

Activity 1

Collect copies of different Curriculum Frameworks. Make a comparative chart of the curricular concerns they have sought to address. Write critical notes on the guidelines they have recommended for the syllabi and textbooks to follow.

....

....

....

....

....

....

Check Your Progress 1

Note :   a) Write your answer in the space given below.

   b) Compare your answers with the ones that are given at the end
of the unit.

1.   What do you mean when you talk about curriculum? How is 'curriculum'
different from 'syllabus'?

....

....

....

....

2.   What are curricular concerns? How are these concerns addressed by
the curriculum? Provide examples to support your answer.

....

....

....

....

4.4 DOMAINS OF SCHOOL SUBJECTS

Following our discussion on the meaning, import and inter-relationship among
curriculum, syllabi and subject areas, it now requires us to discuss about the
domains of school subjects. The present segment discusses these domains. Broadly
marked as humanities, social sciences, sciences and mathematics, these domains
encompass various subjects that are generally taught at the school level. Besides,
the segment also discusses how it takes an integrated curriculum to find balance
and establish critical linkages among these domains.

4.4.1 Broad Areas of School Education – Humanities, Social Sciences, Sciences and Mathematics

Since when the humankind has conceived of education, it has recognised two
foundational aspects of human existence: one, the core faculties of human mind;
and second, the empirical needs of material life. At an existential level, one cannot
separate one from the other. Therefore, the basic conception of education from
the beginning has always emphasised on integrating the two, especially at the initial
stages of learning before one goes on to pursue a particular branch of knowledge
because of innate interest or chooses to adopt a vocation for livelihood in adult
life. It is assumed that once an individual has acquired the basics of all that are
essential in life, it becomes easier to go forth and advance in any area or domain
of one's own choice or persuasion. This is a pyramidal conception of education
– the broader the base, the higher can be the edifice.

So, what are the domains that would constitute the base of education? The 'aims
of education' at any given time provide us with some answer to this question. As

11

the National Curriculum Framework, 2005 puts it: "At any given time and place they can be called the contemporary and contextual articulations of broad and lasting human aspirations and values." So, the guiding principles, which we have discussed earlier, have provided the basis for the National Curriculum Framework, 2005 to articulate these aims to be:

a) building a commitment to values of democracy like equality, freedom, justice, concerns for other's well-being, secularism, and respect for human dignity and rights;

b) developing the ability to work and participate in the economic processes and social change;

c) providing opportunities to enhance the child's creative expression and the capacity for aesthetic appreciation; and

d) learning to learn and the willingness to unlearn and relearn as means of responding to new situations in a flexible and creative manner.

Following these aims, the National Curriculum Framework, 2005 has arrayed the domains of learning to be (a) Language, (b) Mathematics, (c) Science, (d) Social Sciences, (e) Art Education, (f) Health and Physical Education, (g) Work and Education, and (h) Education for Peace. Besides, it has also dealt with issues that are to be sensitively handled within each of these domains. For example, in the domain of 'Language', it speaks of the importance of recognising "the inbuilt linguistic potential of children" and to aligning the programme for language teaching in schools "to build on this resource" and "strive to enrich it through the development of literacy (in scripts including Braille) for the acquisition of academic knowledge". Similarly, in the domain of 'Mathematics', going beyond the narrow aim of developing useful capabilities relating to numeracy, it sets a higher aim of developing "the child's resources to think and reason mathematically, to pursue assumptions to their logical conclusion and handle abstraction" as "a way of doing things" with "the ability and the attitude to formulate and solve problems". In the domain of 'Science', noting that "good science education is true to child, true to life and true to science", it advocates the science curriculum to be instrumental "for achieving social change in order to reduce the divide based on economic class, gender, caste, religion and region" by encouraging inquiring skills in place of rote learning. In the domain of 'Social Sciences', it focuses on having the requisite perspective to build "the knowledge base for a just and peaceful society". So far as the other curricular domains are concerned, it draws special attention to the status of arts and health and physical education recognising these along with work and peace education to be fundamental for economic, social and personal development of every child. Hence, it calls upon the schools to play a major role in ensuring that children having education in all these domains grow into adulthood as self-reliant, resourceful, healthy and peace-oriented beings.

Prior to it, the National Curriculum Framework for School Education, 2000 had also recognised the utility of allowing school going children to have their learning experiences through various classified subject areas. These included: (a) Language, (b) Mathematics, (c) Science and Technology, (d) Social Sciences, (e) Art of Healthy and Productive Living at Primary Stage, (f) Work education, Art Education and Physical education at Upper Primary and Secondary Stages, and (g) Vocational Education as a stream alongside other streams at the Higher Secondary Stage. The reasons and rationale of identifying these domains of curricular studies were

more or less the same as we found them in case of the National Curriculum Framework, 2005. As the latter states quite candidly, "the main areas relevant for curricular planning have remained remarkably stable for a long time, despite major changes in social expectations and the academic study of different broad disciplines". Therefore, what one finds different from one to the other curriculum framework in regard to curricular domains is not so much in the areas of study but in their specific points of departure in keeping with the emergent needs of the time. This is evident from a comparison between the two above cited curriculum frameworks.

4.4.2 Issues Concerning Integrated Curriculum

Even as learning is sought to be facilitated through neatly categorised and well labelled subject areas, yet from the perspective of a learner it all makes a composite whole. For example, learning a language at the primary stage not only enables a child to know how to use words, phrases, and sentences but also help her to understand and interpret diverse phenomena, which span across curricular areas. Similarly, learning mathematics, as the National Curriculum Framework for School Education, 2000 puts it, "helps in the process of decision-making through its application to real life situations in familiar as well as non-familiar situations". As it goes on to say, "Apart from being a distinct area of learning, it helps enormously in the development of other disciplines which involve analysis, reasoning and quantification of ideas". Learning science and social sciences likewise nurture the abilities of children to observe, analyse, explore, question received knowledge and find constructive solutions to problems of life despite having varied methods of inquiry. Not surprisingly, therefore, learning and acquisition of knowledge often tend to be a unified enterprise for learners at the school level.

It is with this recognition that the National Curriculum Framework for School Education, 2000, made a pitch for an 'integrated curriculum'. As it stated, "Imaginative and discreet planning of appropriate learning experiences makes it possible for the curriculum objectives to be realised. Well planned activities and teaching-learning strategies facilitate these experiences which ought to make an integrated whole". It also sought to address another concern linked to integrating diverse curricular concerns of local, national or international concerns. To quote it again, "At a time when concerns such as 'literacy', 'family system', consumer education', 'environmental education', tourism education, 'human rights education', peace education', 'population education', and 'safety education' are making a case for separate place in the school curriculum, the best approach would be to integrate these ideas and concepts, after a careful analysis, in the existing areas of learning".

The points mentioned above lead us to ask, 'What is meant by an integrated curriculum?' To put it simply, it means connecting various curricular areas in such a manner that it becomes truly wholesome and far more enriching from a learner's point of view. One way of doing it is to weave the curriculum around well designed themes. The National Curriculum Framework, 2005 has given the example of 'water' as such a theme. Another example given is 'market'. One can teach as many subjects cutting across curricular areas through these themes. Sometimes, such an approach to framing curriculum is also called 'inter-disciplinary' or 'multi-disciplinary' approach. There is another approach known by the name of 'trans-disciplinary integration'. This is essentially one of the many teaching-learning strategies, which come under learner-centered pedagogy. In this approach, teachers

organise curriculum around learners' questions and concerns. Students develop life skills as they apply inter-disciplinary and disciplinary skills in real life context making learning much more practical and comprehensible. This kind of curriculum is often facilitated by project-based learning.

However, there are obvious concerns linked to any form of integrated curriculum. It is a fact that the concept of integrated curriculum stems from the ever widening scope of school education. A lot more is sought to be taught to learners early on keeping in view the emerging complexities of life faced by the multitude of all nationalities. At the same time the basics of education cannot also be given away as these constitute the core of learning at the school level. This has created a paradoxical situation. To overcome this paradox, the National Curriculum Framework for School Education, 2000 has justifiably called for appropriate strategies to work out such integration in existing subject curricula. The various other ways of integration as discussed above offer substantive options for educators at different levels to adapt to these in their own contexts.

Activity 2

Collect material on 'integrated curriculum' from different sources and write a critical essay on the topic based on your reading of such material.

....

....

....

....

....

....

....

....

Check Your Progress 2

Note :   a) Write your answer in the space given below.

b) Compare your answers with the ones that are given at the end of the unit.

3.   How are aims of education linked to deciding on what ought to constitute subject areas for school education?

....

....

....

....

....

....

4. What do you mean by an integrated curriculum? What are its various forms? Is an integrated curriculum preferable to a well classified curriculum?

    ....

    ....

    ....

    ....

    ....

4.5 CURRICULAR MATERIALS

Following our discussion on curriculum, syllabi and the domains of school education, we shall now dwell on curricular materials which are also known commonly as teaching-learning materials. These teaching-learning materials range from textbooks, workbooks and laboratory manuals to non-detailed texts or secondary reading materials and other sources of learning. Whereas the curriculum provides the guidelines for the system of education to follow, it is the syllabi and the curricular materials, which lay down the outlines of the courses to be learned, their learning objectives, the course content, and the processes to be adhered to while transacting those courses in classroom situations. Besides, the curricular materials also provide learning indicators and exercises for assessment of learning attainments. Clearly, all these aspects show how and to what extent curricular materials are crucial for the achievement of the overall educational goals in a system.

4.5.1 Different Types of Curricular Materials

Curricular materials are also known as instructional materials. In this sense, curricular materials could be of two types. The first one belongs to the category of those which are prescribed whereas the second one is usually accompanying material to the first ones. Textbooks, workbooks, laboratory manuals, etc. belong to the first category and materials such as dictionaries, atlases, supplementary books, grammar books, 'do-it-yourself practice manuals', etc. belong to the second category.

While the materials belonging to the first category flow directly from the curriculum abiding its guidelines in full measure, the materials belonging to the second category are often open ended and cater to the multiple learning needs of teachers and students alike. Also by virtue of being transactional in nature the materials belonging to the first category keep a number of parameters in mind. At the outset comes the number of periods allocated to a subject in a class during an academic session. Transactional materials ought to have content that can be transacted within the confines of such time. Second, transactional materials need to maintain a median standard. This becomes imperative to cater to the varying pace of learning by different sets of students. Third and what is most significant is that transactional materials have to adhere to core values of a nation while developing content. Sometimes, such parameters are considered detrimental to constructivist and liberal education. However, in their absence, education runs the risk of becoming aimless.

The materials belonging to the second category often carry the educational process further both as accompanying reference materials in the classrooms and as learning-enrichment materials beyond the classrooms. Such materials also take away a lot of burden from the transactional materials. For example, the latter need not be encyclopaedic in terms of giving space to plentiful information on every single topic, definitions of all technical terms used in the texts, visual and graphical illustrations of all kinds and long extracts from diverse sources once enough references are given therein to all such details which students can find in supplementary materials. As the National Curriculum Framework, 2005 states: "The triangular relationship between high-speed classroom teaching, heavy homework and private tuition, which is a major source of stress, cab be weakened if textbook writers focus on elaboration of concepts, activities, spaces for wondering about problems, exercises encouraging reflective thinking and small-group work, leaving the definition of technical terms to a subject dictionary". This explains how curricular materials belonging to both the categories complement each other and work in tandem to address different curricular concerns.

Curricular materials are also sometimes classified depending upon who these are meant for. Prescribed materials such as textbooks, workbooks, laboratory manuals, etc. are often meant for students thus making a category of their own. However, what generally skips notice is the fact that "school is a structured space for guided learning". Hence materials that are meant predominantly for students also require mediation by teachers. This makes it as much important to have curricular materials meant for teachers. Teaching manuals, handbooks, teachers' annotated editions of textbooks, source books on assessment, etc. belong to this category. To quote the National Curriculum Framework, 2005 again, "Any move to introduce a new set of textbooks or a new kind of textbook should include the preparation of handbooks for teachers. These handbooks should reach principals and teachers before the new textbooks do. Teachers' handbooks can be designed in many different ways. They need not cover the content of the textbook chapter-wise, though that can be one of the approaches. Other formats can be equally valid i.e., offering a critique of established methods and suggesting new ones, and including lists of resource materials, audio and video materials and sites on the Internet. These would provide tips for teachers, which they could use for lesson planning. Such source books need to be available during in-service training of teachers and during meetings when they plan their teaching units".

Indeed, curricular materials for teachers are not only essential when any move to introduce a new set of textbooks or a new kind of textbooks are made, but such materials form a critical component of quality education. To what extent the system of education can effectively address the curricular concerns depends upon the quality of teaching that it can ensure. Therefore, it needs to constantly engage itself with the task of developing, enriching and updating such curricular materials meant for teachers.

In practice, curricular materials belonging to both these categories supplement each other and make the teaching and learning environment in schools lively and productive.

4.5.2 Importance of Curricular Materials in School Education

All of us are aware that textbooks are the most important source of learning for school children. In a sense, textbooks are the crucible on which the entire system

of school education relies. It is this realisation which perhaps makes most nations focus so much on textbooks.

Questions like what to teach, how to teach and what must and how much children should learn at what stage usually find suitable answers in textbooks. In many ways textbooks also make it possible for children from different social and economic backgrounds to access education in a uniform way. This is very significant from an Indian perspective. Here a considerable number of people live in villages. Children going to schools in these villages have little access to sources of information other than textbooks. There is also a sizable percentage of population in India which lives below the poverty line. For children belonging to these families, whether in rural or urban settings, textbooks open up the world of knowledge.

Textbooks are often designed as self-learning materials. Not only that they impart standard knowledge and information to students in different curricular areas and subjects but also they do it in a manner which students find easy to learn from. Again, this is an aspect which is quite pertinent in the Indian context. There are many schools in the country with a single teacher per subject. It becomes difficult for them to cater to the learning needs of students at different levels. In many instances, students, particularly first-generation learners, also find themselves in a crucial situation of not having anyone at home to help them academically. Textbooks try to bridge these gaps in the process of teaching and learning in schools.

Textbooks also serve as important instruments through which students' learning achievements are measured. This particular aspect undoubtedly raises many important questions. One of these is related to the syndrome of rote learning. Traditionally, exercises given at the end of each chapter in textbooks require students to glean answers from within the textbooks. This prevents creative learning at the level of the students. Giving credit to textbook-based answers as the most appropriate ones forecloses the option of taking to reflective teaching at the level of the teachers. However, these are issues more related to the type of textbooks in use. Besides, rote learning is also due to the tools and techniques that are employed to assess student learning. As textbooks give more primacy to analysis of facts rather than packaging information, the scope for rote learning gets limited. Similarly, as student assessment practices change with necessary modification in the typology of questions, greater incentive accrues for innovative answers. Thus, textbooks as the most important curricular material hold immense potential to make education accessible and exciting at the same time.

The necessary accompanying materials to the textbooks are workbooks and laboratory manuals. In subjects like languages workbooks are a natural corollary. At least in primary and upper primary classes, workbooks provide students opportunities to go beyond textbooks and engage with tasks that require understanding, knowledge and skill. Such exercises also help students gain confidence in their ability to go for creative writing and self-articulation on issues of particular interest. In other words, workbooks facilitate a student's journey from the familiar to the unfamiliar and thereby serve an important goal of education, which is construction of knowledge. Similarly, in science subjects, laboratory manuals guide students to conduct experiments not only to revalidate stated scientific principles, but also to find answers to newer puzzles. Much of student creativity relies on such exploratory laboratory experiments.

As has been stated earlier, the second category of curricular materials such as dictionaries, atlases, supplementary books, grammar books, 'do-it-yourself practice

manuals', etc. are often not prescribed, but recommended. The importance of these materials for the teaching-learning process is well recognised across the board. Dictionaries, for example, not only provide meanings of words but they also enlighten students about their origin, usage, pronunciation, etc. There are also subject-specific dictionaries, which elaborate on the key concepts and terms used in those subjects. In fact, without these dictionaries, first of all, it would be a mammoth task for the textbooks to explain every single term used in them and, secondly, it would also be extremely difficult for both students and teachers to make proper sense of such terms. Such dictionaries typically provide information not only about the applied sense of the terms used but also deal with the events, ideas, personalities and phenomena associated with particular subjects, thus making comprehension of those subjects much easier. Similarly, atlases provide crucial inputs to teachers and students to visualise complex themes. In social sciences particularly both information and analysis, be it in geography, history, political science or economics, rely extensively on map work. Specialised atlases carrying thematic and illustrated maps often cater to such needs. Supplementary books are the other resources, which help teachers and students rely on not only for additional information but also to deepen their understanding on issues and concerns touched upon by textbooks. Besides, these books also help in doing projects and activities. Libraries well-stocked with such resources make the processes of teaching and learning more purposeful and expansive.

Teacher-made materials like charts, graphs, tables, timelines, and tools of assessment like criterion-referenced and competency-based questions, study packages, etc. could also be considered as curricular materials belonging to this category. Such materials have their own importance as teachers actively engaged with the process of teaching and learning of a given subject are more attuned to the learning needs of their students.

Activity 3

As a teacher, make a list of supplementary books, audio-visual materials, kits and other resources for teaching and learning of your subject at the secondary level. Provide brief assistive notes to all such materials listed by you.

....

....

....

....

....

....

....

....

....

....

....

Check Your Progress 3

Notes: a) Write your answer in the space given below.

b) Compare your answers with the ones that are given at the end
of the unit.

5. How are curricular materials categorised? Is it desirable to categorise
curricular materials? Explain.

....

....

....

....

6. What are the teacher made materials which are considered as curricular
materials?

....

....

....

....

....

4.6   IMPLICATIONS OF CURRICULAR DIVISIONS FOR LEARNER-CENTRED PEDAGOGY

By now you might have got a fair sense of what is a curriculum, how is it related
to syllabi in different subject areas, how are different subjects areas chosen by the
curriculum for imparting education at the school level, what are curricular materials
and what importance do they carry in relation to school education. It now then
makes sense to talk about pedagogy, which, going by its lexical meaning, refers
to 'strategies of instruction'. It is fairly understandable to anyone associated with
the process of school education that simply prescribing a syllabus or a course of
study in any subject area by itself will not achieve the desired learning outcomes
unless it is backed by learner-centric methods of delivery at the end of its recipients,
whether in the classroom or outside of it. So far as the classroom is concerned,
what makes the processes of instruction learner-centric are the ways in which the
teacher deals with the course content by involving the learners in all its activities
– from reading a passage from the textbook to analysing its various points through
debates and discussions in the light of the learners lived experiences to posing
questions and trying to find reasonable answers to those questions. Outside the
classroom, it is the textbook and other curricular materials about which we have
already discussed before, which help a learner in any subject area to understand,
interpret and draw conclusions for construction of knowledge. In this segment, we
will discuss about such processes of teaching and learning at some length and
through such discussion focus on the rationale of dividing the curriculum into
subject specific domains to facilitate learner-centred teaching-learning practices.

4.6.1   What is Learner-centred Pedagogy?

'Why is pedagogy necessary'? This is an obvious question in relation to the process of education, and more so, in relation to school education. Pedagogy becomes necessary as the process of education itself is loaded with objectives. In order to achieve those objectives, there ought to be methods in place.

For long, in many societies, education was thought to be a process through which their budding citizens could be moulded into desirable shape and character. The contrasting systems of education prevalent in the ancient Spartan and Athenian societies provide us with such examples. During the colonial period in India an admitted aim of introducing the English education was to make Indians adopt the English ways of thinking and lifestyle. After India achieved independence an important goal of education became nation building and the participation of the country's young in that process. Thus suitable curriculum, textbooks and methods of imparting education were devised accordingly.

As it is clear by now, in all these instances the child or the budding citizen, in a sense, was the object of education. However, as societies have matured, they have come "to recognise the 'child' as a natural learner and 'knowledge' as the outcome of the child's own activity". This recognition forms the basis for devising child-centred pedagogy. The National Curriculum Framework, 2005 delineates it in the following way. To quote: "Child-centred pedagogy means giving primacy to children's experiences, their voices, and their active participation". This kind of pedagogy requires us to plan learning in keeping with children's psychological development and interests. The learning plans, therefore, must respond to physical, cultural and social preferences within the wide diversity of characteristics and needs. Our school pedagogic practices, learning tasks, and the texts we create for learners tend to focus on the socialisation of children and on the 'receptive' features of children's learning. Instead, we need to nurture and build on their active and creative capabilities – their inherent interest in making meaning, in relating to the world in 'real' ways through acting on it and creating, and in relating to other humans." Thus, in essence, learner-centred or child-centred pedagogy refers to an educational process where everything – from developing curriculum, syllabi, textbooks to devising teaching strategies in classrooms and beyond it – is perceived from a child's or learner's point of view and designed and conducted accordingly. This leads us to dwell on how learner-centred pedagogy helps in construction of knowledge.

4.6.2   Learner-centred Pedagogy for Construction of Knowledge

As part of our daily observation we see how after birth a child grows into adulthood by getting involved with the social and natural environment around her and learning continuously from both. This is a natural ability, which every human child is endowed with. And, on the part of that child, learning from the social and natural environment results in formation of subtle understanding and ideas. This helps her in forming her personality, which, in a sense, is knowledge based. In other words, the natural process of growing up or socialisation is also a process of knowledge construction.

However, this natural process has inbuilt limitations. It is not always possible for a child to critically engage with and draw correctly from the complex social and natural environment surrounding her all by herself. Many a times failure in doing

so leads to different kinds of distortions. Therefore, she requires constant mediation of more experienced and knowledgeable persons around her in this informal process of knowledge construction. A school is a place, which institutionalises this process of knowledge construction. In the words of the National Curriculum Framework, 2005, "Schools as institutions provide new opportunities for all learners to learn about themselves, others, and society, to access their inheritance and engage with it irrespective of and outside the access provided by one's birth into a family and a community. The formal processes of learning that school makes possible can open up new possibilities of understanding and relating to the world".

We may measure the prevalent teaching-learning practices in our schools against this pronouncement. The National Curriculum Framework, 2005 sums it up well by saying, "Children's voices and experiences do not find expression in the classroom. Often the only voice heard is that of the teacher. When children speak, they are usually only answering the teacher's questions or repeating the teacher's words. They rarely do things, nor do they have opportunities to take initiative". Going beyond this prognosis we may also add by saying that what the children actually state in classrooms, while responding to teachers' questions, are not something that they have formulated based on their own understanding of the issues involved or after harnessing different sources of knowledge but rather what they have been taught based on information and deductions given in textbooks. Furthermore, what the teachers usually dole out in classrooms are much of the same things thus making the entire process just flow from the textbook and end with it leaving no scope for construction of knowledge through active learning. This phenomenon has been caught concisely in the National Curriculum Framework, 2005, which says, "Frequently, the notions of 'good student' that are promoted emphasise obedience to the teacher, moral character, and acceptance of the teacher's words as 'authoritative' knowledge". On the whole, these practices rail against the actual goal of education, which is knowledge creation. Therefore, it is necessary to devise and have teaching-learning strategies where the child is kept in the centre. This includes the development of a child-centred curriculum, which informs accordingly the design of textbooks, teaching strategies, annual academic and activity calendars of schools, and also student assessment strategies.

As the National Curriculum Framework, 2005 says, "Children will learn only in an atmosphere where they feel they are valued".

4.6.3 Merits and Demerits of Learner-centred Pedagogy

So far, we have discussed about the need for learner-centred pedagogy keeping in view what has bothered our system of education. In other words, we have discussed about the merits of learner-centred pedagogy alongside its need. For one, this approach puts the hand where the mouth is. As the aim of education is to enable a child to realise his innate potential, it behoves that it becomes responsive to his needs. The learner-centred pedagogical approach does this. Children tend to learn in many ways depending upon their inherent capacities and natural tendencies. Therefore, a 'one-size-fits-all' approach fails to cater to their diverse needs. When insisted upon, this kind of approach actually turns away many of them from the system itself. Moreover, a system of education is expected to promote innovation and creativity. Failing this, a society faces the spectre of remaining mired in mediocrity and poverty. A system of education, which does not provide opportunities for questioning or learning in creative, explorative ways cannot promote or nurture a culture of knowledge creation. A learner-centred pedagogic approach offers such possibilities.

However, no system or approach is beyond limitation. Learner-centred pedagogy works well when the system is already in a position to implement it. In other words, learner-centred approach needs to reckon ground realities. Often the pre-requisites of such an approach are difficult to meet in an evolving system. This is so especially where (a) the student population is too large in comparison with teacher availability, (b) teachers are not adequately trained or motivated to implement such an approach, (c) physical as well as curricular resources in schools are perennially in short supply, (d) teachers are engaged more with managerial responsibilities than in working out teaching strategies, and (e) the systems of school management are more administratively attuned than academically oriented. Besides, there are also academic limitations associated with this approach. First of all, it makes the process of mediation rather week in the overall teaching-learning process by redefining the role of teachers as mediators between the courses of study and the learners. Secondly, it saddles the process of learning assessment with uncertainties. In a situation where multiple answers crop up to a specific question it becomes difficult to grade them appropriately thereby making the whole exercise grossly subjective. Thirdly, it leaves many learners clueless about what is right and what is wrong when teaching-learning takes place much through debates and discussion. Lastly, providing "opportunities to try out, manipulate, make mistakes and correct oneself", which are essential in a learner-centred approach, sound akin to repeatedly allowing the reinvention of the proverbial wheel.

Action research undertaken by teachers on this score may point out other limitations. But these are not by themselves insurmountable. Many countries and top schools in India have indeed become far more attractive as destinations of gainful education based on their reputation of pursuing learner-centred curriculum and pedagogy.

Activity 4

As a subject teacher prepare a presentation highlighting how you propose to teach a particular theme or lesson using learner-centred pedagogy.

....

....

....

....

....

....

....

....

....

....

....

Check Your Progress 4

Notes: a) Write your answer in the space given below.

b) Compare your answers with the ones that are given at the end of the unit.

7.   What do you mean by learner-centred pedagogy? What are its needs?

....

....

....

....

8.   What do you mean by construction of knowledge? Why do you think it is important?

....

....

....

....

9.   List the merits and demerits of learner-centred pedagogy.

....

....

....

....

4.7   LET US SUM UP

Universalisation of school education is one of the most important features of modern nation states. Curriculums provide the frameworks for the educational process to take place. Curriculums also impart order to education. A syllabus is more specific in nature. It provides a summary of topics meant to be covered in a certain stage of education, in a particular class or in a given subject. In educational context, a subject is commonly understood as a body of knowledge in a given area. It also refers to what is often called a discipline. Curriculum, syllabi and subjects are intimately linked to each other. This is particularly so at the level of school education. Curricula also contain elements of vision even while they appreciate the given contexts. They also provide guidelines that are followed while drafting syllabi for various subjects. Based on such syllabi, textbooks are developed in different subjects for various classes. Curricula also take into account multiple concerns that lie embedded in societal contexts. What are the domains that should constitute the base of education? The 'aims of education' at any given time provide us with some answer to this question. Even as learning is sought to be facilitated through neatly categorised and well labelled subject areas, yet from the perspective of a learner it all makes a composite whole.

An integrated curriculum means connecting various curricular areas in such a manner that it becomes truly wholesome and far more enriching from a learner's point of view. However, there are obvious concerns linked to any form of integrated curriculum. There are different ways of integration which offer substantive options for adaptation by educators at different levels.

Curricular materials are crucial for the achievement of the overall educational goals in a system. Curricular materials could be of two types. The first belongs to the category of those which are prescribed whereas the second are usually accompanying materials to the first ones. Curricular materials are also sometimes classified depending upon who these are meant for. Curricular materials for teachers are not only essential when any move to introduce a new set of textbooks or a new kind of textbook is made, but such materials form a critical component of quality education.

'Why is pedagogy necessary'? This is an obvious question in relation to the process of education, and more so, in relation to school education. As societies have matured, they have come "to recognise the child as a natural learner and knowledge as the outcome of the child's own activity". This recognition forms the basis for devising child-centred pedagogy. As part of our daily observation we see how after birth a child grows into adulthood by getting involved with the social and natural environment around her and learning continuously from both. A school is a place, which institutionalises this process of knowledge construction. A one-size-fits-all approach fails to cater to the diverse needs of learners. However, no system or approach is beyond limitation. Learner-centred pedagogy works well when the system is already in a position to implement it. Many countries and top schools in India have indeed become far more attractive as destinations of gainful education based on their reputation of pursuing learner-centred curriculum and pedagogy.

4.8 REFERENCES AND SUGGESTED READINGS

NCERT (2000), National Curriculum Framework for School Education, 2000, New Delhi: National Council of Educational Research and Training.

NCERT (2005), National Curriculum Framework, 2005, New Delhi: National Council of Educational Research and Training.

NCERT (2006), National Focus Group Position Paper on Social Sciences, New Delhi: National Council of Educational Research and Training.

NCERT (2006), Curriculum, Syllabus and Textbooks – National Focus Group Position Paper, New Delhi: National Council of Educational Research and Training.

NCTE (2009), National Curriculum Framework for Teacher Education – Towards Preparing Professional and Humane Teachers, New Delhi: National Council for Teacher Education.

4.9 ANSWERS TO CHECK YOUR PROGRESS

1. Curriculum provides the framework for the educational process to take place. It covers all facets of education. It could also encompass the entire spectrum of education, though from a practical standpoint, it may be confined to a certain stage of education. Whereas syllabus is more specific in nature.

It provides a summary of topics meant to be covered in a certain stage of education, in a particular grade or a class, or in a given subject.

2. To ensure burden-free learning of the students; to develop critical analysis and understanding on the content studied; to utilise experiences of the learners for constructing knowledge; and also help the learners for development of complete personality. Last part of the question is self-exercise.

3. For example, in the domain of 'Mathematics', going beyond the narrow aim of developing useful capabilities relating to numeracy, it sets a higher aim of developing 'the child's resources to think and reason mathematically, to pursue assumptions to their logical conclusion and handle abstraction' as 'a way of doing things' with 'the ability and the attitude to formulate and solve problems'.

4. Integrated curriculum means connecting various curricular areas in such a manner that it becomes truly wholesome and far more enriching from a learner's point of view. One way of doing it is to weave the curriculum around well designed themes. Last part of the question is self-exercise.

5. Curricular materials can be categorised in two heads. The first category includes textbooks, workbooks, laboratory manuals, etc. and the second category includes the materials such as dictionaries, atlases, supplementary books, grammar books, 'do-it-yourself' practice manuals, etc. Last part of the question is self exercise.

6. Like charts, graphs, tables, timelines, and tools of assessment like criterion-referenced and competency-based questions, study packages could also be considered as curricular materials.

7. Child-centred' pedagogy means giving primacy to children's experiences, their voices, and their active participation. This kind of pedagogy requires us to plan learning in keeping with children's psychological development and interests. Last part of the question is self exercise.

8. To provide avenues and opportunities to the students to use their experiences to link and understand new concepts and that can help the students to construct their knowledge. Last part of the question is self-exercise.

9. Self exercise. Section 4.6.3 will help you to answer the question.

UNIT 5   ORGANISING SUBJECTS IN SCHOOL CURRICULUM

Structure

5.1   INTRODUCTION

In Unit 4, we have discussed about the inter-relationships that exist between curriculum, syllabi and various domains of learning at the school level. In course of that discussion, we have also dealt with issues concerning integrated curriculum, importance and types of curricular materials, learner-centred pedagogy and its merits and demerits. As and when necessary, we may recall some of that discussion in this Unit which is associated with the present theme, i.e., organising subjects in school curriculum.

There are certain obvious questions that we have to address in this regard. The first is about the bases for organising different subjects of study in a school curriculum. The second is about the appropriateness of such organisation at different levels of school education. The third pertains to meeting the goals of teaching and learning at the school level. Does such organisation of subjects adequately address the needs of students, teachers, and evaluators? At the end, we shall also address the question regarding the use of a uniform syllabus as against the plurality of syllabi designed at the local level or at the school level. The scheme of the Unit, as given above, will give you some uderstanding about the significance of all these questions and how important it is to address them.

5.2   OBJECTIVES

After going through this Unit, you will be able to:

● discuss the rationale on the basis of which the syllabi of different subject areas are organised;

● explain why different subject-wise syllabi are drawn up for different levels of school education;

● describe how selection of content is made to design syllabi in different subject areas;

● explain how different needs of different stake-holders are met in the teaching and learning of different subject areas at different levels of school education; and

● discuss the implications of having a uniform syllabus vis-à-vis locally designed syllabi.

5.3   BASES OF ORGANISING SUBJECTS IN SCHOOL CURRICULUM

In this segment, we discuss the various premises and considerations, which play important role in organising subjects at the school level. We will also discuss how these considerations have varied from time to time in the Indian context, thereby not only imparting certain flexibility to curriculum framing but also hinting at the changing stances of the times concerned. To drive home the point further, we may turn towards instances to see how these considerations do vary from country to country too.

After independence, the Government of India and the State Governments took several steps to bring in certain degree of professionalism into curriculum framing. To realise this goal institutions like the National Council of Educational Research and Training (NCERT), State Institutes of Education (SIEs), State Textbook Boards (STBs), and State Councils of Educational Research and Training (SCERTs) were established beginning with the 1960s. However, the first concrete step to reorganise school education in the country, which subsequently came to be known as the 10+2 system, and to provide for it a definitive perspective, a comprehensive curriculum that was named, 'Ten Year School: A Framework' was developed in 1975. This curriculum framework provided the basis for developing detailed syllabi for different stages of school education while making provisions for the teaching and learning of subjects like environmental studies and science and mathematics from the primary stage onwards. Thereafter, the 'National Curriculum for Elementary and Secondary Education: A Framework', brought out by the NCERT in 1988, further contributed towards the concretisation of a 'national system of school education' in the country by lending it structural uniformity and academic consistency across the board.

This endeavour was even more bolstered in the new millennium. In the light of critical assessments of school education both in India as well as in more advanced countries like the United Kingdom (UK) and the United States of America (USA), apart from at the international level by bodies such as the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the 'National

Curriculum Framework for School Education, 2000' was brought out by the NCERT to make school education more relevant to the changing times and also to ensure 'equity and excellence'. Hence, great emphasis was laid on 'Minimum Levels of Learning' (MLL) at each stage of school education while urging the syllabi in different subjects to be organised in a sequential manner to help learners acquire "the specified sets of competencies in each unit before moving on to the next one". Besides, emphasis was also laid on the 'learner-centred approach' to achieve the carefully determined objectives of education at every stage as expected of the learners in keeping with their physiological and psychological development at that stage.

Close on the heels of this effort a major opportunity presented itself for improvement in the conceptualisation and the designing of syllabi in school subjects following the adoption of the 'National Curriculum Framework, 2005'. It particularly took cognisance of the "real world", which children live in, and the fundamental nature of each subject area from the perspectives of their respective boundaries, the inter-relationships that connect each other, stages at which these were to be studied and, over and above all, the age-group of the learners. On the whole, with the National Curriculum Framework, 2005, there came the assertion towards moving on "the long road to the goal of enabling the system of education to receive and nurture every child".

5.3.1 School Subjects – Languages, Social Science, Science, Mathematics

The Curriculum Framework of 1975 categorised subjects for teaching and learning stage-wise. At the Primary stage, from classes I to V, it made provisions for (a) a first language, (b) mathematics, (c) environmental studies including aspects of both social studies and general science, (d) work experience and the arts, and (e) health education and games. At the Upper Primary stage, from classes VI to VIII, it provided for enhanced learning by (a) making additional provisions for a second language alongside the first language, (b) separating environmental studies into science and social science, (c) dividing work experience and the arts into two separate subject areas, and (d) adding physical education to health education and games. At the Secondary stage, consisting of classes IX and X, it added a third language to the above list.

The Curriculum Framework of 1988, developed on the basis of the 'National Policy on Education, 1986', did not deviate much from the 1975 formulation. Its only points of departure were in regard to the first two years of education, which named as 'Pre-Primary Education', and learning of three languages from the Upper Primary stage onwards. In regard to the first, its emphasis was not to undertake formal teaching of any subject, but to make learning experience joyful through group activities and play-way techniques. The other conspicuous feature of this curriculum was the dropping of the term 'games' from the lists of subjects at all levels.

The Curriculum Framework of 2000 was the first attempt at formulating a 'Scheme of Studies' for all stages of school education, including the 'plus-two stage'. It also advocated: (a) a common scheme of studies for classes I to X; (b) integration of 'ten core components' as identified in the National Policy on Education, 1986 and basic values common to all the major religions in different subject areas at all stages; and (c) flexibility in the selection of content. As the curriculum stated clearly, "The general objectives of education will be realised through the content

and learning experiences related to different subject areas". Accordingly, it renamed the first two years of education as 'Early Childhood Education' (CEC) and called for it "to be made uniformly available to all children of the country to ensure equity". Secondly, it termed the first eight years of education, including the first five years of the primary stage and the next three years of the upper primary stage, as 'Elementary Education'. For classes I and II (ECE), it continued with 'One Language' (now categorically mentioned as the mother tongue or the regional language) and 'Mathematics' providing in both opportunities for children to gain experiential knowledge taking into account the natural and the man-made environment around them, while replacing 'Environmental studies' with 'Art of Healthy and Productive Living' (as the first two subject areas took care of environmental studies at this stage). 'Environmental studies', however, continued to be recommended as a separate subject area during the next three years of primary education. At the upper primary and the secondary stages, again, it clarified the three-language formula as consisting of the mother tongue or the regional language, one modern Indian language and English. Similarly, it clarified 'Health and Physical Education' to include "games and sports, yoga, NCC, and scouting and guiding". To 'Science', it added 'Technology' making the subject, 'Science and Technology'. At the higher secondary stage, it recommended for 'differentiated and specialised in-depth courses in humanities, social sciences, science, mathematics, commerce and the like on the one hand, and a variety of vocational courses on the other'. It termed the first category of courses as the 'Academic Stream' while the second category of courses was named as the 'Vocational Stream'. The 'Scheme of Studies' in each case was to have (a) 'Foundation Courses' and (b) 'Elective Courses'.

The Curriculum Framework of 2005, building on the earlier efforts, brought in epistemological shifts in organisation of school subjects "with a view to making education more relevant to the present day and future needs". Besides, its objective was also to reduce stress on children. It especially recommended "the softening of subject boundaries so that children can get a taste of integrated knowledge and the joy of understanding". In language, it suggested the implementation of the three-language formula while recognising the mother-tongue of children as the "best medium of education". In mathematics, it called for widening the scope of the subject by relating it to other subjects so as to "enhance the child's resources to think and reason, to visualise and handle abstractions, to formulate and solve problems". In science, it called for recasting the teaching of the subject to "enable children to examine and analyse everyday experiences". While recognising the 'disciplinary markers' in social sciences, it called for a 'paradigm shift' in the teaching of the said subject from the perspectives of (a) integration of significant themes, (b) marginalised groups, (c) gender justice, and (d) sensibilities towards minorities. Furthermore, it called for recasting 'Civics' as 'Political Science' and teaching "the significance of history as a shaping influence on the child's conception of the past and civic identity". On a similar vein, it disavowed schemes such as the 'Minimum Levels of Learning', which in its words, "reinforced not only the rigid adherence to year-end outcomes, but also allowed for these to be further narrowed to lessons".

With these ideas, the curriculum framework of 2005 recommended framing of syllabi at the elementary, secondary and the higher secondary stages, which included: (i) Language (Hindi – classes I to X; Urdu – classes I to VIII; Sanskrit – classes VI to VIII; English – classes I to XIII); (ii) Mathematics (compulsory – classes I to X; elective – classes XI-XII); (iii) Environmental Studies (classes III to V);

(iv) Science (compulsory – classes VI to X; elective (Chemistry, Physics, Biology – classes XI-XII); and (v) Social Science (compulsory – classes VI to X; elective (Geography, History, Political Science, Economics, Sociology, Psychology, Business Studies, Accountancy – classes XI-XII). Besides, the curriculum also recommended framing of syllabi for Art and Physical Education at all stages and Media Studies at the higher secondary stage. In a way, these subject areas, being recognised across curricula, have thus far come to define the domains of school education.

5.3.2   Bases for Organising School Subjects

One finds a few points standing out quite sharply while taking a look at the bases, which framers of curriculum have taken into consideration for zeroing in on the kinds of subjects that are to be taught at different stages of school education. For example, the curriculum framework of 2000 emphasised on "establishing uniformity of structure of school education, i.e., 10+2+3 throughout the country". What is important here is to note that school education cannot be seen in isolation and that it must deal with those subject areas, which will offer scope for vertical mobility. Besides, there must also be some commonality built into the system for horizontal movement. This necessitates offering of subjects that have relevance as well as resonance through the entire spectrum of school education. This was echoed by the curriculum framework of 2000, when it called for providing "broad-based general education to all learners up to the end of the secondary stage to help them become lifelong learners and acquire basic life skills and high standards of Intelligence Quotient (IQ), Emotional Quotient (EQ), and Spiritual Quotient (SQ)". The other base that is often taken into account is the learners abilities and the social context. In addition to it, the framers of curriculum also keep in mind the evaluative dimension of a given subject area. But for this criterion it would not be possible to assess students' learning outcomes.

Apart from the above, there are several other considerations too. These considerations are often linked to societal expectations, which get reflected in the formulation of school subjects. What a child going to school is expected to learn? That there must be language and mathematical abilities in school curriculum. Scientific temper characterised by the spirit of enquiry and understanding of the social and natural environment are also considered to be the hallmarks of a modern human being. To add to these, understanding of diversity in geographical formations and people living in different parts of the country and the world, appreciation of the past with its achievements and pitfalls, and the use of technology and its implications are also necessary concomitants of modern life. Therefore, all of these provide considerable basis for organising school subjects.

The curriculum framework of 2005 made seminal departures while looking at the bases for organising school subjects. Noting that 'no other task in educational planning is as complicated as organising a child's day at school', its overall thrust in this respect was to 'let children be children, and allow them all to realise their potential' by seeking to "relate classroom learning with children's life outside". Thus in the area of language the emphasis it laid on was for the syllabus to create "meaningful contexts for language acquisition". In mathematics, it laid emphasis on reasoning and the grasping of the subject at every stage. In Environmental Studies, it asked the syllabus to be woven around six common themes that are close to the child's life such as family and friends, food, shelter, water, travel, and everyday things that we do. In science, too, it asked the syllabus to focus on core

themes while integrating assessment into the learning process. In the social sciences, it asked for the syllabi to centre on activities and projects, "which would help learners to understand society and its institutions, change and development". On the whole, while organising subject-wise syllabi, the curriculum asked for a decisive 'shift from knowledge transmission to active participation of learner in the construction of knowledge'.

Activity 1

Collect critical studies on all the four curriculum frameworks that are available in public domain and write an analytical essay on the considerations, which animated the said curriculum frameworks to recommend different schemes of studies.

....

....

....

....

....

....

Check Your Progress 1

Note: a) Write your answer in the space given below.

b) Compare your answers with the ones that are given at the end of the unit.

1.   How many curriculum frameworks have so far been developed in India? What have been their respective approaches towards making subject-wise syllabi?

....

....

....

....

2.   What considerations in your view should provide bases for organising school subjects?

....

....

....

....

....

5.4 APPROPRIATENESS OF SUBJECTS IN CURRICULUM AT DIFFERENT STAGES

Across curricula the importance of teaching and learning of subjects from the learners' perspective has been well recognised. This has been more so in case of the last two curriculum frameworks. The curriculum framework of 2000 manifestly admitted this with the words that 'learners are not passive objects' and then went on to add that for curriculum construction 'an integrated approach for understanding the characteristics of learners seems appropriate and helpful'. The curriculum framework of 2005 too recognised the child 'as a natural learner' and knowledge 'as the outcome of the child's own activity'. Thus, what it expected the 'formal processes of learning' taking place in schools to do for children was largely to 'open up possibilities of understanding and relating to the world'.

5.4.1 Stages of School Education - Primary, Upper Primary, Secondary and Higher Secondary

All the four curriculum frameworks that we have talked about have sought to define the stages of school education taking into consideration the physical, mental and emotional developments of children. Accordingly, they have also provided guidelines for organisation of content in different subject areas.

However, there has been some discordance so far as the primary education is concerned. As we have already pointed out, the curriculum framework of 1988 was the first to recognise the distinctiveness of the first two years of education of a child from the subsequent stages in terms of how to engage them constructively in the process of their own development in the overall context in which they are born and being educated, and labelled it as the 'Pre-Primary Stage'. What followed from this recognition was the recommendation to not engage these children in any sort of formal teaching. But the curriculum framework of 2000 preferred to formally associate the term 'education' with this stage even while recognising its distinctiveness, and called the process 'Early Childhood Education'. This departure was made with the recognition that children emerging out of a state of dependence and helplessness gradually attain independence and become curious learners during this stage. The curriculum framework of 2005 went a step forward in this direction. Noting that the early childhood stage is 'the most critical period when the foundations are laid for life-long development' and that negligence at this stage could sometimes lead to irreversible 'negative consequences', it required the process, which it called 'Early Childhood Care and Education', to provide adequate 'care, opportunities and experiences' to children to ensure their all-round development at this critical stage.

As for the other stages, there has been marked consistency among the curriculum frameworks with one exception. Until the formalisation of the 10+2 system, the word 'school' in India was generally taken to mean education up to class X. However, following the adoption of the National Policy on Education, 1986 two more years have been added to school education. These additional years taken together have since termed ed as the 'Higher Secondary Stage'.

Such division of school education into 'stages', as we have pointed out earlier, has not been done for the sake of convenience. Rather, it has a developmental validity from the point of view of designing curriculum and teacher preparation. As the curriculum framework of 2005 states, 'seen from a stage-wise perspective,

curriculum thinking and school organisation can overcome problems created by current preoccupation with 'monograde' classrooms as being the norm, with rigid application of age-based grouping of children, and class-wise teaching and learning objectives'. There is another reason too. As the same curriculum framework goes on to state, 'Assessing children for what they have learnt could also then take place over a longer cycle of years spent in school, rather than as yearly requirement spelt out for each class, in hierarchical progression'.

With the above considerations in view, four broad stages of education at the school level stand out. These are: (i) Early Childhood Care and Education; (ii) Elementary Education; (iii) Secondary Education; and (iv) Higher Secondary Education.

Going by the criteria of appropriateness, the curriculum framework of 2005 suggested each of these stages to have the accompanying 'scheme of study and assessment' suitably organised on the basis of (a) the general aims of education, (b) the developmental stage of the children, (c) nature of knowledge in general and the curricular subject areas in particular, and (d) the socio-political context of the children. Accordingly, at the first stage, it recommended 'playing, music, rhyming, art and other activities using local materials, along with opportunities for speaking, listening and expressing themselves, and informal interaction' to be the 'essential components' of education. In addition, it pointed out that the language used at this stage should be the one, which 'the child is familiar with the immediate environment', while she could be comfortably introduced to a second language from Class I onwards in 'an informal multilingual classroom'. At the second stage, it recommended education to be of 'an integrated character, enabling children to acquire facility in language and expression and to grow in self-confidence as learners, both within and outside school'. At the next stage, it recommended the courses to aim at 'creating an awareness of the various disciplines' and thereby introduce the children to the "possibilities and scope of study in them'. As for the last stage, it sought 'possibilities of choosing optional courses of study for exploring and understanding different areas of knowledge, both in relation to one's interest and one's future career'.

The above recommendations, on the whole, addressed the appropriateness of subject-wise curriculum organisation at all stages.

5.4.2 Making Selections of Content in Different Subject Areas and Designing the Syllabus

Having discussed the issue of appropriateness of organising curriculum for different stages of school education, it now becomes incumbent on us to take a closer look at subject-wise designing of syllabus and content selection. As in case of the first issue, in this instance, it would also be more instructive for us to look at the rationale for designing the syllabus than to look at the fine print of the 'list of content'.

By a syllabus we generally mean only a list of content. But, like putting together a few words at random do not make a sentence, similarly putting together a few topics to make a list out of them do not make a syllabus. In other words, a syllabus needs to be a product of consistent thinking with each of its topics thematically linked to the other making the entire document an integral whole. So, first of all, what is more important is the approach towards conceiving the subject. From the point of view of the learners, what objectives are going to be met by

studying that subject? And, from the points of view of the educators, what objectives are going to be achieved by outlining the syllabus in the given subject? The second task is to be mindful about the internal logic of the subject. As all of us know, every subject has its own disciplinary character with assorted methods of enquiry, presentation of facts, analytical framework, and inferential techniques. Thus, designing a syllabus needs to contend with all these factors. The third thing to be attentive about is the linearity of the scheme of study. This is necessary to ensure progression in study. The fourth dimension of a syllabus is about acquainting a learner about the scope of the subject. At a higher level, a learner can access the world of knowledge by studying a subject in all its vividness. At the school level, the learner needs to get a glimpse of such vividness to get over stereotypical notions of closed character of different subject areas. This is all the more necessary from the perspective of school education as very often learners make poor decisions about the choice of their subjects for study. This happens as they come under the influence of false notions about different subjects and what avenues such subjects can offer them for further study and knowledge acquisition. Many a times, this also happens because the set syllabi in different subject areas do not adequately make learners aware about the scope of those subjects. The fifth point to look for is about the quantum of content that can be covered in a particular class within the stipulated time period. In an overall scheme of study meant for general education, all subjects hold equal relevance and importance. Hence, there can only be a limited number of periods available to the teaching and learning of any particular subject during the school hours. The amount of course that can be covered within that available time period has, therefore, to be seriously taken into consideration. Finally, the overall design of the syllabus has also to factor in the stage-wise teaching and learning objectives. Here comes in the conceptual framework of the syllabus. Looking at the age-appropriateness of the learning cohort and the type of conceptual understanding that needs to be acquired at a given stage, the syllabus has to apportion the content laid out for study across stages.

Now, we can make a sense out of the above discussion if we take a look at how a syllabus is designed in practice. For this, it will suffice here to take one concrete example, say, History. Students may take up any other subject as per their choice as part of their project activity.

As we have already mentioned in Unit 4, noting that 'learning has become a source of burden and stress on children and their parents' the curriculum framework of 2005 proposed five guiding principles for curriculum development. One of those is 'nurturing an overriding identity informed by caring concerns within the democratic polity of the country'. Based on this principle, the 'National Focus Group Position Paper on Social Sciences' proposed the teaching and learning of social sciences 'to accommodate the multiple ways of imagining the Indian nation'. Hence, it recommended the teaching of Indian History to take place in 'reference to developments in other parts of the world' and not 'in isolation'. Also, recognising the 'pluralistic' character of Indian society, it stated that 'all regions and social groups (should) be able to relate to the textbooks'. As for the textbooks, it stated that these 'should be seen as opening up avenues for further enquiry' and that students should be encouraged to go beyond these to 'further reading and observation'. It also recommended that 'relevant local content should be part of the teaching-learning process, ideally transacted through activities drawing on local resources'. About content its recommendation was especially to focus on a 'conceptual understanding' rather than 'lining up facts to be memorised for examinations'.

With these recommendations in mind, the syllabus makers in history for the upper primary, secondary and higher secondary stages selected content to especially promote understanding and foster both curiosity and capacity among learners for further investigation.

Accordingly, the History syllabus at the upper primary stage focused on Indian history. The scheme was devised in such a way that one chronological time span was covered in each class thereby covering the whole of Indian history, from its earliest times to the present in three years. Thus the syllabus detailed the contents belonging to 'Ancient India' in class VI, 'Medieval India' in class VII, and 'Modern India' in class VIII. The objectives for devising a syllabus like this were five-fold. They are:

i) to provide a general idea of the developments within each period of history while taking care to avoid an excess of detail that can burden textbooks;

ii) to give an idea of the way historians come to know about the past while introducing the learners to different types of sources and encouraging them to reflect on these sources critically;

iii) to create a sense of historical diversity by providing a broad overview while focussing simultaneously on a 'case study' of one region or a particular event;

iv) to introduce the learners to 'time lines' and 'historical maps' to help them situate the 'case studies' and also locate the developments of one region in relation to what was happening elsewhere; and

v) to encourage the learners to indulge in historically imagining what it was like to live in the society that was being discussed.

Now, in a graduating scheme, the syllabus makers at the secondary stage made an attempt to provide content about some of the diverse forces and developments, which have shaped the contemporary history of the world and that of India within that context. While doing so, one of their objectives was to make learners understand how developments in the West as well as in the colonies were quite significant in the making of the modern world. Through this the syllabus-makers wanted the learners to be introduced to such seminal ideas like liberty, democracy and freedom as well as anti-democratic ideas like fascism, racism and communalism. The second objective was to help learners reckon variation within the seemingly similar processes and phenomena of history through selection of such content that deal with how different social groups confront and shape economic and social changes in the modern world. The third objective was to enable learners to recognise how issues reflecting cultural and political changes are often linked to issues of identity and power. The fourth objective was to encourage learners to make sense of variety of sources and think of what they convey and why particular historical events are portrayed in particular ways in such sources. Like in the upperprimary stage, the fifth objective here was also to persuade learners to try and make interconnections between sets of information using 'maps' as well as 'time lines'.

At the higher secondary stage, there was no further need to repeat 'the chronologically ordered histories of India'. This had already been done at the upper primary stage. Therefore, at this stage, the syllabus-makers chose to select and organise content woven around significant themes of the 'World' and 'Indian' history. In doing so, their broader objective was to emphasise to young adult learners waiting to enter into the portals of higher education that history is a critical discipline, a process of enquiry, a way of knowing about the past, rather

than just a collection of facts. And, the particular objective was to enable learners to learn to relate and compare developments taking place in different situations, analyse inter-connections between similar processes located in different time zones and periods, and also discover the relationship between different methods of social enquiry as practiced within the frameworks of different social sciences.

Based on this carefully thought-out syllabus, the History textbooks for classes VI-XII were developed to advance the cause of activity-based teaching and learning in schools. Thus, the textbooks apart from cogently presenting broad narratives on selected content also provided appropriate illustrations that included time-lines, maps and other visual materials alongside important sources for learners to read and reflect upon. Besides, the textbooks also provided pedagogically innovative in-text and end-text questions to encourage critical thinking and formation of historical perspectives. Furthermore, the textbooks also provided indications for learners to go for further reading on any theme of their choice and do multiple activities for learning enrichment.

Activity 2

Collect sample syllabi from different Boards in India and make a comparative study of them in relation to any subject of your specialisation or choice. Make special mention of your own assessment of each of the sample syllabi in the report of your study.

....

....

....

....

....

Check Your Progress 2

Note :   a) Write your answer in the space given below.

b) Compare your answers with the ones that are given at the end of the unit.

3. Discuss the considerations based on which a subject syllabus is drawn up for different stages of school education. Is it important to keep the learners' perspective in mind while doing so? Why?

....

....

....

4. What objectives have the syllabus-makers of History kept in mind while formulating the syllabi in history for different stages of school education? Are those objectives appropriate?

....

....

....

5.5 ADDRESSING THE NEEDS OF STUDENTS, TEACHERS, AND EVALUATORS IN THE FORMULATION OF SCHOOL SUBJECTS AND THEIR TRANSACTION

In this segment, we will focus our attention on the scholastic and the pedagogical underpinnings that go into the teaching and learning of school subjects and how these seek to address the various concerns of students, teachers and evaluators to make school education purposeful.

5.5.1 Teaching and Learning of Subjects – What for?

The imperatives of teaching and learning of various subjects at different stages of school education have been well laid out in the curriculum frameworks.

As for language, it has been widely recognised as the most essential subject, through which, one not only acquires knowledge but also organises thoughts and ideas for effective communication. In an Indian school, a child gets the opportunity to learn three languages. The objectives of teaching these languages include the competence to listen and understand the spoken word through making connections and drawing inferences in a non-linear fashion, read with comprehension, express effortlessly using analytical and creative faculties, write in a coherent manner having control over grammar and vocabulary, and engage in the scientific study of language and literature.

Alongside language, mathematics is another essential subject through which children acquire the competence to think and reason, pursue assumptions to their logical conclusion, and handle abstraction. Through the teaching and learning of this subject, they also develop the ability to address problems that come from the domains of natural and social sciences.

Similarly, the teaching and learning of science as a subject cannot but be emphasised in a school curriculum. Through it children acquire the ability to observe the physical and biological environment carefully, understand conceptual and mathematical models devised to explain physical phenomena, undertake controlled experiments used to arrive at principles, theories and laws governing the natural world, and progress towards newer observations, experiments and innovations.

The teaching and learning of social sciences in schools likewise brings to a child the perspectives and knowledge, which are essential for building a just, progressive and peaceful society. Besides, social sciences also equip children with methods of enquiry that are in many ways essential to creating in them critical moral and mental faculties.

The teaching and learning of health and physical education as a curricular subject in comparison to others has not been consistently emphasised across curriculums. However, with the recognition that health is a critical factor in the overall development of a child, its unconditional inclusion in the curriculum has lately been taken seriously. Accordingly, the subject has come to acquire a holistic character including elements of education in games and sports, yoga, and reproductive and sexual health. Its contribution in terms of enabling children to acquire awareness about their physical, emotional, mental and social development has been phenomenal.

37

5.5.2   Different Needs of Different Stake-holders – Students, Teachers, and Evaluators

The last two curriculum frameworks have unequivocally placed the learners at the centre of all teaching-learning activities in schools. This has been done in recognition of the fact that it is the learners, who actually construct their own knowledge. Thus, the subject-wise syllabi and various curricular materials including textbooks, which flowed from these curriculum frameworks, consciously adapted to the learner-centric pedagogical approach. This called for a change in the role that the teachers had hitherto been playing in the teaching-learning process. Now, instead of being the sole agency of curricular transaction, they were called upon to become facilitators of learning, which was expected to be done largely through debates, discussions, projects, and activities. The expectation in doing so was basically to make it easier for learners to organise their own learning experiences for construction of knowledge. Besides, there was also a broader objective to it. In a significant way, it restored the academic initiatives back into the hands of the teachers. They could now strategise in multiple ways to lead learners to discuss significant themes, debate issues, draw inferences, and finish off with innovative learning assessment. They were no longer expected to only transmit textual information to learners and assess their performance based on such information. This approach to teaching, learning and assessment also enabled innovative evaluation at the summative level. The constraints of asking questions strictly in conformity with the content given in the textbooks, awarding credits for best replication of such content in answer sheets, and leaving no space for logical thinking and creative response in the process thus made way for competency-based assessment. To put it in a nutshell, the three-pronged strategy, namely, setting out curricular objectives based on constructivist outlook in the subject-wise syllabi and aligning these with that of the delineation of content in the textbooks, facilitating, thereby, a thorough recasting of the teaching-learning process so far practiced in schools, and making learning assessment process-oriented for better appraisal of student performance and progress, addressed the diverse needs of all stakeholders, from students to teachers and evaluators, involved in school education in a much more holistic way.

Activity 3

Write an essay based on your reflection on the syllabi, textbooks and question papers of any subject-area of your choice from the point of view of how these have addressed the needs of students, teachers and evaluators and share your write-up with fellow students for their comments.

....

....

....

....

....

....

....

Check Your Progress 3

Note :   a) Write your answer in the space given below.

b) Compare your answers with the ones that are given at the end
of the unit.

5. Why do you think languages should be taught in schools? Is it necessary
to teach more than one language? Why?

....

....

....

....

6. How do you think the last two curriculum frameworks have helped in
recasting the process of school education in India?

....

....

....

....

5.6 ISSUES OF UNIFORM SYLLABUS VERSUS LOCALLY DESIGNED SYLLABUS

Finally, in this segment, we are going to discuss the desirability of having a uniform
syllabus at all levels of school education vis-à-vis locally designed syllabus to suit
diverse educational needs of a country as vast and complex as India. During the
course of the discussion, we will also refer to experiences from other countries
to situate the discussion on a broader context.

5.6.1 Concerns Addressed by a Syllabus

In Unit 4, we have already dealt with various issues that are associated with the
development and implementation of the curriculum, syllabi, and textbooks. How
critically these three are linked to each other has also been noted there. Therefore,
it would suffice here to just remind ourselves that whereas 'curriculum' encompasses
key educational goals and the manner in which these are to be achieved, 'syllabus'
refers to the lists of contents of what is to be taught in different subject areas in
conjunction with their learning objectives. This indicates the symbiotic relationship
that exists between the two. Thus the concerns that are addressed by the syllabus
are indeed addressed by the two taken together.

When it comes to the framing of a syllabus in a given subject, we either tend to
take a convenient top-down or a radically bottom-up view. The top-down view
generally concerns itself with questions like the efficacy of retaining the disciplinary
character of the subject, the importance of giving primacy to the broader national
issues and aspirations, and the necessity of giving coverage to significant global
trends. As opposed to it, the bottom-up view concerns itself with the social,

economic and cultural milieu of the children, the salience of the issues that operate at the local level, and the need to organise the syllabus with reference to such milieu and issues.

On the face of it, the arguments on both sides appear impressive. The syllabus needs to, and indeed, addresses all such concerns. As we are aware, every subject taught at the school level draws its legitimacy and sustenance from the disciplinary character that it possesses. Thus, irrespective of the stage of education, the organisation of a syllabus has to be made in such a way that it retains the essential character of that discipline. This, however, does not mean that the rigour of the discipline will complicate the goal of education at that stage. Therefore, it becomes an abiding responsibility with the syllabus makers to strike a balance between the two. Similarly, while organising a syllabus it needs to be remembered that what is national is not necessarily exclusive of the local. Rather, what distinguishes the two is the scale of the social or natural phenomena that are sought to be dealt with. However, the syllabus has to be mindful of the graduating scheme of study so that it facilitates the learner's progress from the understanding of the local to the national, connecting the two logically in the process. From the point of view of the syllabus the global trends are equally important. This is so, not merely because we are living in a very closely inter-connected world, but also because advancements taking place in the world of knowledge are increasingly becoming the outcomes of global studies and research. Thus, for meaningful participation in such efforts, curricular means need to be put in place from the very outset. The syllabus becomes a legitimate tool in doing so.

Apart from the above, the syllabus also addresses pedagogical concerns. As we are aware, often it is easier to outline themes for study. But, striking a balance between the local, the national and the global, or for that matter, retaining disciplinary character of a subject and simultaneously make it comprehensible at the stage for which it is meant, is quite a challenging task. Therefore, in order to do this, the syllabus has to take recourse to appropriate pedagogical strategy. To begin with, this is done by specifying learning objectives against every theme that is earmarked for study. Next 'projects' and 'activities' that would be helpful in realising the learning objectives are also specified. Finally, the syllabus indicates the evaluation strategies that are to be employed.

However, designing syllabus is a dynamic endeavour. There is no dearth of challenge for it to address. Here, we are going to discuss in some detail one such challenge.

5.6.2 Uniform Versus Locally Designed Syllabus

The debate in connection with the desirability of having a uniform syllabus as against a multiplicity of locally designed syllabi is somehow quite old in India. There are countries like the United States of America (USA), where locally designed syllabi have routine acceptance. Both India and the USA are large, culturally diverse, multi-ethnic societies. But the constitutional schemes in the two countries are different. Constitutionally the USA is a federal country. India, on the other hand, is a 'Union of States'. Initially, education was a part of the 'State List' in the Indian constitutional scheme. Subsequently, it became a part of the 'Concurrent List'. Besides, there is asymmetry in social and economic development across India. Universalisation of elementary education is yet to become a realised goal. Among schools there also exists wide disparity in the country. Against this backdrop, it is but natural to have this debate raging over decades.

With India trying to organise its education system on an even keel after independence, the first nation-wide curriculum framework adopted a clear posture in favour of uniformity. It stated: 'For a vast country like ours with its diversity of languages, social customs, manners, mores and uneven economic development, the needs and demands of individuals and society will have differential pulls on the school curriculum, varying from one region to the other. For the sake of uniformity of standards and of national identity, therefore it is necessary to develop a common curriculum within a broad framework of acceptable principles and values.' While there is no doubt that it was alive to the 'special needs' of different sections of the student population, yet its recommendations for meeting such needs were limited to providing 'additional inputs' for'the talented, the backward, and those coming from non-formal channels". The curriculum framework of 1988, more or less, maintained a similar posture. According to it, 'the scope for flexibility in methodology and approach to transaction of curriculum' should not be 'used for introducing differential courses' as this might 'accentuate disparities in standards of education in different parts of the country'. The preparation of syllabi and textbooks at the district or school level was clearly a no-go zone. The curriculum framework of 2000 only slightly deviated from this line of argument. It stated: 'International experiences have shown that neither the completely centralised approach nor the totally decentralised approach to curriculum development has really been successful. The countries which at one point of time had tried the decentralised approach to curriculum development subsequently reverted back to some kind of a nationally developed centralised curricular policy. In view of this global experience, the most suited workable model of school curriculum seems to be one that could be labelled as the product of coordinated decentralisation, meaning thereby that while the broad framework gets developed at the central level, it goes to the states for analysis and study in their own contexts'. However, despite talking about 'coordinated decentralisation' it did not articulate how this could be done.

Against this backdrop, the curriculum framework of 2005 took a clearer stand in favour of 'decentralised curriculum development'. One argument on the basis of which it took this stand was the vexed issue of 'curriculum load'. The other argument was in relation to the construed meaning of the term, 'National Curriculum Framework'. In its view a national curriculum framework is only 'a means of evolving a national system of education capable of responding to India's diversity of geographical and cultural milieus while ensuring a common core of values along with academic components' rather than 'an instrument of uniformity' as is being commonly supposed. Thus it recommended curricular choices to be made 'with due regard to the child's context' ensuring flexibility and diversity of approaches. However, other than saying that 'academic planning has to be done in a participative manner' at the school level, it did not go beyond issues like village level mapping of educational needs, greater transparency and accountability of budget allocation and expenditure, school-level planning of academic calendar and activities, potential role of headmasters in providing academic leadership, and the necessity of creating a pool of resource persons at the village, cluster and block levels to provide support to schools in terms of ideas and practices and to assist in working them out.

In the mean time more than half the states in India have either adopted or adapted the syllabi and textbooks that have been developed centrally by the NCERT or the CBSE. Many states have also been assisted academically as well as financially

to develop their curriculum framework, syllabi and textbooks in line with the ones which have been centrally developed. Besides, the country as a whole has also moved towards having common syllabi in subjects like Science, Mathematics, Commerce and Economics to facilitate holding of common entrance examinations for entry into higher education in these areas.

Thus, from the practical standpoint at least the scale of the debate seems to have tilted towards uniform syllabus. However, in an era of multiple innovations and experiments, it cannot be anybody's case that locally designed syllabus will have no place in the domain of school education.

Activity 4

Prepare a chart with for and against arguments on the desirability of having a 'uniform syllabus' versus 'locally designed syllabi'. Share this chart with others in your class to get a comparative perspective.

....

....

....

....

....

....

....

....

Check Your Progress 4

Note : a) Write your answer in the space given below.

        b) Compare your answers with the ones that are given at the end of the unit.

7.   WhWhat concerns does a syllabus address? Is it possible for a syllabus to address all concerns?

....

....

....

....

8.   HWhat position has the NCF, 2005 taken in relation to having a 'uniform syllabus'? Has its guideline in this regard been successful?

....

....

....

....

5.7 LET US SUM UP

After independence, the Government of India and the State Governments have taken several steps to bring in some degree of professionalism into the task of framing curriculum. Accordingly, institutions like the NCERT and the SCERTs have been set up. Four national curriculum frameworks have also been drawn up by now. These efforts have contributed towards developing a 'national system of school education' in the country. This system has been further bolstered by the development and implementation of a uniform 'scheme of study' across all stages. The National Curriculum Framework, 2005 has especially made this scheme of study more contemporaneous and relevant by bringing about substantial change in the way the school subjects have hitherto been organised. It particularly disavowed schemes such as the 'Minimum Levels of Learning' that reinforced the practice of rigidly adhering to year-end outcomes in terms of lessons learnt and in its place advocated a decisive 'shift from knowledge transmission to active participation of learners in the construction of knowledge'. This stemmed from the recognition that child is a 'natural learner' and knowledge is 'the outcome of the child's own activity'. Thus, the four stages of school education were defined taking into consideration the physical, mental and emotional developments of children. In this context, the first two years of primary education received special attention of the curriculum frameworks of 2000 and 2005, which has now come to be recognised as the stage of Early Childhood Care and Education. However, all curriculum frameworks kept in mind the questions of appropriateness while issuing guidelines for development of subject-wise curriculum irrespective of the stage it was meant for. Accordingly, syllabi and textbooks came to be developed keeping these guidelines in view to cater to the needs of students, teachers and evaluators. However, the debate regarding the desirability of having a uniform syllabus as against locally designed syllabi is still raging at the moment though the scale seems to be tilted towards the former than the latter.

5.8 REFERENCES AND SUGGESTED READINGS

NCERT (2000), National Curriculum Framework for School Education, 2000, New Delhi: National Council of Educational Research and Training.

NCERT (2005), National Curriculum Framework, 2005, New Delhi: National Council of Educational Research and Training.

NCERT (2006), National Focus Group Position Paper on Social Sciences, New Delhi: National Council of Educational Research and Training.

NCERT (2006), National Focus Group Position Paper on Curriculum, Syllabus and Textbooks, New Delhi: National Council of Educational Research and Training.

S. K. Yadav (2011), National Study on Ten Year School Curriculum Implementation, New Delhi: National Council of Educational Research and Training.

5.9 ANSWERS TO CHECK YOUR PROGRESS

- So far, four curriculum frameworks have been developed in India. They are developed in the year 1975, 1988, 2000 and 2005. Last part of the question is self-exercise.

- Self-exercise.

- Taking into considerations of the physical, mental and emotional development of the children; engage the children constructively in learning in the process of their own development in the over all context in which they are born and being educated; helping children emerging out of a state of dependence and helplessness to gradually attain independence and become curious learners during various school stages, etc. Last part of the question is self exercise.

- To provide a general idea of the developments within each period of history while taking care to avoid an excess of detail that can burden textbooks; to give an idea of the way historians come to know about the past while introducing the learners to different types of sources and encouraging them to reflect on these sources critically; to create a sense of historical diversity by providing a broad overview while focussing simultaneously on a 'case study' of one region or a particular event; to introduce the learners to 'time lines' and 'historical maps' to help them situate the 'case studies' and also locate the developments of one region in relation to what was happening elsewhere; and to encourage the learners to indulge in historically imagining what it was like to live in the society that was being discussed.

- Language is the most essential subject, through which, one not only acquires knowledge but also organises thoughts and ideas for effective communication. Last part of the question is self exercise.

- Section 5.5.2 will help you to answer this question.

- A syllabus generally addresses the concerns like the efficacy of retaining the disciplinary character of the subject, the importance of giving primacy to the broader national issues and aspirations, and the necessity of giving coverage to significant global trends. It also concerns with the social, economic and cultural milieu of the children, the salience of the issues that operate at the local level, and the need to organise the syllabus with reference to such milieu and issues. Last part of the question is self exercise.

- Self-exercise.

UNIT 6 MAKING SUBJECT CHOICES

Structure

6.1 INTRODUCTION

Right choice of subjects and streams at the school stage is an important concern for learners. Learners usually find difficulty in making decision about choosing streams and subjects for their study. Choice of streams and subjects for the children is also a matter of concern for the parents at Secondary and Higher Secondary levels. Because, the right choices of streams and subjects at these stages provide the learners a way forward for continuing further education and career making. Although it seems easy to choose streams and subjects, it is a very complex task. Many factors are responsible for choosing the streams and subjects for students. The learners, the schools, disciplines and subjects, employability, career of the learners, attitude of the family, and social stereotype systems and contemporary education policies are some of the important factors that influence the learners for selecting their streams and subjects.

This Unit helps you to understand and critically analyse the factors responsible for the learners to choose the streams and the subjects especially at the school stage. This Unit will also give you an insight to understand the issues of choosing subjects and streams and help you adopt the right approach and motivate the learners for proper selection of their streams and subjects.

6.2 OBJECTIVES

After going through this Unit, you will be able to:

- describe the prevailing broad structure of School Education in India and the changes happened at past;

- explain learners' choices of streams and subjects to pursue education at school stage;

- critically analyse the factors, which determine learners choices of streams and subjects; and

- sensitize your students to select appropriate streams and subjects at the right time during school education.

6.3 OPTIONS OF STREAMS AND SUBJECT CHOICES FOR THE LEARNERS

School education is the foundation stone and very crucial stage of education in every learner's life. The selection of subjects at the school stage decides the stream that a student opts for at higher education level. Although selecting the streams and subjects is the prerogative of learners, there are factors which influence selection of the streams and the subjects. To understand the factors influencing selection of streams and subjects at the school stage, we need to understand the broad structure of school education in India. So, let us first understand the broad structure of school education in India and the changes made in the past.

6.3.1 Broad Structure of School Education

The present structure of education follows 10+2+3 pattern which means ten years of school education, two years of senior secondary education, and three years of degree level education. This is based on the recommendation of the National Policy on Education, 1986. Let us focus on the structure of various stages of education at the school level.

Table 6.1 : Structure of School Education in India

Pre-Primary Education	Formal/Compulsory Education									Secondary Education	Higher/Senior Secondary/Junior College (+2)	
Pre-Primary (Early Childhood Care and Education)	Primary/Elementary Education											
	Lower Primary					Upper Primary						
Standard/Class												
Nursery	Kinder Garden	Std. I	Std. II	Std. III	Std. IV	Std. V	Std. VI	Std. VII	Std. VIII	Std. IX	Std. X	Std. XI / +2 Ist. Year	Std. XII / +2 IInd. Year
3+ to 4	4+ to 5	6	7	8	9	10	11	12	13	14	15	16	17
Age group													

The structure presented above elaborates the stages of school education and the corresponding age specific classes covered under it. The Early Childhood Care and Education (ECCE) starts from the age group of three to five. It covers two classes i.e. Nursery and Kinder Garten. Recently, in September, 2013, Government of India made an initiative to formalize Early Childhood Care and Education. The system of ECCE in India was formalized by a Gazette notification of the report of National Early Childhood Care and Education. In Govt. sector, ECCE is usually offered in Awangan Wadi centres, whereas in private sector, it is offered in nursery schools. The main objectives of two years of pre-primary schooling are to socialize the children and make them acquainted with good habits and hygienic practices; engage them in physical, mental and motor activities; help them communicate and express their thoughts and feelings; provide them opportunities for self expression; and provide them opportunities to explore, investigate, and experiment; and understand the world around them (Upadhyay and Yadav, 2015).

The formal compulsory education starts from classes I to VIII, which covers the age group of the children from six to thirteen/fourteen. The beginning eight years of schooling is called elementary education for which Right of Children to Free and Compulsory Education, 2009, a fundamental constitutional right has been enacted and implemented from April, 2010. The eight years of elementary education is divided into lower primary (classes I to V) and upper primary (classes VI to VIII) stages. After the completion of eight years of elementary education, learners enter secondary education, which covers classes IX and X. After completion of ten years of schooling, learners enter senior/higher secondary education, which comprises classes XI and XII. During senior secondary education, they need to select a stream and subjects of their choice.

Before discussing choices of streams and subjects by learners, let us learn the changes in the structure of school education suggested by different commissions and policies at different times.

Table 6.2: Pattern of School and College Education in India at Different Times

Committees and Commissions after Independence	Pre-School	School Education				Pre-University Education	University Education		Total Years
	Pre-Primary	Lower Primary / Primary	Upper / Higher Primary / Middle / Junior Secondary	Secondary	Higher / Senior Secondary	Pre-University	First Degree / Undergraduate	Second Degree / Post Graduate	
University Education Commission - 1948-49	-	12 Years of Schooling	-	-	-	-	3 Years	1 Year for Honours and 2 Years for Pass Students in first degree.	16/17 Years
Secondary Education Commission - 1952-53	-	4/5 Years (Classes I-IV/V)	3 Years (Classes V/VI – VII/VIII)		4 Years (including High School) (Classes VIII/IX – XI/XII)	-	3 Years	-	14 / 15 Years (up to First Degree)
Education Commission – 1964-66	01 to 03 Years (Age 03-06)	4/5 Years (Classes I-IV/V)	3 Years (Classes V-VII or VI-VIII)	3/2 Years (Classes VIII-X or IX-X)	2 Years (Classes XI-XII)	-	3 Years	2/3 Years	15/16 Years
National Policy on Education - 1986	02 Years (Age 03-05)	5 Years (Classes I-V)	3 Years (Classes VI-VIII)	2 Years (Classes IX-X)	2 Years (Classes XI-XII)	-	3 Years	2 Years	17 Years

(*Sourse: Report of University Education Commission 1948-49, Secondary Education Commission 1952-53, Education Commission 1964-66, and National Policy on Education 1986*)

47

Committees and Commissions after Independence   Pre-School School

The above table reveals that there has not been uniform structure in school and higher education system since independence in India. On the basis of the recommendations of the committees and commissions, the education structures have been changed from time to time. All these recommendation have impacted the over all education system in the country. Many states did not implement change in the system of education as per the recommendations of the committees and commissions set up from time to time. In this context, let us examine the observations of the Education Commission (1964-66) on the existing pattern of school and college education in different states (1965-66).

Table 6.3 : Pattern of School and College Education in different states of India (1965-66)

States	Duration of Stage in Years						
	Lower Primary	Higher Primary	Secondary	PUC	Higher Secondary	First Degree	Total
Andhra Pradesh	5	3	3	1	4	3	15
Assam & Nagaland	5	3	4	1	5	3	16
Bihar, Gujarat & Maharashtra	7*	-	4	1	-	3**	15
Jammu & Kashmir, Punjab, Rajasthan & West Bengal	5	3	2	1	3	3	14
Kerala	4	3	3	2	-	3	15
Madhya Pradesh	5	3	-	-	3	3	14
Madras	5	3	3	1	-	3	15
Mysore	4	3	3	1	4	3	14
Orissa	5	2	4	1	-	3	15
Uttar Pradesh	5	3	2	-	2***	2	14

Note: * – Integrated primary course, there being no separate middle school. ** – In the University of Bombay there is a two-year intermediate course followed by a two-year degree course. *** – Intermediate colleges.

(*Source: Education Commission, 1964-66*)

The Education Commission (1964-66) observed that different patterns of education were followed by the states during 1965-66. There was no uniformity among states with regard to school and college education. In some states school education was of 12 years including the higher secondary education, whereas in other States it was 11 years. In some states there was one year Pre-university Course prior to the first degree course in the colleges, whereas in some other states it was the part of higher secondary education. There was also the variation of years in first degree course. The above observations clearly depict that the broad structure of education had undergone changes many times.

6.3.2   Choice of Streams and Subjects by Learners

Choice of academic streams and subjects has been a difficult task for the learners at the school stage. In India, diversities play a major role in the education system.

Because of the diversities in languages, subjects in educational institutions, curriculum, scope for further studies, job opportunities, individual aptitude and interest, family background, etc. students face difficulty in making choice of streams and subjects.

Choice of Languages

Choice of languages is a key issue for the learnerss at the school stage. People speak different languages in different states and regions of India. Even within a particular state, people speak different languages and dialects in different parts. In India, people speak 22 major languages which are in 13 different scripts. Apart from this, people also speak 720 dialects. The official languages in India are Hindi and English which are widely spoken by the people (Department of official languages, Govt. of India). The diversities in languages have wide implications for designing, developing and transacting curriculum and learning of learners at the school level and tertiary levels.

Presently, three-language formula has been implemented in school system. The policy on three-language formula was formulated in 1961, at a meeting of the Chief Ministers of different states. The three-language formula was later modified by the Education Commission (1964–66) accommodating, as Sridhar (1989: 22) says, the interests of group identity (mother tongues and regional languages), national pride and unity (Hindi), and administrative efficiency and technological progress (English) (NCERT, 2006). The National Policy on Education, 1968, National Policy on Education (NPE), 1986, and Programme of Action, 1992 have also endorsed three-language formula in their recommendations.

On the implementation of three-language formula, the National Policy on Education (1968) states:

- The First language to be studied must be the mother tongue or the regional language.

- The Second language – In Hindi speaking states, the second language will be some other modern Indian language or English, and in non-Hindi speaking states, the second language will be Hindi or English.

- The Third language – In Hindi speaking States, the third language will be English or a modern Indian language not studied as the second language, and – In non-Hindi speaking States, the third language will be English or a modern Indian language not studied as the second language.

(**Source**: NCERT, 2006).

The policy of three languages at the elementary stage was adopted by many states, but still the issue of language as a subject of learning is a matter of concern. In many states, currently, English is taught in Class-1, whereas it was earlier taught from Class-IV or V. Again, there has been frequent debate as to which language will be treated as first, second or third language in the school. Like the choice of language subjects, choice of other subjects is also an issue for the learners at the school level. Though this is not an issue up to class X of schooling, it becomes an important concern for the learners after class X.

Choice of Streams

Mostly the choice of streams starts after the completion of ten years of schooling.

At the higher secondary stage, i.e., classes XI and XII, learners choose their streams. As per the present practice, the higher secondary students choose one out of 'Science', 'Commerce', and 'Arts and Humanities' streams. Factors which are considered by the learners to select the streams at the higher secondary stage will be discussed in the next section of this Unit. Here we discuss the nature of subjects included in each discipline. The students who choose 'Science' as a stream, are supposed to study subjects namely Physics, Chemistry, Mathematics, Botany, Zoology, Computer Science, Electronics, etc. whereas the students who choose 'Commerce', study subjects namely Accounting, Finance, Marketing, Secretarial practices, Business Mathematics, etc. The students who choose 'Arts and Humanities', study subjects namely Languages, History, Political Science, Economics, Geography, Philosophy, Psychology, Sociology, Education, Statistics, Mathematics, etc.

At this stage, learners usually face difficulty in choosing the streams and the subjects. Very often students choose stream and subjects which are not of their interest and aptitude. It may be due to the wish/compulsion of the family members, peer group influence and other factors. As a result, it is observed that, many learners perform poor at Higher Secondary stage. Some times, it is also observed that learners get frustrated in their studies. It is also sometimes observed that schools offer Science stream to the learners who score high in class X. After filling all the seats in Science stream, selection of learners for Arts and Commerce takes place. This is not the right way to offer streams to the learners. Choice of streams should be based upon students' interests and aptitudes. It is, therefore, important for the parents and the teachers to observe the real interest and aptitude of the learners and accordingly they should be guided to select stream of study and subjects.

Choice of Subjects

There are many complexities of the nature of subjects included in streams. A few subjects are taught exclusively under a particular stream, whereas many subjects are taught across streams. Therefore, students face difficulties in choosing subjects within the stream and across streams. Let us analyze the subjects taught in the streams and across the streams.

Table 6.4 : Streams and Subject Choices

Stream(s)	Subjects taught	Subjects taught across the streams
Science	Physics, Chemistry, Mathematics, Botany, Zoology, Computer Science, Electronics, Economics, Geography, Statistics, etc.	Mathematics, Economics, Geography, Statistics.
Commerce	Accounting, Finance, Marketing, Business Mathematics, Statistics, Secretarial Practice, etc.	Mathematics, Statistics.
Arts and Humanities	Languages, History, Political Science, Economics, Geography, Psychology, Sociology, Philosophy, Education, Statistics, Mathematics, etc.	Economics, Geography, Psychology, Mathematics, Statistics.

Table 6.4, presents the streams, subjects taught under the streams and across the

streams. At the higher secondary level, students select three or four subjects from a stream. Most schools do not allow students to select the subjects of their choice. They offer them in groups, as a result, students are forced to take all subjects offered in a group but not from across the groups. In this case, students study a subject which he/she does not like. Let us see the figure 6.1:

Figure 6.1 : Grouping of Subjects in the Streams

Science

Science

Commerce
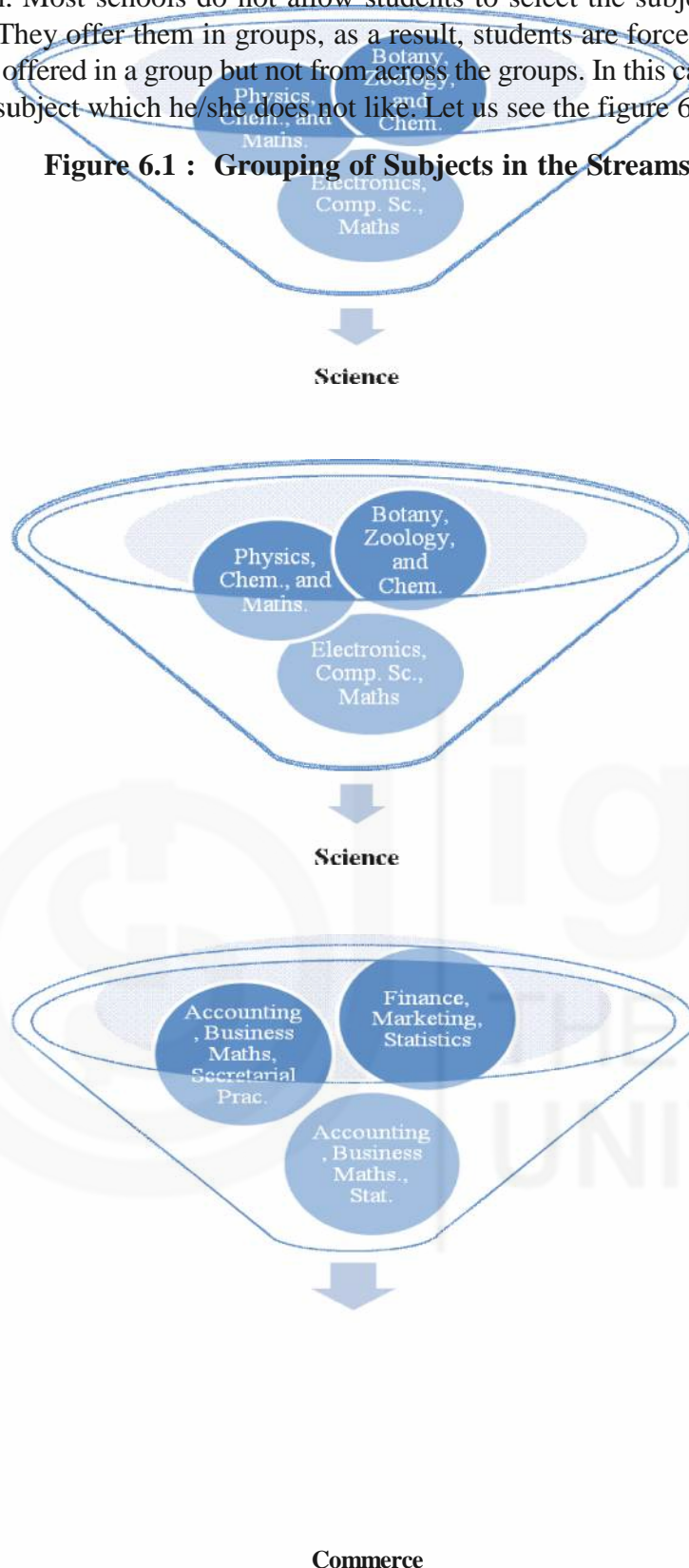
Figure 6.1, presents subjects in different groups under the streams. Usually learners select a group under a stream instead of selecting subjects of their choice. In case, if a student is not interested in a particular subject of group, he/she is forced to study the same. Availability of subjects is also another concern for selecting the subject of one's choice. Most Higher Secondary Schools offer a few subjects. So the choice of subjects for the learners becomes limited. As a result, learners can

not study a subject of his/her choice. Choice of subjects across streams sometimes seems impractical because of arrangement of classes, availability of teachers, and subjects in the schools. These are the major concerns of selection of subjects at the school stage, which need to be addressed and opportunity may be given to the learners for selecting subjects of their interest.

Activity 1

Visit four different higher secondary schools in your locality and fill up the format given below. Interview a few students, about how they select streams and subjects. Do you agree with the subject arrangements and selection criteria of the streams and subjects in the schools? Justify your answer.

Schools	Stream(s)	Subjects offered	Stream and Subject Selection Criteria	Difficulties faced by the students
School-1	Science			
	Commerce			
	Arts and Humanities			
School-2	Science			
	Commerce			
	Arts and Humanities			
School-3	Science			
	Commerce			
	Arts and Humanities			
School-4	Science			
	Commerce			
	Arts and Humanities			

Check Your Progress 1

Note :   a) Write your answer in the space given below.

b) Compare your answers with the ones that are given at the end of the unit.

1.   Analyze the current structure of school education presented in Table 6.1. Is it followed uniformly across the Country? What suggestions will you provide on the structure of school education?

....

....

....

2.   Highlight pattern of school and college education followed in India

during different times.

....

....

....

3. Critically analyse the following:

    a) Difficulties faced by learners in selecting streams:

        ....

        ....

        ....

    b) Difficulties faced by learners in selecting subjects:

        ....

        ....

        ....

6.4 FACTORS DETERMINING LEARNERS CHOICES OF STREAMS AND SUBJECTS

In the first section of the Unit, we discussed the streams and subjects available for the learners at the school level and the difficulties faced by the learners while selecting the streams and the subjects. In this section, let us discuss the factors which influence learners' choice of streams and the subjects. There are many factors pertaining to the learners, their family, society, school, etc. which influence the learners in the selection of a particular stream and subjects for study at the higher secondary stage after completion of ten years of schooling. At this age, the learners are adolescents and not mature enough to take a right decision for their future course of education. They have very limited knowledge about the world of knowledge and emergence of various new areas of study in every discipline which one can choose for their further education. Because of this, sometimes, they are influenced by others and choose a stream of study without considering their interests and aptitudes to study the same. Sometimes, learners do well in the stream and subjects they have chosen and very often they do not perform well. Keeping in view the above, let us discuss the factors which influence learners' choice of streams and subjects.

6.4.1 Learner and School Related Factors

Learner Related Factors

Learner related factors are the most important factors for selecting the stream and the subjects at the school stage. Choice of stream and subjects should be based on the interest and aptitude of the learner. Every stream or subject needs a particular aptitude on the part of learners. Now the question is, how to know, whether learners have that type of aptitude or not. Does the school conduct screening test to know the aptitude of students for admitting them in different streams and help them choose subjects? Mostly, we don't find that such initiatives in the schools. Most schools consider achievement score of students in class X as the basis for admitting them in a particular stream or subject. It is important to note that achievement score is different from the aptitude of students. Though

they are not negatively correlated, but implications of both the variables are different. It is often observed that the past performance may not be the right predictor for future performance. One can earn high percentage of marks because of many factors, such as hard work, proper guidance, rote memory, even also by mal practices in the examinations. Therefore, aptitude and interests of learners need to be assessed before getting admission in a particular stream. The school can do it, or, a career counselor may be engaged to know their aptitude and suggest the stream and subjects which students should choose. That's why learner related factors are important factors for choosing streams and subjects at the higher secondary stage.

School Related Factors

School related factors are also important for choosing streams and subjects just as the learner related factors. You must have observed that all schools do not have similar facilities in terms of availability of streams, subjects, and resources. Learners at the school stage have very limited choices in selecting schools especially in rural areas. They generally choose the nearby schools. Some of the school related factors which influence learners' choices of streams and subjects are discussed below.

i.   **Availability of streams in the nearby schools:** Many a times, it is observed that most higher secondary schools do not offer all streams of study. Most higher secondary schools offer only 'Arts and Humanities' stream. Some of them offer Arts and Humanities along with Commerce. Some of them offer Arts and Humanities, Commerce and Science. It is, therefore, evident that a learner having interest and aptitude in science opt other streams as it is not available in his/her locality.

ii. **Availability of subjects:** Many higher secondary schools have options for only a few subjects in rural or urban areas. Most schools provide three to four compulsory subjects to students. In case a student intends to study a subject of his/her choice within the stream, such option may not be available. Lack of subjects across streams is also another factor as a very few subjects are taught in schools. As a result, learners are deprived of studying subjects of their choice.

iii. **Availability of Teacher:** Availability of teacher is also another important issue in selection of streams and subjects. Sometimes, you must have experienced that a particular subject is available in the school but there is no teacher to teach that subject. In this case, learners do not choose that subject due to non-availability of the teacher. Moreover, the competency of the teacher to teach a particular subject is also another factor which influences the learners to choose a subject.

iv. **Availability of Resources:** Availability of resources is another factor for choosing the streams and subjects. To study a particular stream or subject, learners usually require the concerned textbook and reference books in the school library, related audio visual and resource materials, well equipped school campus with physical facilities, laboratory facilities for the science learners, etc. In case the school lacks such facilities, learners do not choose that stream or subject for study. For example, for the stream of science at higher secondary level, learners need a well equipped laboratory with facilities to conduct various experiments. If the school does not have well equipped laboratory, learners may not choose science stream in that school. So, availability of resources in the school is an important factor for the learners to choose the streams and subjects.

Activity – 1			
As a teacher, you might have identified many other factors related to learners and school which influence learners to select the streams and subjects. Prepare a list of such factors and explain how they influence learners in selecting the streams and subjects.			
Broad Factors		*Specific Factors*	*Reason(s)*
Learner Related	1		
	2		
	3		
	4		
	5		
School Related	1		
	2		
	3		
	4		
	5		

6.4.2 Discipline and Subject Related Factors

The nature of discipline and the subjects also influences choosing the streams and the subjects. After completion of ten years of schooling (Class-X), learners go for higher secondary stage and select a stream and subjects. Each stream has its own disciplinary knowledge which is different from disciplinary knowledge of other streams or disciplines. The objectives of learning are also different in each stream and discipline. Once learners are admitted in a discipline at this stage, they mostly pursue higher education in that discipline. Let us analyse the disciplinary knowledge required in each of the streams, process of acquiring disciplinary knowledge and study further in the discipline at the UG level.

Streams at Higher Secondary Level	Subjects included in Higher Secondary	Process of acquiring disciplinary knowledge at the Higher Secondary Stage	Entry qualification required for higher study in the discipline at the UG level
Science Commerce Arts and Humanities	Physics, Chemistry. Mathematics, Botany, Zoology, Bio-technology, Geography/ Geology, Statistics, Home Science, Anthropology, Engineering Drawing, Electronics, Computer Science, etc.	Empirical evidences, experimentation, scientific inquiry, discovery, exploration, problem solving, data analysis, innovation, etc.	Science as a stream at the higher secondary level
	Accountancy, Business Studies, Computer Science, Economics, Mathematics, Statistics	Problem solving, market and business analysis, exchange and services, analysis of production and consumption, study of profit and losses studying banking system, tax analysis, data analysis, field observation, etc.	Completed Higher secondary education in any stream.

55

	Languages, History, Economics, Political Science, Sociology, Philosophy, Psychology, Mathematics, Statistics, Geography, Education, etc.	Participant and non-participant observation, field study, data analysis, debate and discussion, problem solving, studying people and communities, analyzing human behaviour, etc.	Completed higher secondary education in any stream.

entry qualifications required to pursue higher education in a particular stream.

Table 6.5 : Streams, subjects, process of acquiring disciplinary knowledge and entry qualification required at the UG level

Table 6.5 presents streams, subjects, process of acquiring knowledge and entry qualifications required for higher study at UG level. As it is presented in Table 6.5, learners who are admitted in Commerce or Arts and Humanities can not change their stream to Science, because the nature of disciplinary knowledge is different in Science. But learners who are admitted in Science can change their stream to Commerce or Arts and Humanities. Similarly, Arts and Humanities learners can change their stream to Commerce, if they want. A few subjects are exclusively taught in a particular stream, whereas many other subjects are taught across the streams. All these provisions guide learners to choose their streams and subjects. Those, who intend to study science at higher education level, are expected to study science from the higher secondary level onwards. So, the nature of disciplines and subjects acts as a determinant factor for selecting the discipline as well as the subjects.

6.4.3 Employability and Career

Getting a job after completion of higher education is a general expectation of learners. You might have guided your learners or might have observed learners opting for a particular stream or subject because there is ample opportunity of getting employment or studying higher in that subject. The demand for a stream and subject indicates the scope of employment and career in that stream or subject. For example, it is often observed that, students choose science stream at the higher secondary level because there is the scope for studying subjects like engineering, medicine, agriculture, space technology, etc. In India, if a learner gets a chance to study medicine or engineering in any reputed institutions, he/she has greater probability of getting job placement. Keeping in mind the scope for getting a job or going for higher study, learners choose their streams and subjects. However, aptitude and interest of learners play a significant role in choosing streams and subjects. For example, if a learner who lacks scientific aptitude and interest, selects science stream for getting a better employment may not be successful in his/her study and also in career. But definitely, employability and career influence the learners in selecting their streams and subjects at the higher secondary level.

Activity 2

Select at least ten students from each stream from your or nearby schools with higher secondary classes. Interview them and obtain responses from them on whether future employability and career have influenced them in selection of streams and subjects at the higher secondary level. Analyse their responses in 100 words.

....

....

....

....

6.4.4 Familial Factors

The family background of learners plays an important factor in influencing children to select streams and subjects at the higher secondary stage. In Indian society, children mostly depend upon the parents for selection of their stream and subjects etc. Children hardly go against the decision of their family members. Factors such as parental expectations, economic status of the family, profession of the family members, educational background of the family members, etc. influence children to select their stream and subjects. This is evident from the observations of principals. "Parents get the last word, so we recommend, but we don't counter the parents' decisions. We do give the high school a heads-up in some cases," (People for Education, 2014).

A research in the United Kingdom had found differences between middle

Middle Class Families (Embedded Choosers)	Working Class Families (Contingent Choosers)
They have extensive social capital (contacts, influence, and personal support) that they mobilize to underpin educational choices.	They may have high levels of encouragement and expectations within the family, but minimal social capital to underpin choice.
Choice is based on extensive and diverse sources of information, including formal and informal sources, and personal role models.	They are often 'first-time' choosers, whose family have little or no experience with the education system.
Choice is long-term and often relates to vivid and extensive imagined futures — part of a coherent and planned life course.	Educational choices are highly contingent on structural influences, chance, and circumstances. Choices are made with minimal information, usually from formal sources such as brochures and media images.
Parents are strong framers and active participants in choice.	Choice is short term and weakly linked to imagined futures — part of an incomplete or incoherent narrative. Parents are onlookers or weak framers.
They have more hard information about courses and hot knowledge (first- or second-hand recommendations or warnings related to specific educational institutions, course options, etc.).	They tend to rely heavily on cold knowledge such as handouts and websites, and choose according to geographic proximity to home and costs.

(**Source**: People for Education, 2014, *Taken from Reay, D. & Ball, S. (2005). Degrees of Choice: Class, race, gender and higher education. Trentham Books*.)

class and working class families in their influence over their children to make choice of streams and subjects. The differences are presented in Table 6.6.

Table 6.6 : Different families, different subject choices for the children

Table 6.6 clearly depicts that the choice of streams and subjects by the children can not alone be attributed to school or children, rather the family also plays a very important role in influencing children to choose subjects. Besides the economic status, some other factors relating to the family which influence the choice of streams and subjects are as follows:

● Educational background of the family, especially of the parents, influences choice of stream and subjects by children.

● The choice of subjects by first generation learners is different from the choice of subjects by learners of the family where the elder brother(s) or sister(s) are well educated.

● The profession of the parents and other family members also influence their children for choosing their subjects. It is observed that parents motivate their children to choose the stream or subjects relating to their own profession.

● Socio- economic background of the family also influences the children to choose a particular stream and subjects.

● Generally, the parents from high socio-economic background want their children to continue higher education and accordingly plan to select stream and subjects for their children, whereas the parents from low socio-economic group want their children to opt that stream and subjects in which there will be a scope of immediate employment.

● Success and failure of the parents in education and job also guide them to see their children successful education and job. For example, if a person tried hard and became unsuccessful to get a seat in medicine, he/she expects his/ her children to get a seat in medicine just to compensate his/her failure. Accordingly, the parents guide their children to make choice of such stream and subjects.

Activity 3

In view of the above family related factors, list out some other factors, that you have observed in the family, which influence children in choosing streams and subjects for their study.

....

....

....

....

....

....

....

....

....

....

6.4.5 Social and Cultural Factors

Our society and culture also influence children to choose their subjects at the school stage. We have a composite culture. There are diversities in our social norms and practices. There is hardly any uniform practice to educate the children in the society. The preference of the society to a particular profession, stream of education, job, gender education, education of children with special needs, etc. are the important factors that influence choice of the streams and subjects by the children at the school stage. Let us discuss the factors briefly.

Social preference towards a particular discipline or subject influences the young children according to prevailing social preference, to select the stream and subjects. For example, science is considered superior to other streams. Hence, the young children in the society who study 'Science' stream get more opportunities in comparison to the children who study other subjects.

Apart from social consideration of certain streams as superior or inferior, society also discriminates between boys and girls in their choice of streams and subjects. One of the social perceptions is that the boys should study engineering, physical education, mathematics, etc. whereas girls should opt for the subjects like Home Science, Social Studies, Fine Arts, etc. Such perception is not based on any rationale. But such social perceptions also influence the young children for selecting the streams and subjects. Another social perception is that, boys can go far off places for study, whereas girls can study in nearby schools. As a result, the girls only study those subjects and streams which are available in nearby schools. They do not get a chance to study the subjects and streams of their interest. Though such type of social perception is getting reduced, still many a times they influence children to select their subjects and streams.

Similarly, society perceives education of children with special needs differently. They are told to opt for streams and subjects according to their disabilities. Rather, they should be encouraged to choose streams and subjects as per their interests and aptitude.

6.4.6 Policy Related Factors

Recommendations of the education policies play an important role in influencing learners to select their stream and subjects at the school stage. It is discussed earlier, that the structure of education has changed time and again on the basis of the recommendations of the committees and commissions. Accordingly, the subjects of study at the school as well as tertiary level have also changed. Let us discuss some of the recommendations of the Secondary Education Commission and Central

Table 6.7 : Subjects offered and Criteria of Selection as per Education Policies

Education Commissions	Choices of Subjects at the secondary and higher secondary levels		
	Subject Areas	Subjects offered	Criteria of selection
Secondary Education Commission 1952-53	Languages	1. Mother-tongue/Regional language/a composite course of the mother-tongue 2. A classical language 3. One other language chosen from Hindi/Elementary English/Advanced English/Modern foreign language (other than English)/Classical language.	Learners have to select three languages
	Social Studies	General Course	For the first two years only
	General Science including Mathematics	General Course	For the first two years only
	Craft	1. Spinning and Weaving 2. Wood work 3. Metal work 4. Gardening 5. Tailoring 6. Typography 7. Workshop Practice 8. Sewing Needlework and Embroidery Modeling	One craft to be chosen from the list of crafts given
	Group-1: Humanities	1. A classical language or a third language from Serial No. 3 of languages not already taken 2. History 3. Geography 4. Elements of Economics and Civics 5. Elements of Psychology and Logic 6. Mathematics 7. Music 8. Science	Three subjects from one of the following groups.
	Group-2: Science	1. Physics 2. Chemistry 3. Biology 4. Geography 5. Mathematics 6. Elements of Physiology and Hygiene (not to be taken with Biology)	
	Group-3: Technical	1. Applied Mathematics and Geometrical Drawing 2. Applied Science 3. Elements of Mechanical Engineering 4. Elements of Electrical Engineering	
	Group-4: Commercial	1. Commercial Practice 2. Book-keeping 3. Commercial Geography or Elements of Economics and Civics 4. Shorthand and Typewriting	
	Group-5: Agriculture	1. General Agriculture 2. Animal Husbandry 3. Horticulture and Gardening 4. Agricultural Chemistry and Botany	
	Group-6: Fine Arts	1. History of Art 2. Drawing and Designing 3. Painting 4. Modeling 5. Music 6. Dancing	

	Group-7: Home Science	1. Home Economics 2. Nutrition and Cookery 3. Mother Craft and Child care 4. Household Management and Home Nursing	
	Additional Subject	Additional Subject	Besides the above, a student may opt for one additional subject from any of the above groups irrespective of whether or not he/she has chosen his/her other options from that particular group.
Central Board of Secondary Education, Senior Secondary Curriculum for 2015-16.	Languages	Hindi, English, Assamese, Bengali, Gujarati, Kashmiri, Kannada, Marathi, Malyalam, Manipuri, Oriya, Punjabi, Sindhi, Tamil, Telugu, Urdu, Sanskrit, Arabic, Persian, Limboo, Lepcha, Bhutia, Mizo, Tangkhul, Bodo, Nepali, Tibetan, French, German, Portuguese, Russian and Spanish.	Out of these languages, two languages (Core/Elective) shall be selected, subject to, one shall be English or Hindi (both English and Hindi can also be offered simultaneously)
	Electives	Mathematics, Physics, Chemistry, Biology, Biotechnology, Engineering Graphics, Economics, Political Science, History, Geography, Business Studies, Accountancy, Home Science, Fine Arts, Agriculture, Computer Science/Informatics Practices, Multimedia and Web Technology, Sociology, Psychology, Philosophy, Physical Education, Music and Dance, Entrepreneurship, Fashion Studies, Creative Writing and Translation Studies, Heritage Crafts, Graphic Design, Mass Media Studies and Knowledge Traditions and Practices of India, Legal Studies, Human Rights and Gender Studies and National Cadet Corps.	Three subjects should be selected out of the list of elective subjects. The selection of elective subjects is usually from one of the Academic streams such as Science, Commerce, and Humanities.
	Additional Subjects	As per the list mentioned above	A learner can also opt for an additional elective which may either be a language at elective level (out of those mentioned above) or, any other elective subject.

Board of Secondary Education on subjects offered at higher secondary level.

The Secondary Education Commission, 1952-53, has recommended the following subjects to be offered during secondary level and higher secondary level.

(*Source: Secondary Education Commission, 1952-53, and Central Board of Secondary*

Education, 2015)

Table 6.7, presents the policies regarding selection of subjects at the high school and higher secondary school. Every policy provides guidelines to choose the subjects. That's why, education policy is a factor which guides the learners to select subjects.

Activity – 4

Visit at least two higher secondary schools in your locality and get the information about how they offer subjects to the students of the Classes XI and XII. Write your findings in about 75 words.

....

....

....

....

....

....

Check Your Progress 2

Note : a) Write your answer in the space given below.

b) Compare your answers with the ones that are given at the end of the unit.

4. Critically analyse, how school becomes a determining factor of choosing subjects at higher secondary stage.

....

....

....

....

5. Explain briefly the family and society related factors influencing choice of subjects by the learners.

....

....

....

....

6. How do employment and career influence selection of subjects? Explain.

....

....

....

....

....

7. According to you, what should be the appropriate criteria to offer streams and subjects to the learners? Why?

....

....

....

....

6.5 LET US SUM UP

In this Unit, we have discussed the criteria and factors which influence learners to select their streams as well as subjects at the school stage. Sometimes, learners get an opportunity to study a stream on the basis of their interest and aptitude, whereas, many a times, learners get choices of the streams and subjects on the basis of the marks or grades that they have obtained in the previous examination. The structure of education in India is also responsible for learners to select subjects.

Selecting a stream and subjects for studies is not as easy as it appears. Many factors are responsible for selecting the streams and subjects for the learners. Among the factors, the learner and the school related factors are important. Interest, aptitude, and achievement of the learners, availability of subjects, streams, teachers, resources in the schools influence learners in selection of the subjects. Apart from these, disciplines and subjects have their own knowledge base. This is also a factor for selecting the subjects and discipline. Future, career in a particular area, employment opportunities also determine the selection of streams and subjects. Besides these, attitude of family members towards a stream and subjects, expectation of the parents, educational background of the family members, societal preferences to the streams and subjects, attitude towards boys and girls, are factors determining selection of streams and subjects. Also, education policies of the country formulated from time to time also determines selection of streams and subjects.

6.6 REFERENCES AND SUGGESTED READINGS

CBSE (2015-16). Senior School Curriculum, Main Subject, Vol-1. New Delhi: Central Board of Secondary Education.

Govt. of India (1948-49). Report of the University Education Commission (1948-49). Ministry of Education. New Delhi: Govt. of India.

Govt. of India (1952-53). Report of the Secondary Education Commission (1952-53). Ministry of Education. New Delhi: Govt. of India.

Govt. of India (1964-66). Education and National Development - Report of the Education Commission (1964-66). New Delhi: Ministry of Education, Govt. of India.

NCERT (2005). National Curriculum Framework (2005). New Delhi: National Council of Educational Research and Training.

NCERT (2006). Position Paper on Teaching of Indian Languages. New Delhi: National Council of Educational Research and Training.

NCTE (2009). New Curriculum Framework for Teacher Education (2009). New Delhi: National Council for Teacher Education.

NCTE (2014). Teacher Education Regulations 2014, Norms and Standards, and New Curriculum Frameworks. New Delhi: National Council for Teacher Education.

People for Education (2014), Taken from Reay, D. & Ball, S. (2005). Degrees of Choice: Class, race, gender and higher education. Trentham Books. retrieved from http://www.peopleforeducation.ca/wp-content/uploads/2014/02/choosing-courses-for-high-school-2014.pdf, on 12.10.2015.

Upadhyay, G. C. and Yadav, P. (2015). Early Childhood Care and Education – A Way Forward, A Handbook for Teachers and Teacher Educators. New Delhi: NCERT.

6.7   ANSWERS TO CHECK YOUR PROGRESS

1.   Analyse Table 6.1, and do it your own.

2.   Table 6.2 and 6.3 will help you to answer the question.

3.   a)   Selecting a stream is not an independent work. Many factors are responsible for selecting the streams. Moreover, selection of a stream determines future education of the learners.

       b)   Selecting a subject is also not an independent work. The academic streams, grouping of the subjects and aptitude of the learners are factors determining selection of the subjects.

4.   Availability of streams, subjects, teachers, resources, and infrastructure of the school determine selection of the streams and subjects.

5.   Attitude of the family, society and parents, educational background of parents, economic status, and social preferences are the determining factors for selecting streams and subjects.

6.   Job opportunity in a particular discipline, scope for further studies in that stream, etc. determine selection of the streams and subjects at the school stage.

7.   Self exercise.