MAEDN-502

Curriculum Development

MA EDUCATION

3rd Semester

Rajiv Gandhi University
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CURRICULUM DEVELOPMENT

MA [Education]
Third Semester
MAEDN 502

RAJIV GANDHI UNIVERSITY
Arunachal Pradesh, INDIA - 791 112

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About the University

Rajiv Gandhi University (formerly Arunachal University) is a premier institution for higher education in the state of Arunachal Pradesh and has completed twenty-five years of its existence. Late Smt. Indira Gandhi, the then Prime Minister of India, laid the foundation stone of the university on 4th February, 1984 at Rono Hills, where the present campus is located.

Ever since its inception, the university has been trying to achieve excellence and fulfill the objectives as envisaged in the University Act. The university received academic recognition under Section 2(f) from the University Grants Commission on 28th March, 1985 and started functioning from 1 st April, 1985. It got financial recognition under section 12-B of the UGC on 25th March, 1994. Since then Rajiv Gandhi University, (then Arunachal University) has carved a niche for itself in the educational scenario of the country following its selection as a University with potential for excellence by a high-level expert committee of the University Grants Commission from among universities in India.

The University was converted into a Central University with effect from 9th April, 2007 as per notification of the Ministry of Human Resource Development, Government of India.

The University is located atop Rono Hills on a picturesque tableland of 302 acres overlooking the river Dikrong. It is 6.5 km from the National Highway 52-A and 25 km from Itanagar, the State capital. The campus is linked with the National Highway by the Dikrong bridge.

The teaching and research programmes of the University are designed with a view to play a positive role in the socio-economic and cultural development of the State. The University offers Undergraduate, Postgraduate, M.Phil and Ph.D. programmes. The Department of Education also offers the B.Ed, programme.

There are fifteen colleges affiliated to the University. The University has been extending educational facilities to students from the neighbouring states, particularly Assam. The strength of students in different departments of the University and in affiliated colleges has been steadily increasing.

The faculty members have been actively engaged in research activities with financial support from UGC and other funding agencies. Since inception, a number of proposals on research projects have been sanctioned by various funding agencies to the University. Various departments have organized numerous seminars, workshops and conferences. Many faculty members have participated in national and international conferences and seminars held within the country and abroad. Eminent scholars and distinguished personalities have visited the University and delivered lectures on various disciplines.

The academic year 2000-2001 was a year of consolidation for the University. The switch over from the annual to the semester system took off smoothly and the performance of the students registered a marked improvement. Various syllabi designed by Boards of Post-Graduate Studies (BPGS) have,been implemented. VSAT facility installed by the ERNET India, New Delhi under the UGC-Infonet program, provides Internet access.

In spite of infrastructural constraints, the University has been maintaining its academic excellence. The University has strictly adhered to the academic calendar, conducted the examinations and declared the results on time. The students from the University have found placements not only in State and Central Government Services, but also in various institutions, industries and organizations. Many students have emerged successful in the National Eligibility Test (NET).

Since inception, the University has made significant progress in teaching, research, innovations in curriculum development and developing infrastructure.

About IDE

The formal system of higher education in our country is facing the problems of access, limitation of seats, lack of facilities and infrastructure. Academicians from various disciplines opine that it is learning which is more important and not the channel of education. The education through distance mode is an alternative mode of imparting instruction to overcome the problems of access, infrastructure and socio-economic barriers. This will meet the demand for qualitative higher education of millions of people who cannot get admission in the regular system and wish to pursue their education. It also helps interested employed and unemployed men and women to continue with their higher education. Distance education is a distinct approach to impart education to learners who remained away in the space and/or time from the teachers and teaching institutions on account of economic, social and other considerations. Our main aim is to provide higher education opportunities to those who are unable to join regular academic and vocational education programmes in the affiliated colleges of the University and make higher education reach to the doorsteps in rural and geographically remote areas of Arunachal Pradesh in particular and North-eastern part of India in general. In 2008, the Centre for Distance Education has been renamed as "Institute of Distance Education (IDE)."

Continuing the endeavor to expand the learning opportunities for distant learners, IDE has introduced Post Graduate Courses in 5 subjects (Education, English, Hindi, History and Political Science) from the Academic Session 2013-14.

The Institute of Distance Education is housed in the Physical Sciences Faculty Building (first floor) next to the University Library. The University campus is 6 kms from NERIST point on National Highway 52A. The University buses ply to NERIST point regularly.

Outstanding Features of Institute of Distance Education:

(i) At Par with Regular Mode

Eligibility requirements, curricular content, mode of examination and the award of degrees are on par with the colleges affiliated to the Rajiv Gandhi University and the Department(s) of the University.

(ii) Self-Instructipnal Study Material (SISM)

The students are provided SISM prepared by the Institute and approved by Distance Education Council (DEC), New Delhi. This will be provided at the time of admission at the IDE or its Study Centres. SISM is provided only in English except Hindi subject.

(iii) Contact and Counselling Programme (CCP)

The course curriculum of every programme involves counselling in the form of personal contact programme of duration of approximately 7-15 days. The CCP shall not be compulsory for B A. However for professional courses and MA the attendance in CCP will be mandatory.

(iv) Field Training and Project

For professional course(s) there shall be provision of field training and project writing in the concerned subject.

(v) Medium of Instruction and Examination

The medium of instruction and examination will be English for all the subjects except for those subjects where the learners will need to write in the respective languages.

(vi) Subject/Counselling Coordinators

For developing study material, the IDE appoints subject coordinators from within and outside the University. In order to run the PCCP effectively Counselling Coordinators are engaged from the Departments of the University, The Counselling-Coordinators do necessary coordination for involving resource persons in contact and counselling programme and assignment evaluation. The learners can also contact them for clarifying their difficulties in then respective subjects.

SYLLABI-BOOK MAPPING TABLE

Curriculum Development

Syllabus

UNIT I Introduction to Curriculum Development:

Meaning, nature and scope of curriculum
Principles of curriculum construction
Concept of curriculum development
Components of curriculum

UNIT II Foundations of Curriculum Development:

Philosophical
Psychological
Sociological
Historical

UNIT III Process of Curriculum Development:

- Situation analysis and formulation of aims and objectives
- Identification of learning experiences and activities
- Organization of learning experiences and activities Evaluation

UNIT IV Curriculum Design:

Sources of Curriculum Design
Types of Curriculum Design: Subject -centered, experience-cum-activity centered, undifferentiated and differentiated, learner -centered, problem centered design.
National Curriculum Framework for Secondary Education 2005 (NCFSE)

CONTENTS

INTRODUCTION

Curriculum development in historical perspective is both timeless and context dependent. As a process, curriculum development is a contribution by the curriculum field that has stretched into all aspects of university life and indeed culture generally. Curriculum development is timeless because it deals with how to take knowledge of any kind and connect it with a group of students located in time and space. As long as institutions exist for the purpose of schooling, the practice of curriculum development, in some form or another, will persist. Although meanings for curriculum development have shifted during the past 90 years, the

idea that curriculum development implies the preparation and transmission of knowledge within an institution whose purpose is to educate has remained consistent.

The book *Curriculum Development has* been designed keeping in mind the self-instruction mode (SDVI) format and follows a simple pattern, wherein each unit of the book begins with *Introduction* followed by *Unit Objectives* to the topic. The content is then presented in a simple and easy-to-understand manner, and is interspersed with *Check Your Progress* questions to test the understanding of the topic by the students. A list of *Questions and Exercises* is also provided at the end of each unit, and includes short-answer as well as long-answer questions. *Key Terms* and the *Summary* section is a useful tool for students and are meant for effective recapitulation of the text.

The book is divided into eight units.

Unit 1 deals with the meaning, nature and scope of curriculum and principles and concept of curriculum development.

Unit 2 talks about the philosophical, psychological, sociological and historical foundations of curriculum development.

Unit 3 is on the various processes involved in curriculum development.

Unit 4 gives a detailed account of sources and different types of curriculum design.

CONTENTS

UNIT 1 INTRODUCTION TO CURRICULUM DEVELOPMENT

Structure

1.0 INTRODUCTION

India, even today, is examination oriented. The needs of the learner, the social setup and the 21st century skills have never had any precedence in deciding on the learning scenario at the school level. Schools and educational institutions are very often reduced to institutes of boredom.

If one were to study the policy documents, the emphasis on a curriculum that addresses equality stands out. Yet, it has never been translated into practice. Curriculum needs to be defined and it is necessary to understand the implications of the curriculum on the syllabus to be transacted in the classroom. Again this has its implications on the

setting and maintaining of standards in education. This unit attempts to throw some light on those concepts and determinants of the curriculum that need attention.

1.1 UNIT OBJECTIVES

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

- Define curriculum
- Discuss the principles of curriculum construction
- Explain the importance of curriculum development
- Describe the components of curriculum
- Examine Tyler's and types four basic principles

1.1.2 MEANING, NATURE AND SCOPE OF CURRICULUM

The term curriculum has been derived from a Latin word' *Currere'* which signifies a 'Race Course' or a runway on which one runs to attain a goal. Hence, from the above said meaning we can conclude that a curriculum is the instructional and the educative programme, following which the students can achieve their goals, principles and aspirations of life. It is curriculum through which the general aims of school education obtain their tangible expression. Thus, all the other resources that are available in an educational institution for say the buildings, instructional materials like books, online resources, various educational equipments are all meant for effective implementation of the single outcome i.e., curriculum.

Aristotle had commented on curriculum, 'As things are ... mankind is by no means agreed about the things to be taught.... Again about the means, there is no agreement.'

This confusion and disagreement persists till date. We are still confused about what is to be included in the curriculum, how it has to be organized, sequenced and delivered. Apart from all the existing confusion we can, in broad terms, say that curriculum stands for the following:

- Course of study and other related material in written form for school
- The subject content that has to be taught to the students
- Course being offered in an institution
- The totality of planned learning experienced that a school offers to the students

According to Oliva (1997), the following are some definitions of curriculum:

Curriculum is:

- That which is taught in schools
- A set of subjects
- Content
- A programme of studies
- A set of materials
- A sequence of courses
- A set of performance objectives

- A course of study
- Everything that goes on within the school, including extra-class activities, guidance and interpersonal relationships
- Everything that is planned by school personnel
- A series of experiences undergone by learners in a school
- What an individual learner experiences as a result of schooling.

The curriculum could be used to mean a list of topics included for a subject at a particular level, and it could be something that encompasses 'the total experiences provided to the children and as well as out of school' *(Digantar,* Activity-Based Teaching in Kerala and its Achievements: A study of pedagogical interventions in DPEP, 2002). This idea has also been supported by John Bobbitt. John Franklin Bobbitt said that curriculum, as an idea, had its roots in the Latin word for *race-course.* He explained the curriculum as the course of deeds and experiences through which children?become the adults so that they should be *successful in the adult society.* Furthermore, the curriculum encompasses the entire scope of formative deed and experience occurring in and out of school, and not only experiences occurring in school; experiences that are unplanned and undirected, and experiences intentionally directed for the purposeful formation of adult members of society. Bobbit spoke of the curriculum being part of social engineering.

Social engineering in curriculum

A curriculum is prescriptive, and is based on a more general syllabus which merely specifies what topics must be understood and to what level to achieve a particular grade or standard.

'Unfortunately,'writes Christopher Winch,' discussion ofwhat ought to be taught is sometimes made opaque by an either too wide or too narrow definition of what constitutes the curriculum.' Therefore, for instance, we have heard it said by a Government appointed Inspector of Education that the curriculum is 'everything that goes on in school' which would make the colour the school walls are painted a question of curriculum choice and bullying a part of curriculum content. Conversely, a definition such as a 'planned, sustained and regular learning, which is taken seriously, which has a distinct and structured content and which proceeds via some kind of stages of learning' (Wilson 1977) would make some activities, which children engage in at school but which, arguably, are not taken seriously, e.g. woodwork, not part of the curriculum. The means to interpreting the question of curriculum choice is to envisage the relationship between the curriculum and the objectives of education. *The curriculum is the plan for the implementation of educational aims.*

How is curriculum related to the aims of education?

The Curriculum Committee in 1975, in India, tried to define the curriculum as 'the sum total of all the deliberately planned set of educational experiences provided to the child by the school.' As such, it is concerned with

- the general aims of education at a specific stage or class
- subject-wise instructional objects and subject matter
- courses of studies and time allotment
- teaching-learning experiences
- instructional aids and materials
- the evaluation of learning outcomes and feedback to pupils, teachers and parents

When we claim that the curriculum is the sum total of the experiences provided, it implies many significant aspects. The committee seems to identify curriculum and syllabus as one and the- same. If one is to study the definition of curriculum in greater depth, it is not just a course of study; it is more a basis for a course of study than the course itself. A true curriculum must allow choices and these choices must be alternatives in the real sense. So a better definition of the curriculum would be the following:

As per Winch, 'Curriculum is, perhaps, best thought of as that set of planned activities which are designed to implement a particular educational aim - set of such aims - in terms of the content of what is to be taught and the knowledge, skills and attitudes, which are to be deliberately fostered.'

Broadly defined, a curriculum is a plan for facilitating learning. This plan should ideally start from where the child is, list the different dimensions of learning that are important and which educational aims it would satisfy. Stage specific objectives have to be defined, content has to be specified and teaching and evaluation methods should be clarified.

Curriculum means two things: (i) the range of courses from which students choose what subject matters to study, and (ii) a specific learning programme. In the latter case, the curriculum collectively describes the teaching, learning and assessment materials available for a given course of study.

If we examine the definition of the curriculum further, the following points emerge:

- Learning is planned and guided. This implies planning in advance what the student is going to learn and how we are going to achieve it.
- The definition refers to schooling. We are looking at what goes on inside and outside the school.

1.2.1 Meaning and Nature of Curriculum

Curriculum can be envisaged from different perspectives. What societies envisage as important teaching and learning constitutes the "intended" curriculum. Since it is usually presented in official documents* it maybe also called the "written" and/or "official" curriculum. However, at classroom level this intended curriculum may be altered through a range of complex classroom interactions, and what is actually delivered can be considered the "implemented" curriculum. What learners really learn (i.e., what can be assessed and can be demonstrated as learning outcomes/learner competencies) constitutes the "achieved" or "learned" curriculum. In addition, curriculum theory points to a "hidden" curriculum (i.e. the unintended development of personal values andbeliefs of learners, teachers and communities; unexpected impact of a curriculum; unforeseen aspects of a learning process). Those who develop the intended curriculum should have all these different dimensions of the curriculum in view. While the "written" curriculum does not exhaust the meaning of curriculum, it is important because it represents the vision of the society. The "written" curriculum should therefore be expressed in comprehensive and user-friendly documents, such as curriculum frameworks; subject curricula/syllabi, and in relevant and helpful learning materials, such as textbooks; teacher guides; assessment guides.

In some cases, people see the curriculum entirely in terms of the subjects that are taught, and as set out within the set of textbooks, and forget the wider goals of competencies and personal development. This is why a curriculum framework is important. It sets the subjects within this wider context, and shows how learning experiences within the subjects need to contribute to the attainment of the wider goals.

All these documents and the issues they refer to form a "curriculum system". Given their guiding function for education agents and stakeholders, clear, inspired and motivational curriculum documents and materials play an important role in ensuring education quality. The involvement of stakeholders (including and especially teachers), in the development of the written curriculum is of paramount importance for ensuring ownership and sustainability of curriculum processes.

The nature of curriculum includes the following:

- Curriculum is something determined by experts and authorities.
- There is no right curriculum.
- Curriculum should reflect the real world, be practical, of use.
- There are many curricula we can learn and negotiate

Source: http://www.unesco.org/new/en/education/themes/strengthening-education-systems/quality-framework/technical-notes/different-meaning-of-curriculum/

1.2.2 Scope of Curriculum

The issue of scope and sequence in a curriculum requires utmost attention. Therefore, teachers, supervisors and principals need to consider the problems pertaining to the scope and sequence do curriculum carefully. The scope of the curriculum refers to the breadth of content that is taught in various units of study in the curriculum. In order to understand the requirement of breadth of content in a curriculum, we shall use the example of social studies. Social studies is a vast subject and it includes the following social sciences in its discipline:

(i) Geography: This can be defined as a science which deals with the description, distribution, and interaction of the diverse physical, biological, and cultural features of the earth's surface.

(ii) History: This involves the study of past events with respect to human affairs.

(iii) Political science: The branch of knowledge that deals with state and the systems of government.

(iv) Economics: A social science that studies how individuals, governments, firms and nations make choices on allocating scarce resources to satisfy their unlimited wants.

(v) Anthropology: The study of humans, past and present, that draws and builds upon knowledge from the social sciences and life sciences, as well as the humanities.

(vi) Sociology: The study of human social relationships and institutions.

A number of study units can be prepared from these social science disciplines that provide the necessary content for social studies. The scope of social studies may also be understood to be consisting of the following activities related to human beings:

(i) Ensuring that the recreational needs of human beings are fulfilled (ii) Making available the required goods and services

(iii) Meeting the religious and spiritual needs of individuals to a certain extent

(iv) Creating laws to regulate the government at all levels, i.e., local, state, national and international

(v) Ensuring that the educational needs of humans are met

(vi) Transportation of people, materials and objects

(vii) Communication via technology as well as face-to-face

(viii) Fulfilling health requirements of individuals

(ix) Receiving recognition, status, and security in life

(x) Respecting institutions in society such as the home and family

(xi) Determining a suitable vocation in life

Human activities or endeavours provide sufficient material for diverse units of study in the social studies. For instance, while ensuring that the recreational needs of humans are fulfilled, the teacher may suggest a unit on Hobbies and their relevance as a topic for teaching-learning situations. The teacher may also ask the students regarding their various hobbies and interest. The scope of social studies curriculum is also related to the interests and requirements of students. The interests and requirements of students may be determined in the following way:

(i) Prior to teaching, taking the viewpoint of students as to how they wish to go about the lesson,

(ii) Asking the students to determine the problem areas that need to be covered within a particular unit of study,

(iii) Attentively listening to student s' interactions to gauge their interests which would help to evaluate their learning experiences,

(iv) With the cooperation of students and teacher leadership, learning centres can be established where it would be determine what the students will learn.

The scope of elementary school social studies may also be determined in the following ways:

(i) Social studies authors and writers also determine the scope of social studies curriculum. The writers of social studies textbooks stress on selected facts, concepts and generalizations that the students are required to achieve. Extra learning experiences are selected by the teachers that are closely related to the topics given in the unit. This enables students to develop understanding at a higher level.

(ii) Although not directly involved, programmers also aid in determining the scope of the social studies curriculum. The content available in the programmed learning aims at selected ideas that the students need to achieve. Programmers determine what students need to learn. The sequence of these learnings would also be decided by writers of programmed materials.

1.2.3 Definitions of Curriculum

Prescriptive Definitions of Curriculum

John Dewey (1902): Curriculum is a continuous reconstruction, moving from the child's present experience out into that represented by the organized bodies of truth that we call studies... the various studies... are themselves experience—they are that of the race.

Franklin Bobbitt (1918): Curriculum is the entire range of experiences, both directed and undirected, concerned in unfolding the abilities of the individual.

Harold O. Rugg (1927): [The curriculum is] a succession of experiences and enterprises having a maximum lifelikeness for the learner.. .giving the learner that development most helpful in meeting and controlling life situations.

Hollis Caswell in Caswell & Campbell (1935): The curriculum is composed of all the experiences children have under the guidance of teachers.... Thus, curriculum considered as a field of study represents no strictly limited body of content, but rather a process or procedure.

Ralph Tyler (1957): [The curriculum is] all the learning experiences planned and directed by the school to attain its educational goals.

Robert Gagne (1967): Curriculum is a sequence of content units arranged in such a way that the learning of each unit may be accomplished as a single act, provided the capabilities described by specified prior units (in the sequence) have already been mastered by the learner.

James Popham and Eva Baker (1970): [Curriculum is] all planned learning outcomes for which the school is responsible Curriculum refers to the desired consequences construction.

J. L. MeBrien & R. Brandt (1997): [Curriculum] refers to a written plan outlining what students will be taught (a course of study). Curriculum may refer to all the courses offered at a given school, or all the courses offered at a school in a particular area of study.

Descriptive Definitions of Curriculum

Hollis Caswell & Doak Campbell (1935): All the experiences children have under the guidance of teachers.

Thomas Hopkins (1941): Those learnings each child selects, accepts, and incorporates into himself to act with, on, and upon, in subsequent experiences.

W. B. Ragan (1960): All experiences of the child for which the school accepts responsibility.

Glen Hass (1987): The set of actual experiences and perceptions of the experiences that each individual learner has of his or her program of education.

Daniel Tanner & Laurel Tanner (1995): The reconstruction of knowledge and experience that enables the learner to grow in exercising intelligent control of subsequent knowledge and experience.

D. F. Brown (2006): All student school experiences relating to the improvement of skills and strategies in thinking critically and creatively, solving problems, working collaboratively with others, communicating well, writing more effectively, reading more

analytically, and conducting research to solve problems.

E. Silva (2009): An emphasis on what students can do with knowledge, rather than what units of knowledge they have, is the essence of 21st-century skills.

1.2.4 Oliva's Definition of Curriculum: What is this Phenomenon Called Curriculum?

It is a general notion that the broad field of curriculum studies has not been aptly defined. According to Barrow and Carl, further confusion arises from the fact the term'curriculum' has so many interpretations. This has resulted in numerous approaches to curriculum development and Walters has described it as a field strewn with thorns. Numerous attempts to define 'curriculum' have led to this ambiguity, as the attempts made to understand the field from descriptions of the concept. The description of the concept quite often mirrors the approaches of the relevant writers. Curriculum studies can be defined as a concentration within curriculum and instruction concerned with understanding curricula as an active force of human educational experience.

Curriculum studies specifically revolve around the following questions:

- What should be taught in school?
- Why should it be taught?
- To whom should it be taught?
- What does it mean to be an education person?

Peter F. Oliva states that in order for curriculum studies to qualify as a field of study or discipline, there needs to be a clear set of theoretical constructs or principles directing it. Curriculum studies have this strong theoretical constructs and principles directing it which also serve as guidelines. The concept 'curriculum' is, in itself, a construct. Oliva (1988) states that 'consecutive ordering of courses,' career education and behaviour goals' and 'systematic approach' are typical examples of constructs which are locked up in curriculum principles.

Another requirement put forward by Oliva for curriculum to qualify as a field of study is a vast pool of knowledge and the specific applicable skills for that discipline. Curriculum studies comply with this requirement. A major amount of subject content has been acquired from different pure and already established disciplines. Figure 1.1 is an example by Oliva of disciplines which may serve as sources.

Curriculum studies constantly generate its own unique contents and applicable skills. Applicable skills are not necessarily unique to curriculum studies however they may also be taken from other disciplines. Though content and skills are borrowed from other disciplines, this does not detract from the uniqueness and significance of curriculum studies as a field of study. On the contrary, it highlights the dynamics and challenges of the relevant field.

Another aspect stated by Oliva is that curriculum studies has their own theoreticians and practitioners available who develop the field by their application of knowledge and skills. This process also generates new concepts and allows room for new innovations. Broadly, curriculum studies may be defined as an inter-disciplinary field of studies where different disciplines need to work in tandem to create relevant curricula. Therefore, defining curriculum studies as being only a field of didacticians and subject didacticians is considered to be a one-sided narrow view. However, curriculum studies can also not be classified under one disciple as there are too many psychological, educational, administrative and philosophical aspects.

On reviewing Oliva's description of curriculum studies, it becomes clear that curriculum studies are a comprehensive field of study in its own right. The field of curriculum studies is so vast that it has particular contents and constructs for study purposes as well as its own role players who may be involved as theoreticians or practitioners.

According to Barrow, the field of curriculum studies originates from the field of education. Barrow suggests that 'Curriculum studies boils down to describing, explaining and justifying curriculum practice.'

Brubaker states that curriculum planners develop curricula which will not only ensure control but will also enhance understanding. However, this type of preference would influence the process of

curriculum development.

1.3 BASIC FACTS RELATED TO CURRICULUM

1.3.1 Curriculum Theory and Practice

We are now going to analyse four ways of approaching curriculum theory and practice. These four ways are:

1. Curriculum as the bulk of knowledge to be conveyed
2. Curriculum as an endeavour to accomplish certain goals in students' product
3. Curriculum as a process
4. Curriculum as praxis

It is helpful to consider these ways of approaching curriculum theory and practice in the light of Aristotle's influential categorization of knowledge (Figure 1.2) into three areas: the theoretical, the productive and the practical.

(Source: http://infed.org/mobi/wp-content/uploads/2013/04/curriculum.gif)

Here, we can identify that the amount of knowledge to be conveyed in the first is regarded as 'the canon' and the process and practical application come close to practical deliberation.

Curriculum and syllabus tend to be equated at times so we need to remind ourselves that it implies a crisp statement or table of the heads of a discussion, the subject matter of a discourse and the content of a sequence of lectures. We all are familiar with the format of the curriculum and syllabus as it is related to the courses leading to examinations.

Very often, a syllabus is equated with the textbook and the order of contents is almost suggestive of the course of study that has to be taken up. In this context, curriculum becomes the body of knowledge, syllabus, the actual content and education, the process by which the curriculum is transmitted. If we limit curriculum to syllabus, we are only focussing on content. In such cases, the curriculum is not of any importance.

1.3.2 Curriculum and Syllabus

As already discussed, there is a vast difference between curriculum and syllabus. Let us elaborate this concept further.

Curriculum as a Product

With the advent of evaluation, there is a view that curriculum is product oriented and must be seen as what it has achieved. Under this understanding of the curriculum, education is seen as a preparation for life whatever the social status of the student be. In this case, the attitudes, values, habits and knowledge that are needed for an individual after the schooling are considered most important. So the curriculum is seen as a series of experiences planned to achieve these objectives.

This is primarily the management approach to the curriculum. The criticism against this approach was that it was very technical and did not give the child any importance.

Ralph Tyler, in his book *Basic Principles of Curriculum and Instruction,* asks the following questions

1. What educational purposes should the schools seek to attain?
2. What educational experiences can be provided that are likely to attain these purposes?
3. How can these educational experiences be effectively organized?
4. How can we determine whether these purposes are being attained? (Tyler, 1949,1) ,

It is important for us to realize that all objectives must eventually change behaviour. In this case, all concerns get tabulated as given below:

Step 1: Need Analysis

Step 2: Designing of objectives

Step 3: Content Selection

Step 4: Organization of subject matter

Step 5: Collection of learning experiences

Step 6: Organization of learning experiences

Step 7: Selection of what is to be evaluated and the methods of evaluation. (Taba 1962)

This approach is systematic and the objectives are very clearly defined. This implies that the content and method are defined and can be evaluated.

However, there are many issues that arise as a result of such an approach. They are as follows:

- The plan is given too much importance.
- It does not take into consideration the learning experiences.
- The learner is not given the importance he deserves.
- The specified changes are more important than anything else.
- It could de-skill the educators and educators could turn into technicians overemphasizing the delivery of the plans.
- This model overemphasises measuring everything, but everything cannot be measured.
- The concept of measuring everything tends to reduce all learning into smaller units of skills, which may also result in trivializing these skills.
- Sometimes the results achieved cannot be measured and this could mean undermining such happenings in the teaching learning process.
- It is closely related to accountability and not the wider implications of education.

1.3.3 Curriculum as a Process

In this case, the curriculum is viewed as an interaction of teachers, students and knowledge. In other words, it can be described as a vigorous exercise that consists of the happenings in the classroom. This model has the following two main components:

1. The context in which learning takes place.
2. The teacher enters the classroom with a clear, fully worked-out idea and fr plan as to what should happen.

Lawrence Stenhouse (1975), known to have highlighted one of the finest studies of the process of curriculum theory and practice, has defined curriculum as 'Curriculum is an attempt to communicate the essential principles and features of an educational proposal in such a form that it is open to critical scrutiny and capable of effective translation into practice.'

He compared it to a recipe. It should be viewed from the point of view of 'does it nourish the students, does it taste good and does it have what is required to make it successful and can it be varied to suit individual tastes?'

Newman and Ingram said that the following definition was taken as a starting point, 'those processes which enhance or, if they go wrong, inhibit a person's learning.' This was then developed and a curriculum became' an organic process by which learning is offered, accepted and internalized' (Newman & Ingram 1989:1)

Curriculum, as a process, is a way of looking at the educator's work, before, during and after the interventions in order to make judgements about the directions their work is taking them.

How is curriculum a process?

As the least, a curriculum should provide the foundation for planning a course, studying it empirically

and examining the grounds of its vaUdation. It should provide for:

A. In planning

1. Standards for the selection of content, i.e., what is to be learned and taught.
2. Standards for the development of a teaching strategy—how it is to be learned and taught.
3. Standards for taking decisions about the order to be followed.
4. Standards on which to analyse the strong points and weak points of every student and segregating the general standards 1, 2 and 3 mentioned above, to meet individual cases.

B. In empirical study

1. Standards as per which the progress of students is to be analysed and evaluated.
2. Standards as per which the progress of teachers is to be analysed and evaluated.

3': Assistance as to the viability of putting the curriculum into practice in the content of various schools, students, contemporaries and milieu.

4. Information about the unevenness of effects in differing situations and on different students and an understanding of the reasons of the unevenness.

C. In relation to justification

Objectives and aims of the curriculum are to be subject to critical analysis.

So in this definition curriculum is seen as:

1. As per Stenhouse,' a way of translating any educational idea into a hypothesis testable in practice. It invites critical testing rather than acceptance.'
2. Second, it is implied that the curriculum is not a package to be delivered anywhere; it needs to be tested and verified by each teacher in the classroom.
3. Third, the outcomes are not the determining feature. In this case, the content and models develop as teachers and students work along with each other.
4. Fourth, the learner has a place and voice in the whole process. The focus is on interactions and so there is a shift from teaching to learning.

There are some problems in this approach, which are as follows:

- It does not encourage uniformity and leads to too much variety. It is a critical model rather than a marking model.
- It cannot be pointed towards examinations. Students taught can be examined but they come as a by-product and it may be difficult to examine the weak student. Parents often give importance to the results of examination and this may come in the way.
- This model rests on the quality of the teachers. Some of them cannot function outside the safety net of a curriculum. This may limit what can happen educationally.

1.3.4 Curriculum as Praxis

The praxis model of curriculum is closely associated with the process model but it goes beyond it by making an explicit commitment to the emancipation of the human spirit.

It encourages students and teachers to look at and review through the process of critical pedagogy the problems of their existence and relationships.

Teachers take on the mantle of teaching with the motive of imparting good lessons to students so that they grow up to become sensible and successful human beings.

In this manner, teachers stimulate conversation among students out of which emerges committed action. Further, they subsequently analyse the process and interpret the results.

According to Grundy, 'In this approach, the curriculum itself develops through the dynamic interaction of action and reflection. That is, the curriculum is not simply a set of plans to be implemented, but rather is constituted through an active process in which planning, acting and evaluating are all reciprocally related and integrated into the process. At its centre is *praxis:* informed, committed action.'

How is praxis defined?

Curriculum as praxis implies:

- A practice not focused exclusively on individuals but one which looks at collective understandings and practices related to particular cultures.
- A commitment to certain values that would lead to human emancipation.
- Exploring their practices with their peers.

1.3.5 Curriculum in Context

Catherine Cornbleth (1990) views curriculum as a specific type of process. For her curriculum is what actually takes place in classrooms, that is, 'an ongoing social process comprised of the interactions of students, teachers, knowledge and milieu.'

Curriculum is contextually shaped

First, the importance of the hidden curriculum cannot be undermined; the social relationships of the school, the organization of the class and the nature of student-teacher relationships. This aspect has been defined by Dewey and other educationists as significant. According to Vic Kelly 'hidden curriculum' is one of those things which students learn, 'because of the way in which the work of the school is planned and organized but which are not in themselves overtly included in the planning or even in the consciousness of those responsible for the school arrangements.' Sometimes the hidden curriculum is seen as something that is negative. However, we need to understand that 'hidden' learning does not always have a negative connotation and can have positive effects as well. According to Cornbleth, 'In so far as they enable students to develop socially valued knowledge and skills... or to form their own peer groups and subcultures, they may contribute to personal and collective autonomy and to possible critique and challenge of existing norms and institutions.' (Cornbleth, 1990)

Second, by understanding the milieu we understand the structural and socio-cultural process on teachers and students.

1.3.6 Curriculum as the Border Line between Formal and Informal Education

Jeff and Smith explained that the curriculum, in the context of informal education, has to be viewed in a different light. Informal education as the learning that goes on in daily life. The teacher, in the informal context, enters the teaching-learning scenario without a clear proposal of action. They have an idea of the target group and broad method. They then build up their goals and during the interaction. This is because the curriculum cannot be taken out of context and the context in this case is the school. Informal educators will have to cross the boundaries between chosen specialization and the domain of formal education. We need to remember that education is much more than just formal schooling.

Different Bodies of Curriculum

Table 1.1 will help us to differentiate once again the different bodies of curriculum, theory and practice.

Table 1.1 *Different Bodies of Curriculum, Theory and Practice*

	The liberal educators	**The scientific curriculum makers**	**The develop-mentalists**	**The social meliorists**
Orientation	Guardians of an ancient tradition tied to the power of reason and the finest elements of the Western cultural heritage	Human life consists in the performance of specific activities. Education that prepares for life is one that prepares definitely and adequately for these specific activities.	The natural order of development in the child was most significant and scientifically defensible basis for determining what should be taught	Schools as a major, perhaps the principal, force for social change and social justice

Curriculum	Systematic development of reasoning power and the communication of 'the canon[1].	Influenced by the rise of scientific management and notions of social efficiency. Focus on setting objectives (the statement of changes to take place in the students) and the organization of schooling to meet these.	Sought a curriculum in harmony with the child's 'real' interests, needs and learning patterns.	Corruption and vice, inequalities of race and gender and the abuse of privilege and power should be addressed directly with the aim of raising a new generation equipped to deal effectively with these abuses.
Key thinkers	Charles W. Taylor	Franklin Bobbitt and Ralph W. Tyler	G. Stanley Hall	Lester Frank Ward
Linked	Transmission	Product	Process	Praxis

Source: Kliebart 1987:1)

CHECK YOUR PROGRESS

1. How did the curriculum committee in India define curriculum?
2. What was the name of the book written by Ralph Tyler?
3. What are the main components of the curriculum as a process model?

1.4 PRINCIPLES OF CURRICULUM CONSTRUCTION

The content of curriculum is set and planned on the basis of some scholarly principles which are stated under:

1. Aims of Education and Objectivity

Complexity is the core of life and a curriculum should replicate these complexities of life. In simple way we can say that while framing the curriculum one should take into consideration the aims and objectives of education.

Child-centric principle: As current education is child-centred thus the curriculum should also be child-centred. Curriculum should be planned keeping a child's requirements, interests, abilities, capacity, age and circumstances in mind. In fact, curriculum is meant to bring about advancement and growth in children so that they are able to fine-tune their lives in the desired direction.

Principle of Development of Innate Powers: The innate power of the children must be drawn out and sharpened by the curriculum.

Principle of conservation: Man has conserved experiences very carefully for better adaptability. Education is regarded as a means of preserving the cultural heritage of humanity. The school serves two-fold functions in this regard— preservation of the past experiences and transmission of experiences.

Principle of time duration: The time for each subject allotted in the timetable reflects the appropriateness, importance and relative significance of any school programme. Thus the principle of the time is very important for an effective curriculum planning.

Principles of creativeness: Reymont has rightly said, 'In curriculum that is suited to the needs of today and of the future, there must be definitely creative subjects.' Education not only conserves the precedent experiences of civilization but also helps an individual to develop his native potentialities. Thus the culture should not be simply carried forward as it is but should also be enriched. There should be provision in the cumculum to develop the creative powers of the child.

Principles of civil and communal needs: Man is a social being and lives in a well settled society. The development of the child takes place in this society. The aim of the modern education is both the development of the individuality of children as well as the development of the society in which they live.

Principle of elasticity and variety: The curriculum shall create disinterest if it is rigid and narrowly conceived. Therefore, curriculum should be balanced by giving emphasis to all aspects like interest, abilities, variety of skills, hobbies, and habits.

Principle of forward-looking: The aim of life-centred education is not limited to the present life-situations in the family and society. Hence, education must prepare a child to shoulder future responsibilities. So in framing the curriculum we must take into consideration the future needs of the child as well as the needs of the society.

Principle of preparation for living: The children should know the various activities of the environment around them and how these activities enable people to meet their basic needs of food, shelter, clothing, recreation, health and education.

Principle of integration and correlation: The subjects that are dealt with should be arranged logically and psychologically in harmony with a child's developing interests and welfare.

Principle of learning ability: Every item that is taught or discussed should be learnt. An item should not only be learnable, it should also have utility in practical sense.

Principle of moral values: The curriculum should develop social norms and moral values to help the students to live as a successful citizen in the society.

Principle of individual difference: The curriculum should be framed in such a way that every individual can have opportunity for self-expression and development. The curriculum should be based on the psychology of individual differences to meet the complexities of modern democratic society.

Principle of social relevancy and utility: Subjects should not be determined on the basis of their disciplinary value but on the basis of their intrinsic value, social relevancy and utility.

Principle for utilization of leisure time: We are well aware of the famous proverb 'an idle man's brain is a devil's workshop' therefore curriculum should provide work for leisure time as well. Variety of subjects such as sports, gardening, fine arts, photography, and subjects of aesthetic value should be introduced in the school programme to utilize leisure time of the children.

Principle of variety and flexibility: The curriculum should include activities and experiences which may facilitate normal development of children. The curriculum for girls should naturally be different from that of boys as they have different needs and attitudes.

1.4.1 Dimensions of Curriculum Development

Several new items are being used in education and curriculum development. Some of these terms are curriculum construction, curriculum reforms, curriculum implementation, curriculum research, curriculum evaluation, and curriculum planning. All such terms refer to the development of curriculum in various ways. The development of curriqulum can be studied in terms of three dimensions as suggested by Lulla. These dimensions are:

- Curriculum planning
- Curriculum implementation
- Curriculum evaluation

The dimensions of curriculum planning involve fundamental questions regarding objectives of educational institutions, as well as of specific courses, contents and learning experiences. The dimension of curriculum implementation includes decisions about syllabus outlines, curriculum guides, textbooks, and teaching aids. The third dimension, curriculum evaluation, includes decisions on supervision of instruction, guidance to educational institutions for improving their educational programmes, and methods and means of improving these programmes.

The effectiveness of curriculum development depends on the effectiveness of each of its three dimensions.

1.4.2 Process of Curriculum Development

The task of developing a curriculum is highly complex, and involves several steps. The sequence of these steps needs to be logically determined. Curriculum development is possible only on the assumption that there is an orderly sequence in approaching this task. All the decisions need to be made and carried out in a systematic order for developing the curriculum. The very nature of learning facilitates the orderly sequence of developing curriculum in education.

The following steps determine the curriculum development in education:

- Selection, formulation, and classification of objectives
- Selection and organization of learning experiences
- Evaluation of learning
- Implementation of evaluation results

CHECK YOUR PROGRESS

4. Explain the term curriculum.
5. List any five principles on which a curriculum is based.
6. What are the various dimensions of curriculum development?

1.5 CONCEPT OF CURRICULUM DEVELOPMENT

In developing the curriculum, we need to have appropriate mechanisms to ensure quality, conformance with common standards as well as a national democratic vision. The curriculum is actually a conceptual structure for decision-making. This structure requires the following:

- Principles on the basis of which content it is selected
- Detailed ways of working with the students
- Classroom organization
- Actual teaching learning material
- Stage specific objectives that would imply concepts, skills, values, attitudes etc., which could be organized into a body of knowledge for a particular stage of development

Figure 1.4 shows the development of the curriculum or the curriculum framework.

(Source: Curriculum, Syllabus and Textbooks Position paper National Focus group NCERT)

The curriculum details provide the teacher with a rationale for choosing certain practices. These practices could be related to the larger goals of education. This helps the teacher to see the connections between theory and practice. Usually, when teachers start working with students, they have some content, they have some methods and they draw up some indicators to show that learning has taken place. However, we must keep in mind that most teachers look at the textbook as the curriculum and the syllabus and feel that it has to be taught and is the only syllabus to be taught. This becomes then a mundane activity which does not contribute to the child's growth.

It needs to be understood that textbooks are tool—conventional mechanism to collect and put together information required to be learned by students. As mentioned in *Curriculum, Syllabus and Textbooks Position Paper,* National Focus Group-NCERT, the two important conditions that enable teachers to look beyond the textbooks are as follows:

(i) What the children are expected to learn

(ii) The awareness of conceptual difference between the syllabus and the textbooks

Curriculum Determinants

Curriculum determinants include a large number of assumptions. These foundational assumptions on which a curriculum framework ought to be based must be consistent, clearly articulated and acceptable to all stakeholders. These assumptions can be put into the following four overlapping groups:

- Assumptions concerning human being and society or socio-political assumptions
- Epistemological assumptions
- Assumptions about learning
- Assumptions concerning the child and its context. These assumptions can

be further discussed as follows:

- Assumptions concerning human being and society or socio-political assumptions
- This group of assumptions is the most important one and must be agreed upon by all the stakeholders. Atypical foundational statement in this area could be:

» 'Education should aim at a pluralistic democratic society based on justice, equity and freedom.' When a curriculum states an assumption related to human life and living together, it is said to be politico-ethical in nature.

Epistemological assumptions

The main fulcrum of all educational endeavours is knowledge in its widest sense. This includes understanding ways of thinking, values and skills. 'The issues of selection of knowledge to teach, their ordering, integrated versus subject-wise curricula, the information versus knowledge versus abilities debate, etc., heavily rely on the epistemological assumptions.'

Assumptions about learning

This looks at how children learn best and coined phrases like' child-centred learning,' 'activity based learning' and 'joyful learning' on which classroom practices are based. It is accepted as part of the curriculum.

Assumptions concerning the child and its context

The main significance of this assumption lies in bringing the immediate socio-cultural aspect and the psychology of learning on one platform. This helps us to understand the terminology of'curriculum framework,' 'curriculum,' 'syllabus,' 'textbooks' and 'teaching-learning transactions.'

CHECK YOUR PROGRESS

7. What needs to be done while developing curriculum?
8. How are curriculum details helpful for teacher?

1.6 COMPONENTS OF CURRICULUM

Curriculum plays a vital role in an educational system. It is like a blueprint which paves the ways for the teacher and the learner to reach the desired objectives. As a result, authorities have to devise it in such a way that it could lead the teacher and the learner meets the desired learning outcomes

The four main components of curriculum are:-

- Curriculum goals, aims and objectives
- Curriculum content
- Curriculum learning experiences and transaction
- Curriculum evaluation

These four components of the curriculum are essential and are interrelated to each other. Each of these is well connected to one another.

1.6.1 Component I - Curriculum Goals, Aims and Objectives

First chief component of curriculum are its objectives. Performance indicators against which success or failure of instructional effectiveness is judged are to be identified. Such reference points are goals, aims and objectives, which represent end points of learning. A long ranged goal is to develop a wholesome personality. Aim stands for developing scholastic aspects of students. To develop in students the concept of validity and apply in setting a question paper, is an objective which is a lower level learning outcome that is a prerequisite to a higher level outcome (aim) which in turn become prerequisite to still higher level of outcome (goals).

Thus objectives represent intended learning outcomes at different levels and become the basis for organizing learning experiences and for development of evaluation tools when defined in terms of behaviours. Curriculum objectives are the foundation for any curriculum framework. It is the curriculum objectives which provide direction in the teaching learning process. They provide basis for content selection and curriculum transactions besides reflecting objective bases for evaluation system. Therefore, derivation of objectives, criteria of good objectives, their formulation and statement in terms Of intended competencies, are significant steps in developing curriculum objectives.

Derivation of objectives

Approaches which are used to identify objectives are: **Empirical**

approaches

- *Job analysis technique:* In this technique analysis of behaviour of good workers are undertaken and significant behaviours become the basis of intended behaviours, i.e., instructional objectives.
- *Critical incidence technique:* Demands noting of critical outstanding behaviours that help learners to do a task well which then becomes the basis for intended behaviours, i.e., instructional objectives.

- *Diagnostic studies:* It demands comparison of behaviours of good and poor performers. Behaviours reflecting good performance become the basis of intended behaviours, i.e., instructional objectives.

View of Curriculum Experts

Here we depend on three sources:

- *Needs and abilities of learners:* At a given phase what are pupils' social, physical, psychological and emotional needs; the habits, interests, attitudes they exhibit, things they must learn, etc. Thus their needs, abilities and educational potential provide basis for curriculum objectives.
- *Societal demands and pressures:* Social philosophy, socio-economic demands, resources, problems and constraints become the basis for identifying the kind of behaviours that students as citizen of tomorrow should develop become the basis for derivation of objectives.
- *Requirements of the discipline:* Every discipline has its own structure, which reflects what knowledge in teaching, learning, or examining, is decided by subject experts on the basis of which educational objectives are derived.

Criteria of good objectives

- Objectives should be meaningful, worthy, and of educational implication
- Should be in agreement with broader goals of education
- Should be comprehensive enough to include both cognitive and non-cognitive aspects of the development of students
- Conform to psychology of development
- Testable in terms of observable and verifiable changes
- Attainable under institutional conditions
- Should be acceptable and suitable to the teachers

Specification of objectives in operational terms

It demands defining them in terms of learning competencies, which reflect intended pupils' behaviours as a result of instructional interventions. For example knowledge objective is specified to reflect pupils' ability to recall, recognize, reproduce, etc.

Understanding objective reflects pupil's ability to translate, relate, compare, classify, interpret etc. Application objective defined as ability to analyse, hypothesise,, reason, generalize, predict etc. as per NCERT taxonomy.

Criteria for stating objectives

- It should be stated in terms of students' performance, not teachers' performance.
- Objectives indicate intended outcomes or product of learning, not process of learning.
- They reflect pupils' terminal behaviour as well as content aspect.

- They are stated as a proper level of generality and in a non-composite manner, i.e. one objective in one statement.
- They should be written in full statement using action words like knows, understands, and applies.
- Each objective is followed by specifications reflecting intended competencies.

Classification of objectives

Objectives can be classified in different ways. Depending upon the criterion used we can have two-way classification. For example we have:

- Cognitive vs. non-cognitive objectives (aspect of development)
- Products vs. process objectives (type of learning outcomes)
- General vs. specific objectives (generality level)
- Open vs. closed objectives (type of response desired)
- Ultimate vs. proximate objectives (time contingency)
- Stated vs. functional (operativeness)
- Tangible vs. intangible (concrete or abstract)
- SingJe vs. multiple course objectives (course coverage)

Taxonomies of Objectives

Taxonomic classification of objectives is based on hierarchy of objectives arranged in order of increasing complexity. There are various taxonomies under cognitive, affective and psychomotor domains.

1. Cognitive Domain Taxonomies

Some of the usable taxonomies are:

Bloom's Taxonomy: (1956) Postulates underlying this taxonomy are:

- Behaviours designated are cognitive
- Objectives are arranged in hierarchical order
- Hierarchy is cumulative in nature
- Processes designed are learned behaviours

Six objectives in hierarchical order and increasing complexity are Knowledge (K) Comprehension (C) Application (A) Analysis (AN) Synthesis (S) Evaluation (E)

Gagne's Taxonomy: It has learning hierarchy of six objectives.

Reinstating—> discriminating—> identifying—» classifying-* demonstrating-* generating

Gagne-Merrill's Taxonomy: This is based on push down principle of acquisition of lower level behaviour before the next higher level. This taxonomy integrated the cognitive, affective and psychomotor domains.

Reinstating —^Signal learning -^Stimulus response learning —^Classifying—> Discrimination learning ->Concept learning

Decorates Taxonomy: "The six objective are arranged in order of

Perception of information—> Recall and reproduction of information—> Interpretation of information—> Convergent production of information-* divergent production of information—* Evaluation product of information

Hannah and Michaelis: Data gathering, observing and recalling is the basis leading to—» interpreting -» comparing -» classifying -^generating -^inferring —> analysing—* synthesizing —> hypothesising —> predicting complexity

NCERT Taxonomy: It is a three tier taxonomy based on Bloom's principle of cumulative hierarchy and supported by empirical evidence in India. It is the most commonly used classification of objectives in cognitive domain by all examination boards and teachers in India.

Objectives in order of increasing complexity are:

Knowledge —» Understanding —> Application

Each objective is specified in terms of intended learning competencies.

Affective Domain Taxonomies

Two important taxonomies are:

Krathwhol et al: Taxonomy uses internalization principle for the different levels listed in order of receiving —^responding —»valuing —^organisation —characterisation, in terms of increasing complexity.

Hannah and Michaelis: The basis of this taxonomy is the basic processes involved in data gathering.

Responding —^complying —accepting —> referring —^integrating **1. Psychomotor**

Taxonomies

Some notable taxonomies are as under:

Simpson's Taxonomy: Sequence and level of complexity in performing motor act is the basis.

Perception —» guided response —>mechanism —^complex overt response -^adapting—> originating

Alles Taxonomy: Adaptive reutilization is the basic underlying principle. Objectives are as follows:

Initiatory level —> pre-routine level —» routinization level of execution

Dave's **Taxonomy:** Basis is concept of coordination. Objectives are as follows:

Imitation —> manipulation —^precision —^articulation —> naturalization

1.6.2 Component II - Selection of Content

The content is usually considered to be the most important component for developing curriculum. It contains information to be learnt in school. It is an element or a medium through which the objectives that are set are to be accomplished.

However this selected importance given to content is educationally mislaid and hard to defend. To put content at the centre of the curriculum is like putting the cart before the horse. The overall approach to the curriculum determines the approach to the task of selection of content. For example, in a process-based approach, only such content will be selected which supports the chosen process or processes. Even in a subject-based curriculum, one has to be clear about knowledge, principle, generalizations, theories, techniques and procedures that can be developed through the chosen content. The content is thus a powerful means for attaining the aims of teaching a particular content.

The process of selecting of content can be viewed at three level.

The first level is primarily concerned with selection and explaining framework related to the content area. The so called modern mathematics of the 1960s and the conventional mathematics provide a good example of this.

- The second level is concerned with assortment of basic themes or key concepts which along with other basic themes or concepts constitute the framework of knowledge in a given subject. Basic operations, the number system, the set theory are some of its examples. These themes/key concepts have a hierarchical relationship with each other. Some of these have broach implication (e.g. the number system) while others have limited connotation (e.g. prime numbers).
- The third level is the most precise. At this level the content items are matched with the basic theme/concept to which they belong and also with the objectives of curriculum.

In organizing the learning contents, balance, articulation, sequence, integration, and continuity form a sound content. Principles that should be followed in organizing the learning contents as advocated by Palma (1992) are:

1. **Equilibrium:** Content curriculum should be moderately spread out in depth and breadth of the particular learning or discipline. This will ensure that the level or area will not be overcrowded or less crowded.
2. **Articulation:** Each level of subject material should be well associated or related to the next, obvious gaps or careless overlaps in the subject matter should be avoided.
3. **Sequence:** This principle is related with the logical arrangement of the subject matter. It refers to the deepening and expansion of content as it is taken up in the higher levels.

The horizontal associations are needed in subject areas that are similar so that learning will be related to one another. This is known as Integration.

Continued application of the new knowledge is required in skills and attitudes or values while learning so that these will be used in day-to-day life. The regular replication, reassessment and reinforcement of learning are referred to as Continuity.

1.6.3 Component III - Curriculum Learning Experiences

For the third component, the curriculum experience, instructional strategies and methods are the core and heart of the curriculum. These instructional strategies and methods will put into action the goals and use of the content in order to produce an outcome.

Teaching strategies convert the written curriculum to instruction. Among these are time-tested methods, inquiry approaches, constructivist and other emerging strategies that complement new theories in teaching and learning. Educational activities like field trips, conducting experiments, interacting with computer programs and other experiential learning will also form part of the repertoire of teaching.

Whatever methods the teacher utilizes to implement the curriculum, there will be some guide for selection and use such as:

- Teaching methods are means to achieve the end.

- There is no single best teaching method.
- Teaching methods should stimulate the learner's desire to develop the cognitive, affective, psychomotor, social and spiritual domain of the individual.
- In the preference of teaching methods, learning styles of the students should be well thought out.
- Every method should lead to the development of the learning outcome in three domains (cognitive, affective and psychomotor).
- In use of teaching methods the flexibility element should be considered.

Learning experiences help to bring change in behaviour and it results in attainment of aims and objectives. A variety of learning experiences deal with performances of the human beings in particular situations, their interests or problem solving. These learning experiences provide physical, mental or emotional experiences or a combination of it. Teaching different subjects, a range of activities in a laboratory, on the playfield or through projects, discussion, group work, etc. are examples of educational learning experiences. One should make sure that the selected learning experiences indeed help in the attainment of a specific educational aim/objective.

The selected learning experiences should be relevant to learners in terms of their maturity level. Since there does not exist any sure way of determining whether the selected learning experiences match the learners' maturity level, there is always an element of tentativeness about them. The teacher, if she is involved in selecting learning experiences, will invariably be guided by her own experiences of dealing with observing children. She may also depend upon her recollections of how she behaved when she was of the age of the learners for whom the curriculum is being developed.

Organization and integration of Learning Experiences and Content is also required at this level. The essential task at this stage is to develop sequences of educational activities based on selected experiences and content. This fusion of selected experiences and content has a definite purpose which is derived from educational objectives. Hence it is called a *sequence of learning experiences.* The organising principles for this integration and sequence should ideally be derived from the learning situations available in schools and classrooms, inputs needed for effective classroom interaction, the developmental levels of learners, and principles of learning by children for whom the curriculum is meant.

It must be remembered that there are alternative ways of sequencing and integrating content and learning experiences. Besides, a particular approach to sequencing and integration of content shall have certain implications for classroom methodology and administration of school. A change in sequencing and integration of content and learning experiences is bound to affect classroom methodologies or school administration or both. Quite often, this sequencing and integration is determined by the size and scope of units and the overlap and interrelation among units.

1.6.4 Component IV- Evaluation

The last stage in the curriculum process is Evaluation. Curriculum evaluation refers to the formal determination of the quality, effectiveness or value of the programme, process, and product of the curriculum. It is a process of judgement based upon significant evidence. This evidence may be quantitative (e.g. marks awarded in various tests) and/or qualitative (e.g. observation -based information). Evaluation may be based on aims, goals or objectives of the curriculum. Objectives based evaluation is more specific and usually more useful for teachers. Evaluation should be treated as a micro-level concept as well as macro-level concept. At micro-level, evaluation deals with intended objectives, actually attained objectives and an analysis of the gap between these two and how it can be reduced. Such analysis is usually based on measureable objectives.

A recommended Plan of Action (POA) for the process of curriculum evaluation is introduced and the steps are:

1. To focus on one particular component of the curriculum at one time. Whether it be subject area, the grade level, the course, or the degree programme we should take consideration of it one at a time.

2. Collection of the information is required. Information is made up of data needed regarding the object of evaluation.
3. Organizing the information is very essential. This step requires coding, organizing, storing and retrieving data for interpretation.
4. An appropriate way of analyzing information is utilized.
5. Report the information. The report of evaluation should be reported to specific audiences. It can be done formally in conferences with stakeholders, or informally through round table discussion and conversations.
6. Recycling the information for constant response, feedback, modifications and adjustments to be made is essential.

1.7 TYPES OF CURRICULUM

Let us identify the types of curriculum or understand the classification of curriculum. Curriculum could be classified according to the common psychological classifications of the four theories of learning' Social, Information Processing, Personalist and Behavioural.' Longstreet and Shane have classified curriculum types as' child-centred, society-centred, knowledge-centred or eclectic.'

Wilson (1990) defined curriculum as 'anything and everything that teaches a lesson, planned or otherwise. Humans are born learning; thus, the learned curriculum actually encompasses a combination of all of the below—the hidden, null, written, political and societal etc. Since students learn all the time through exposure and modelled behaviours, this means that they learn important social and emotional lessons from everyone who inhabits a school—from the janitorial staff, the secretary, the cafeteria workers, their peers, as well as from the deportment, conduct and attitudes expressed and modelled by their teachers. Many educators are unaware of the strong lessons imparted to youth by these everyday contacts.'

The different types of curriculum can be discussed as follows:

1. **Overt, explicit or written curriculum:** This refers to all the written aspects of the curriculum and includes all the documents formally selected and designated by curriculum experts.
2. Societalcurriculum:Cortes(1981)definesthiscurriculumas '[the]massive, ongoing, informal curriculum of family, peer groups, neighbourhoods, churches organizations, occupations, mass, media and other socializing forces that "educate" all of us throughout our lives.'
3. **The hidden or covert curriculum:** Everything that happens in the educational institution is part of this curriculum. Longstreet and Shane (1993) offer a commonly accepted definition for this term: the 'hidden curriculum,' refers to the kinds of learnings children derive from the very nature and organizational design of the public school, as well as from the behaviours and attitudes of teachers and administrators.'

   This includes everything that is part of the educational institution from the classroom arrangement to the calendar of activities. David P. Gardner is reported to have said,' We learn simply by the exposure of living. Much that passes for education is not education at all but ritual. The fact is that we are being educated when we know it least.'
4. **The null curriculum:** This includes what we do not teach, implying that this is not important. Eisner (1985, 1994) first described and defined aspects of this curriculum. He states, 'There is something of a paradox involved in writing about a curriculum that does not exist. Yet, if we are concerned with the consequences of school programmes and the role of curriculum in shaping those consequences, then it seems to me that we are well advised to consider not only the explicit and implicit curricula of schools, but also what schools do not teach. It is my thesis that what schools do not teach may be as important as what they do teach. I argue this position because ignorance is not simply a neutral void; it has important effects on the kinds of options one is able to consider, the alternatives that one can examine, and the

perspectives from which one can view a situation or problems.'

Organizations like schools make conscious decisions on what is to be taught or not taught.

5. **Phantom curriculum:** This includes messages from the media through which students learn. This creates a cultural curriculum, which is acceptable to the young.
6. **Rhetorical curriculum:** This curriculum is based on ideas generated by policy makers, school administrators or politicians. This could be a result of educational initiatives at local and state or central levels. It could also be the result of updates in pedagogical knowledge.
7. **Curriculum in** use: This is the curriculum in textbooks and district curriculum guides. It is in fact the actual curriculum that is delivered and presented by the teacher in the class.
8. **Received curriculum:** This includes what the students take back with him after the class is over.
9. **The internal curriculum:** This is the curriculum that is combined with the student's existing knowledge to create new knowledge. This is unique to each student and there is very little control on it.
10. **The electronic curriculum:** This implies the learning that takes place through the use of technology resources. The information so gained could also be inaccurate so the implications for education are the training of students on processes involving critical viewing and analysis. Students must be exposed to netiquette.

1.7.1 Types of Curriculum: Inert, Official and Hidden

Inert curriculum or dead curriculum refers to unused curriculum. McNeill (2003) has defined 'dead' or inert curricula as unused and live curricula as engaging students in a meaningful classroom activities. He further explains live curriculum by stating, 'Everything in the curriculum is human knowledge-a product of human hopes, fears and passions. If we want to make that knowledge engaging to students, we have to share it in the context of the hopes, fears and passions from which it has grown and in which it finds a living meaning.'

Official curriculum, which is sometimes called formal curriculum, refers to planned programme of objectives, content, learning experiences, resources and assessment offered by a school. There is a difference between formal and informal curriculum, i.e., between the formal activities for which the school timetable provides specific periods of teaching and those informal activities that simultaneously occur on a voluntary basis at lunch time, after school hours, weekends or vacations. Activities such as sports, clubs, societies, school journeys and the like are termed as extracurricular activities and therefore should be seen separate from the curriculum itself.

It is difficult to identify the reasons as to why extracurricular activities need to be seen as separate from curriculum as activities of such nature are regarded to have more educational validity in comparison to formal curriculum. Due to this reason in England, the Newsom Report CACE, 1963: para. 135) recommended that they 'ought to be recognized as an integral part of the total educational programme' and that to this end they be included in the formal timetable of an extended day. And the inclusion of this kind of activity in the formal provision made by the school has also been a major feature of the philosophy of many of those concerned with the development of community schools (Cooksey, 1972,1976a, 1976b).

In terms of curriculum planning, it would be a huge mistake to remove the 'whole range of activities' planned and executed by teachers with deliberate reasons and intentions from the definition of curriculum. Therefore, in curriculum planning, there would appear no gain from leaving out any planned activity. It is for this reason that John Kerr (1968:16) defined the curriculum as 'all the learning which is planned and guided by the school, whether it is carried on in groups or individually, inside or outside the school.' This definition explains the basis for planning organized activities of the school, irrespective of the fact whether they are done in groups or individually inside or outside the school premises.

The difficulties arise in attempting to function within a definition of curriculum that is omitted from considering the unplanned effects of teacher activity as hidden and actual or received curriculum indicates.

There are more aspects to curriculum than are dreamed of in the philosophy of most teachers, and certainly of most politicians, and a definition of curriculum which confines its scope to what teachers, or politicians, actually plan will omit many of those important dimensions of Curriculum Studies. We need a definition which will embrace at least four major dimensions of educational planning and practice: the intentions, the actual experiences of the pupils resulting from the teachers' direct attempts to carry out their or the planners' intentions, and the 'hidden' learning that occurs as a by-product of the organization of the curriculum, and, indeed, of the school.

Hidden or covert curriculum includes everything that happens in the educational institution is part of curriculum. Longstreet and Shane (1993) offer a commonly accepted definition for this term: the hidden curriculum, which refers to the kinds of learnings children derive from the very nature and organizational design of the public school, as well as from the behaviours and attitudes of teachers and administrators.' This includes everything that is part of the educational institution from the classroom arrangement to the calendar of activities. David P. Gardner is reported to have said, 'We learn simply by the exposure of living. Much that passes for education is not education at all but ritual. The fact is that we are being educated when we know it least.'

CHECK YOUR PROGRESS

10. What is one criteria of a good objective?
11. What are the different types of curriculum?
12. What is meant by the 'null' curriculum?

1.8 TYLER'S FOUR BASIC PRINCIPLES

Tyler's *Basic Principles of Curriculum and Instruction* brings curriculum development into the picture. In his book, Tyler gives curriculum development a language that is more consistent that Bobbitt's representation. Before the publication *of Basic Principles of Curriculum and Instruction* Tyler had become well-known due to his work with the Eight Year Study. This study put to rest the discussion raging since 1900 regarding progressive education. Tyler was also the chief evaluator of this study.

Tyler's book, *Basic Principles of Curriculum and Instruction* speaks of the well-known 'Tyler Rationale' to create evaluation procedures for schools that were involved in the study. Tyler suggests that in order to develop curriculum, teachers and school administrators need to answer certain questions which are as follows:

1. What is the educational purpose that the school seeks to achieve?
2. What types of educational experiences need to be made available that would fulfill the set educational purposes?
3. How can educational experiences be effectively organized?
4. How can one decide whether these educational purposes are fulfilled?

These four questions were introduced as a series of steps to be followed to make curriculum more effective and therefore was not to be considered as a formula that was to be followed mandatory. Tyler states that these questions should not be followed in a technocratic manner as these questions were suppose to provide educators with a scientific process that was value neutral. Moreover, Tyler's method was to be used to develop curriculum in all subjects and all cities. The main objective of Tyler's method was to remove questions relating to purpose, morality and ultimate ends. With reference to his four questions, Tyler is suggesting that curriculum development aims to help schools to achieve their set goals. Tyler also concludes that there are no overreaching purposes to curriculum of education.

According to Tyler, the curriculum development process begins at the local level in terms of needs, interest and goals of the school and they community in which it exists. Once the schools finalize their purpose, the school community can outline the 'experiences' that will assist the students to achieve the school's goals. This also reflects the influence of behavioural psychology on Tyler's thinking. Tyler states that these

experiences can be provided to students and these experiences can also be organized. Organization will confirm that students will experience the curriculum the way the curriculum makers want them to. At the end, Tyler suggests that the curriculum makers should analyse as to whether these experiences provide the desired effects.

In most part of the book, *Basic Principles of Curriculum and Instruction,* Tyler emphasizes on these four questions including a discussion on the different sources of experiences that curriculum makers take into account. For instance, throughout the process of curriculum development, curriculum makers need to base their decisions on the following factors:

- Knowledge of learners
- Insight of subject matter experts
- Whatever life lessons a student would experience outside school
- Psychological and philosophical background of these experiences

Bobbitt's influence is very evident throughout Tyler's book *Basic Principles of Curriculum and Instruction.* Bobbitt's influence is especially reflective in the part where Tyler discusses the need for curriculum makers to keep the life experiences that a student may go through while determining objectives. Tyler focuses on community needs as it is essential that schools should work to serve their immediate communities by providing solutions to the existing challenges. In Tyler's words:

' I would suggest that you collect sample information of several sorts. On the one hand it might be well to draw upon our memory, your experience in a given area of life such as in your civic life, to jot down the activities that you engage in as a citizen. Also list the problems that you have encountered as a citizen. Imagine this information as being illustrative of what might be obtained from a considerable sample of adults in your community. In the light of such information, can you suggest possible objectives which are implied by these data?'

According to Tyler, future adult activities are also a significant source of curriculum objectives. Initially, Bobbitt began the task-analysis approach to curriculum work and Tyler held onto it while simultaneously making the effort to clarify the practice of curriculum development.

It is difficult to state the factors as to why Tyler's book *Basic Principles of Curriculum and Instruction* was so successful. Tyler understood his surroundings well and therefore was able to connect with the powerful changes taking place in the American society and culture. During the 1930-60s, Tyler was at the height of his career. In the 1910s and 20s, the existing industrialism had given way to the Cold War. The following years (1940-50s) anew kind of science originated which was specifically more intellectual that industrial. Unlike Bobbitt, who had discussed efficiency with respect to industrial productivity, Tyler has the opportunity to speak about the effectiveness and problem-solving without specific economic or political ends. While formulating the method, Tyler ensured that he followed the principle of parsimony and that he was careful to avoid connecting his ideas to any historical or social context. Tyler mainly designed a system that would assist individual schools and school districts. However, the system set forth by Tyler is designed to remain firmly above the fray. Unlike Bobbitt, Tyler successfully presented the curriculum field with a way of thinking and speaking that rises above historical context. According to Null (1999), the shortcomings in Bobbitt's method can be seen in the radical transformation that his ideas underwent during the 1940s. Tyler's idea never went through a similar transformation.

Basic Principles of Curriculum and Instruction was published in 1949 and during this phase the expansion of curriculum development was underway. Tyler's book was mainly used at the K-12 and the higher education levels. Also, institutions that served diverse purposes availed the facts mentioned in *Basic Principles of Curriculum and Instruction.* Subject matter experts from various fields adopted Tyler's process as Tyler had succeeded in giving curriculum makers a process that considerably enhanced their status.

In order to understand the positive aspects of Tyler's process, one must also acknowledge its shortcomings. Tyler's success came with a price but this could only be realized 20 years from when *Basic Principles of Curriculum and Instruction* was published. However, in the meantime other curricularists

seized the opportunity to build upon what Tyler had done. One such group was the trio of B. Othaniel Smith, Wilham O. Stanley and J. Harlan Shores (1950). With their *Fundamentals of Curriculum Development* (B. Smith et al., 1950), the curriculum field, for the first time, is provided with an extensive treatment of the specific task of curriculum development.

CHECK YOUR PROGRESS

13. List the factors on which curriculum makers need to base their decisions?
14. Where is Bobbitt's influence evident in Tyler's work?

1.9 SUMMARY

- The term curriculum has been derived from a Latin word *'Currere'* which signifies a 'Race Course' or a runway on which one runs to attain a goal. Hence, from the above said meaning we can conclude that a curriculum is the instructional and the educative programme, following which the students can achieve their goals, principles and aspirations of life.
- Curriculum stands for the following:
  - o Course of study and other related material in written form for school o The subject content that has to be taught to the students o Course being offered in an institution
  - o The totality of planned learning experienced that a school offers to the students
- Curriculum could be used to mean a list of topics included for a subject at a particular level, and it could be something that encompasses 'the total experiences provided to the children an as well as out of school'.
- John Franklin Bobbitt said that the curriculum as the course of deeds and experiences through which children become the adults so that they should be *successful in the adult society.*
- The Curriculum Committee in 1975 in India tried to define the curriculum as 'the sum total of all the deliberately planned set of educational experiences provided to the child by the school.'
- Broadly defined, a curriculum is a plan for facilitating learning. This plan should ideally start from where the child is, list the different dimensions of learning that are important and which educational aims it would satisfy.
- Curriculum means two things: (i) the range of courses from which students choose what subject matters to study, and (ii) a specific learning programme. In the latter case, the curriculum collectively describes the teaching, learning and assessment materials available for a given course of study.
- Four ways to analyse approaching curriculum theory and practice are:
  1. Curriculum as the bulk of knowledge to be conveyed.
  2. Curriculum as an endeavour to accomplish certain goals in students' product.

3. Curriculum as a process.
4. Curriculum as praxis.

- With the advent of evaluation, there is a view that curriculum is product oriented and must be seen as what it has achieved. Under this understanding of the curriculum, education is seen as a preparation for life whatever the social status of the student be.
- The praxis model of curriculum is closely associated with the process model but it goes beyond it by making an explicit commitment to the emancipation of the human spirit.
- Teachers take on the mantle of teaching with the motive of imparting good lessons to students so that they grow up to become sensible and successful human beings.
- While framing the curriculum one should take into consideration the aims and objectives of education.
- Several new items are being used in education and curriculum development. Some of these terms are curriculum construction, curriculum reforms, curriculum implementation, curriculum research, curriculum evaluation, and curriculum planning.
- Curriculum development is possible only on the assumption that there is an orderly sequence in approaching this task. All the decisions need to be made and carried out in a systematic order for developing the curriculum.

1.10 KEY TERMS

- **Curriculum:** It is a planned, sustained and regular learning, which is taken seriously, which has a distinct and structured content and which proceeds via some kind of stages of learning.
- **Syllabus:** It is the actual content and education, included in the curriculum.
- **Praxis model of curriculum:** It encourages students and teachers to look at and review through the process of critical pedagogy the problems of their existence and relationships.
- **Hidden curriculum:** It is those things which students learn, 'because of the way in which the work of the school is planned and organized but which are not in themselves overtly included in the planning or even in the consciousness of those responsible for the school arrangements.'
- **Curriculum determinants:** These are the assumptions on which a curriculum framework is based.

1.11 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The Curriculum Committee in 1975 in India tried to define the curriculum as 'the sum total of all the deliberately planned set of educational experiences provided to the child by the school.'

2. Ralph Tyler wrote the book named: *Basic Principles of Curriculum and Instructions.*
3. The curriculum as a process model has the following two main components:
   - The context in which learning takes place.
   - The teacher enters the classroom with a clear, fully worked-out idea and plan as to what should happen.
4. The term curriculum has been derived from a Latin word *'Currere"* which signifies a 'Race Course' or a runway on which one runs to attain a goal. Therefore a curriculum is the instructional and the educative programme, following which the students can achieve their goals, principles and aspirations of life. It is curriculum through which the general aims of a school education obtain their tangible expression.
5. The five principles among others are

   - Child-centric principle
   - Principle of Development of Innate Powers

- Principle of time duration
- Principles of creativeness
- Principles of civil and communal needs

6. The different dimensions of curriculum development are as follows:
   - Curriculum planning
   - Curriculum implementation
   - Curriculum evaluation

7. In developing the curriculum, we need to have appropriate mechanisms to ensure quality, conformance with common standards as well as a national democratic vision.
8. The curriculum details provide the teacher with a rationale for choosing certain practices. These practices could be related to the larger goals of education.
9. The four main components of curriculum are:

   - Curriculum goals, aims and objectives
   - Curriculum content
   - Curriculum learning experiences and transaction
   - Curriculum evaluation

10. The criteria of good objectives are:
    - Obj ectives should be meaningful, worthy, and of educational implication
    - Should be in agreement with broader goals of education
    - Should be comprehensive enough to include both cognitive and non-cognitive aspects of the development of students
    - Conform to psychology of development
    - Testable in terms of observable and verifiable changes
    - Attainable under institutional conditions
    - Should be acceptable and suitable to the teachers
11. The different types of curriculum are Overt explicit or written curriculum, Societal curriculum, Hidden or covert curriculum, Null curriculum, Phantom curriculum, Rhetorical curriculum, Curriculum in use, Received curriculum, Internal curriculum, and the Electronic curriculum.
12. Null curriculum includes what we do not teach, implying that this is not important.
13. Throughout the process of curriculum development, curriculum makers need to base their decisions on the following factors:

    - Knowledge of learners
    - Insight of subject matter experts
    - Whatever life lessons a student would experience outside school
    - Psychological and philosophical background of these experiences

14. Bobbitt's influence is very evident throughout Tyler's book *Basic Principles of Curriculum and Instruction.* Bobbitt's influence is especially reflective in the part where Tyler discusses the need for curriculum makers to keep the life experiences that a student may go through while determining objectives. Tyler focuses on community needs as it is essential that schools should work to serve their immediate communities by providing solutions to the existing challenges.

1.12 QUESTIONS AND EXERCISES

Short-Answer Questions

1. How does John Bobbitt define curriculum?
2. What do you understand by hidden curriculum.
3. Write a short note on components of curriculum.

4. Write short notes on the following:

    - Curriculum as a process
    - Curriculum as praxis
    - Curriculum in context

Long-Answer Questions

1. Enumerate the three levels for selection of content
2. What is the importance of evaluation in curriculum?
3. Write short notes on:

    (a) Criteria of good objectives
    (b) Criteria for stating objectives
    (c) Classification of objectives
4. Select any five curriculum types that appeal to you and write about them.

1.13 FURTHER READING

Ornstein, Allan C, Francis P. Hunkins. (2004). *Curriculum—Foundations, Principles, and Issues.* Boston, United States: Allyn and Bacon.

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UNIT 2 FOUNDATIONS OF CURRICULUM DEVELOPMENT

Structure

2.0 INTRODUCTION

You have now understood the concept of curriculum. Similarly, with your understanding of educational sociology, psychology, and philosophy, you might be able to recollect the few aspects or considerations that have to be taken into account while structuring a curriculum like levels of education, mental set of students, teaching strategies, socio-cultural factors among others. A curriculum must provide opportunities and suitable situations for healthy social, emotional, physical and intellectual development. The planners of curriculum should be very careful in these considerations. This unit deals with different foundations of curriculum.

Philosophy explains the nature of knowledge, methods of teaching, role of the teacher, type of discipline, content of study, etc. The study of philosophy will help in the selection of teaching and learning activities, content area, method of content delivery and others. Similarly, the knowledge of psychological bases is essential like characteristics of learners, behavioural problems, different learning theories, and parameters of teacher-learner relationship. In addition to these, there are certain socio-cultural factors that affect the learning process. Also we have to make the curriculum in a scientific manner incorporating the suitable technological support to teaching and learning.

In this unit, you are going to learn about the foundations of curriculum. The topics are dealt under various sub heads namely, Philosophical Foundation, Psychological Foundation, Social and Cultural Foundation, and Historical Foundation.

2.1 UNIT OBJECTIVES

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

- Explain the bases of curriculum
- Discuss the foundations of curriculum that has to be taken care of while developing the subject matter
- Elaborate the philosophical aspects that have to be taken into account while making a curriculum
- Explain the psychological theories and postulates behind the best curriculum
- Explain the historical foundation of curriculum
- Describe the technological considerations and the importance of technology while developing a curriculum

2.2 PHILOSOPHICAL FOUNDATION

Curriculum is a totality of what is happening in and out of the classrooms, what are the causes, what will be the outcome and so on. While designing or structuring the curriculum we should keep in mind certain considerations that are discussed subsequently in this unit.

Philosophical Foundation

Let us discuss in detail the role of philosophy in curriculum, i.e., philosophical foundations of curriculum. You maybe thinking now of various questions like-

- What is meant by philosophy?
- What are the different forms of philosophies?
- How does philosophy relate to education and especially the structure of curriculum?

Based on these initial questions let us start understanding the philosophical foundation of curriculum.

(a) Philosophy

Despite an increased knowledge base, growing understanding of human development, sophistication in the use of technology and an emerging focus on teaching and learning, curriculum remains primitive and traditional. The theoretical dimension of curriculum in India has progressed to a better level; National Curriculum Framework- 2005 is the best exemplary evidence to mention. Instead of assuming that the subjects taught is taught and incorporated in the curriculum for a reason, the premise should be included in the curriculum unless it can be justified in terms of future and utility. Philosophy, psychology and sociology have a decisive role here in helping and supporting teachers.

The philosophy of education offers some practical purpose to the teachers. Its most significant role is to help teachers to think more clearly and accurately about different matters and aspects of education. Educational philosophy by its emphasis on accuracy and clarity is valuable in establishing what the real meaning is. Clarification of ideas about the related aspects is one of the major steps towards more effective curriculum planning. Philosophy helps to have clarity for planners of curriculum. Similarly, educational philosophers have given much thought to the aims of education; their writings in this area will give guidance to the developers of curriculum in framing the aims of education. Let us have a look into the basics of philosophy. What it is? And what does it incorporate?

Philosophy is the contemplative side of life and is the science of knowledge. It understands man in relation to the universe. According to Dr S. Radhakrishnan, Thilosophy is a logical enquiry into the nature of reality.'

Philosophy thus deals with:

- the nature of reality
- the nature of man
- the goal of life, and
- the fundamental beliefs and values of life

We know that education is dealing with how to prepare for life and it aims at making man fit for different life situations. Education is the strongest instrument for the achievement of the ideals of life and civilized attempt to bring about the balanced and proper development of human personality in a systematic way considering the day-to-day experiences. Thus, it is clear that education and philosophy are closely related.

- Philosophy paves the way for education and destination. It provides guidance in deciding the goals and ideals, methods, practices, etc.
- Education is the means to achieve the goals that philosophy has made.
- As philosophy deals with the theoretical side of education, education is the practical side of philosophy.
- Philosophy establishes different aspects of education including aims of education, content, way of curriculum transaction, methods of teaching, role of the teacher, type of evaluation, form of discipline, etc.

It is philosophy which decides why a subject or a specific topic should be included in the curriculum. It also explains how the subject is to be transacted. Let us discuss different philosophies of education to have an understanding on the philosophical foundations of curriculum.

(b) Various Philosophies and Education: Linkage

Now we are going to understand various philosophies with a major focus on education. As education becomes increasingly more important vis-a-vis the technological revolution and the intra generational disjuncture that we have all come to know, educational philosophy grows in importance as well. Each of the philosophy offers a different way of viewing the spectrum of philosophical positions and values about education.

Why should we have a particular activity in curriculum? How that activity is of value to the curriculum? How will it benefit the learner? What activities and experiences are required to carry out the desired goals and specific objectives determined? How do we teach? What are the strategies and methods to be adopted for the fulfillment of the specific objectives? All these queries should be well addressed while making any suitable curriculum. Definitely the study of philosophy helps in the finalization of all these aspects. Moreover, specialists in the philosophy of education have made significant contributions to clarifying the relationship between the nature of knowledge and curriculum development.

Idealism, naturalism, pragmatism and realism are considered as major philosophies. Let us have a detailed discussion about theses philosophies. For clarity we are going to discuss in a pattern namely, meaning of the philosophy, basic postulates, aims of education, curriculum methods of teaching and the role of the teacher.

1. **Idealism;** It seeks to offer an explanation of man and the universe in terms of spirit. Therefore, idealism believes in supernatural powers. It believes in spiritual nature of man. Ideas are believed as unchanging. According to idealist philosophy, education should help in realizing the spiritual nature of the child. Idealists want that curriculum should be a reflection of human culture and civilization. The main proponents of idealism are Socrates, Plato, Kant, Hegel, Froebel, Vivekananda, Gandhi, Radhakrishnan among others. The basic tenets of idealism are-
   - Priority to mind and self of the individual
   - All of the universe exists in spirit
   - Man is a superior creature and is distinctive in nature
   - Faith in eternal and spiritual values
   - It emphasizes normative and social sciences
   - It believes in universal education

   As per idealistic ideals the aims of education are-
   - attaining self-realization
   - the making of actual or real
   - achieving the highest potentiality of the self
   - preservation and enrichment of the cultural environment
   - development of moral sense, development of inventive and creative powers To achieve these goals there should be in-depth knowledge about the cultural heritage, maturity in thinking, reasoning, and higher order capacities like problem solving and reasoning. The curricular areas of idealistic philosophy consist of the following:

- Intellectual activities: Literature, science, mathematics, history, geography, languages, etc.
- Aesthetic activities: Art and poetry to reinforce moral impulse
- Moral activities: Religion, ethics and metaphysics
- Physical activities: Health and physical education, sports activities, handicrafts and skills

Idealism emphasizes question answer method, lecture method, storytelling, inductive and deductive methods of teaching. Teacher has got a high position in idealism. As per idealistic philosophy teacher should be morally high, intellectually developed and culturally advanced.

2. **Naturalism:** Naturalism is a type of philosophy which considers nature as the whole of reality. It approaches philosophy from a pure scientific point of view. Rousseau, Locke, Pestalozzi, Tagore, Nunn among others are the major advocates of naturalistic philosophy. It puts forward that education should focus on the nature of child. Nature of child is dynamic. The purpose, process, and means of education should be within the experiences of the child. The basic educational philosophical ideas of naturalists are given below.
   - Nature is the base of all education
   - Education should be child-centered
   - Advocates for the maximum freedom to child
   - Instincts of the child constitute the basis of all education
   - Senses are the gateways of all knowledge

   Naturalism assigns the following as the major aims of education.
   - Self-expression or self-preservation
   - Perfection of man
   - Transformation and modification of instincts
   - Help in struggle for survival
   - To have better adjustment
   - To achieve individuality and social progress

   The subjects included in the curriculum thus should be in accordance with the interests and needs, and natural environment of the children (students). Naturalistic curriculum gives importance to the sciences. Present experiences, activities, and interests of the child should be taken care of in the curriculum. They considered mathematics and languages as tools for understanding sciences. The other subjects suggested by naturalists are history, social sciences, agriculture, carpentry, drawing and arts, and physical and health education. They gave no place for religious education and traditional subjects.

   Method of direct experiences and observation, play way method, and heuristic method are the suggested methods of teaching in naturalism. Teacher is an observer and stage setter in education.
3. **Pragmatism:** Pragmatism is an attitude, a method, and a philosophy that employs the practical consequences of ideas and beliefs as a standard for determining value and truth. Kilpatrick, John Dewey, William James among others are the chief advocates of pragmatist ideology.

   It does not have a belief in the existence of values like truth, beauty, and goodness. It stands for relative (based on our practice) and not for absolute (predetermined).

The basic philosophical postulates of pragmatist philosophy are the following.

- Believes in changing nature of eternal values
- Experience is the core of reality
- Believes in testing and experimentation
- Faith in the present as well as immediate future
- It is humanistic in nature
- Believes in social values
- Believes that the development of personality is possible with continuous interaction with environment

Education should aim at training the students to develop values for themselves. Knowledge should not be imparted and it should be constructed, that is, students should be enabled to create it from their own activities as well as experiences. Education according to pragmatism is meant for harmonious development. It supports the learner to equip with social efficiency and proper adjustment.

To acquire the specified aim of education, the system should be child-centered, should be in accordance with the psychological characteristics of the learner. There should be project based and activity oriented methods of teaching in the curriculum. Pragmatic curriculum is based on the principle of utility and principle of integration. The teacher is considered as a friend, philosopher and guide. Teacher should be the embodiment of knowledge, intelligence, efficiency and practice.

4. Realism: It is considered as a belief which looks upon the world as it seems to us, to be a mere phenomenon. Realism regards the physical world as real. It argues for reality and practical knowledge. Milton, Erasmus, Francis Bacon, Comenius, Russell among others are the chief exponents of realism. The basic tenets of realism are-

- It emphasizes on physical aspects of universe
- Considers universes as independent of mind
- Considers only reality as real
- Considers God and soul don't have any existence
- Emphasizes the role of senses in attaining knowledge

Realists advocates that education should aim:

- To produce a man capable of handling the world affairs who will be in a position to adjust with the environment and
- The attainment of qualities- in terms of physic, sociability, intelligence, and morality in the process of making a complete man.

The realists oppose bookish and abstract knowledge and they want to bridge the gap between the situations and life at school and the outside life. It is possible only through inculcating teaching and learning on real issues.' Realists demand for vocational subjects. They emphasize science subjects and argue that the curriculum should possess utility. Mother-tongue and physical education are given important position in realism and it suggests for the introduction of subjects like mathematics, economics, history, geography, political science, law, etc.

Realism advocates for inductive method, correlation method, sensory method, and method of observation and experimentation. Teacher is considered as a stage setter and observer.

Now we have learnt the basic philosophies in terms of their importance in structuring the curriculum. Similarly, there are some other philosophies similar to those who deal with education and curriculum. It is also relevant to see these philosophies, which have been categorized as other philosophies.

(c) Other philosophies and education

1. **Existentialism:** It is a modern philosophy and is against many outlooks and methods of traditional western philosophy. Existentialism is a protest against totalitarian movements. It is an attempt to reach the innermost core of human existence in a concrete and individual fashion.

   The existentialist sees the world as one personal subjectivity, where goodness, truth, and reality are individually defined. Reality is a world of existing, truth subjectively chosen, and goodness a matter of freedom. According to existentialism man should be the master and machine should be the slave. The basic characteristics of existentialism are-

   - Man is the centre of the universe and the basic feature of human personality represents his uncontrolled freedom
   - Existentialism gives emphasis on man's inner life and experiences
   - Freedom is the watchword in existentialism
   - It holds that action is the only thing that enables man to live
   - It argues for suitable opportunities that enables self-realization
   - It states that man is neither alone nor complete
   - Mind is considered as the source of all knowledge
   - It does not believe in values

   Existentialism puts forward that the aims of education are to make a complete man, to develop a balanced personality, to enrich the mind, to enable one to lead a good life, to enable man to have better choices, and to preserve the freedom of man.

   Existentialists do not argue for a rigid curriculum since they place freedom at the top. All the subjects in schools should enable the learner to develop in a better way. They give first place to humanities, especially arts and literature. They assign second importance to social sciences. They consider the moral and religious education as important in curriculum. Existentialists consider teacher as a base of education who fosters the individual growth. Teacher has to engage actively and need to face all the challenges. They recommend Socratic Method, self reading, and learning by doing; but discourage mechanization and group methods.

2. **Constructivism:** Vygotsky through his constructivist philosophy to education stresses that cognitive development is a social activity. He adds that activities in the cultural development of child appear twice: on the social level, and on the individual level. Child develops his/her own thoughts and attitudelthrough social interaction and communication with peers and other members of society. Child can also learn by observing the activities and interactions of others in a social setting.

Teachers should keep in mind all these and need to interact meaningfully with student. Depending on the social context of the classroom, a student may benefit from being able to interact freely and socially with other students as they learn.

Vygotsky focuses on the importance of language and communication. To him, language and thinking are inescapably linked, and even though they first appear independently in infants, they quickly merge into a single function as humans develop into fully social beings. The teacher must carefully define and explain new scientific terms which will help the students to develop the appropriate thought processes associated with the scientific concepts and their labels. Vygotsky insists that we should consider the socio-cultural context of learning and the environment outside of school.

Learning is simply the process of adjusting our mental models to accommodate new experiences.

- Learning is a search for meaning by an individual.
- Meaning requires understanding the complete as well as parts of a concept or idea.
- In order to teach well, teachers must understand the mental models that students use to perceive the world around them.
- The purpose of learning is for an individual to construct his or her own meaning and not to just memorize.

3. **Perennialism:** The most conservative, traditional, or inflexible of the other philosophies is perennialism, a philosophy drawing heavily from classical definitions of education. Perennialists believe that education, like human nature, is a constant.

Perennialism is a reactionary educational philosophy that would return the content of education to its very earlier roots. Knowledge of truth, beauty, and goodness would be at the core of education. Similarly, the cultural heritage and social implication would not be considered as important. According to the philosophy of perennialism knowledge is universal and eternal. Absolute reality is ideal reality.

Perennialism is consistent with the religious conceptions of divine control over life and according to perennialism religious conception is not a necessary characteristic. They also believe in the form of knowledge that is external to human beings. Truth and good are self-evident. Perennialism considers knowledge as eternal and it would bring the study of the great works of the past to centre stage.

Education has the function of awakening the latent rationality residing in children. Learning is reasoning and not mere doing. The curriculum should be the reflection of the diversity of children's interests. All children should become familiar with and sensitive to the great works.

Schools for the perennialist exist primarily to reveal reason by teaching eternal truths. The teacher interprets and tells. The student is a passive recipient. Since truth is eternal, all change in the immediate school environment is largely superficial. The educational ideals of perennialism are

- We should teach the principles that are of everlasting importance to all people everywhere.

- Education should be the same for everyone irrespective of any barriers.
- Exposure to finest thinkers of history should be given as models for discovery.
- Education should address the questions that persist over time.
- Lecture, coaching, seminar, and Socratic dialogue are the methods of teaching.
- As per this philosophy, education is teacher directed.
- The major goal of education is independent reasoning.
- Curriculum focuses on great ideas using the Great Books

Perennialism does have a great influence today which has a policy of inclusion, i.e., all children can learn the same quality of knowledge. Similarly, it is argued that individual differences must be compensated by remedial or supplementary instruction.

4. **Essentialism:** Essentialism emphasizes cultural heritage. Similarly, it advocates for the need to pass on to the younger generation the knowledge as well as the skills essential to the continued functioning of our society.

   As per essentialist philosophy, mathematics, sciences, and the other stores of basic knowledge are the basis of learning. It gives importance to time-tested content that has proved its worth to society. Essentialism would emphasize the knowledge that is well established and functioning in the present world. Knowledge is developed usually in a relatively recent past.

   Education has the function of cultural conservation. It has the responsibility to pass along the principles and foundations of cultural conservation. Essentialism is a conservative philosophy of education that expects change to come in an orderly fashion along the pathways that have already been laid. Beliefs and institutions are intrinsically good and are the important parts of reality.

   Schools are the means of maintaining the cultural structure of society. Schools have the duty to develop the certainty and trust to sustain the culture and society. Education should contribute to discover the intact laws of worldly existence. Education should help human kind to adjust to these laws and the society that has developed within the context in which they live.

5. **Progressivism:** This philosophy has its roots in the pragmatism of the late nineteenth and early twentieth century. According to Brameld, 'it is the reflection of technological, experimental, worldly habits and accomplishments that have powerfully shaped the modern culture.'

   Progressivism is a philosophy that builds the seeds of revolutionary change into its very texture without suggesting what the change shall be. Progressivism is characterized by an open-minded and flexible attitude that views all knowledge about the world in a state of fluctuation. To progressivists, the universe is in a continuing state of development with new experiences integrating into the existing mass of prior experiences.

   Progressivism represents the quintessential philosophy of education for a democratic society. It believes in an underlying belief in each individual's ability to deal with the greater questions of the world. Similarly, it proposes that each one has the ability to actively participate in solving the problems of society. Progressivism would pursue knowledge of the processes contributing to the effective decision making of people confronting the problems of the present.

Education should meet the capacities of each individual. It should develop the abilities and capacities so as to ensure the greater involvement of everyone in decision making as well as problem solving process of society.

According to progressivists, knowledge is both social and individual and is the product of activity; education prepares people to engage in the decision making process of the community in an effective and desirable way.

Schools should start with interests and problems close to students. Schools should guide the students to achieve greater control of abstract knowledge and this can be achieved in a gradual manner. It advocates for inquiry based learning and problem solving method. Both of these ensure maximum participation and initiation of students. Education should be experience centered, dynamic, and specific to the world around the learner. Curriculum should be more than child centered. For realizing this curriculum schooling should be experience centered- involving the body, mind, feelings, and emotions of the child.

It means basing instruction on the needs, interests and developmental stage of the child; it means teaching students the skills they need in order to learn any subject, instead of focusing on transmitting a particular subject; it means promoting discovery and self-directed learning by the student through active engagement; it means having students work on projects that express student purposes and that integrate the disciplines around socially relevant themes; and it means promoting values of community, cooperation, tolerance, justice and democratic equality.

Pedagogical progressivism proposed to do a lot more than just making schools efficient. It called for turning education upside down, by having the purposes and interests of the students drive curriculum rather than forcing the curriculum onto the student. It offered a way to free schools from artificial constraints and rigid disciplines and unleash the student's natural impulse to learn. It proposed to recreate the classroom as a model democratic community of learners, which could become a way to reduce injustice and enhance democratic equality in the larger society.

Early progressive educators wanted to work on all aspects, namely, the intellectual, physical and emotional aspects of a man. John Dewey took the original definition of Progressive Education and broadened it to include the student as an active participant in his/her education, prepared to contribute to a democracy. One of the primary functions of schools, according to progressivists is to prepare citizens for full participation in democracy.

According to progressivist thought, the skills and tools of learning include problem-solving methods and scientific inquiry; in addition, learning experiences should include cooperative behaviours and self-discipline, both of which are important for a democratic society.

6. **Reconstructionism:** It is a further elaboration of progressivism. According to reconstructionism, the established institutions of society are no longer sufficient to deal with the problems.

   Reconstructionists have a Utopian view of a just society in which all the members contribute to the benefit of the group and thus to each other. Reconstructionism is a human centered as well as futuristic philosophy which would conceive of

a grand social design that would guide the activities of society towards better life. Reconstructionism would develop knowledge of what the future should be and the means for reconstructing society in order to achieve the suitable development for desirable future.

Schools are to be instrumental in fulfilling the Utopian vision of a new and better social order. Similarly, they are to be used to achieve a planned set of outcomes for a better life. Schools are the media for enriching and enhancing the cooperative mentality. Educators who promote the Social Reconstruction ideology view curriculum from a social perspective. They have faith in the ability of education, through the medium of curriculum, to educate 'the masses ofhumanity' to critically analyse themselves in relation to their society, understand the ills of their society, develop a vision of a better world based on the concept of social justice and actualize that vision.

Social Reconstructionists assume that education has the power to educate people to analyse and understand social problems, envision a world in which those problems do not exist, and act so as to bring that vision into existence. Thus, education of individuals is appropriately revitalized so that schools can lead to social transformation.

Social Reconstructionists want to reconstruct society through social processes. Their first concern is the education of the group and then the education of the individual. From this perspective, learning experiences are construed to be group experiences that take place through human interaction, and the focus is on the 'groupmind' rather than the 'individual mind.'

Schools should teach the child not only to develop socially but also to participate in the social planning as well. Learners must see how society plays a critical role in evolving people. Learners must also be convinced of the validity and urgency of change.

The primary purpose of the social reconstructionist curriculum is to confront the learner with several problems that humankind faces. The curriculum does not have universal objectives and content. Teacher must relate national, world, and local purposes to the students' goals. Cooperation with the community should be ensured by the teacher.

7. **Secularism:** It is a belief that state, morals, and education should be independent of religion. In another words, it is a belief that religion should not enter into the functions of the state. Secular education is advocated for- the development of moral outlook, the development of wider attitude and to make one dynamic, the development of pluralistic outlook, the development of democratic qualities like liberty, equality, fraternity, and cooperation, the promotion of cultural development and the development of scientific spirit.

   Lessons should be free from religious bigotry and biases. Good ideas and values of different religions can be presented appropriately. Activities should be for developing religious harmony and mutual cooperation. Scientific spirit is more emphasized in secular curriculum. Teachers should be democratic in nature and broad minded.

8. **Scientific Humanism:** It considers both scientific and humanistic aspects of life in explaining education. Science helps to improve life by resolving problems and plays a vital role in the progress and improvement of human life. Similarly, life is spiritual as well. It is argued that science alone cannot bring forth progressive change in human life. Along with science there should be teaching of humanities, social sciences, aesthetics and religion.

Considering the postulates of different philosophies on education and curriculum, it can be concluded that a curriculum should be a reasonable one in terms of its subject matter and method of teaching. While developing a curriculum if the planners keep in mind the different viewpoints of various schools of philosophy they can structure it in a comprehensive and balanced manner.

2.2.1 Suggestions to Curriculum Framers and Teachers

The following are the suggestions for improving the primary-stage school curriculum:

- The gap between curriculum planning, formulation and its implementation should be minimized. Curriculum should be revised and reviewed after every five years.
- The social, cultural, demographic, environmental and economic conditions of the country should be kept in mind while developing school curriculum.
- The activity based approach, learning by doing, learning without burden and joyful learning should be followed in preparing curriculum.
- Both Physical Sciences and Social Sciences should be integrated into Environmental Studies.
- The integrated approach should be followed in preparing the textbooks. It will lessen the burden on children. The essential/core components of curriculum should be followed for maintaining equal standards.
- All sections of the society should be involved while preparing curriculum.
- Rigorous intensive in-service training for primary school teachers should be organized for their capacity development in different subjects on a regular basis. Monitoring and supervision of in-service training should be conducted regularly.
- Continuous and comprehensive evaluation should be made more effective and should be included in the curriculum.

The following suggestions would be helpful in the improvement at the upper primary stage in school curriculum:

- The syllabus of social studies to be reduced (West Bengal, Arunachal Pradesh and Maharashtra) Outdated information should be deleted for reducing the curriculum load.
- Stress should be minimized by of providing activities through arts, work education, health and physical education. (Gujarat, Delhi, Uttarakhand, Madhya Pradesh, Kerala)
- The needs of coastal, hilly, tribal, regional areas are to be focused in school curriculum.
- Local specific examples to be included in history, geography, science and mathematics subjects. The examples on morals and values set by Educationists,

Thinkers and Philosophers to be incorporated in curriculum.

- Feedback and remedial work should be strengthened. Weightage to be given out of classroom activities.
- Emerging issues and concerns like globalization, privatization and liberalization to be included.
- The competency and content enrichment to be provided to teachers through in-service education programmes.
- Curriculum should be framed in such a way that CCE (Continuous Comprehensive Evaluation) and grading system can be introduced
- Play way/Games/Role play/Puppetry/ performing Art should be introduced. If possible figures/ diagrams must be localized state wise.
- Illustrations and examples should be included in the curriculum and capacity building programme for school teachers to be organized on regular basis.
- Regular and intensive training programme for elementary school teachers should be organized in the area of teaching methodology, evaluation techniques and classroom teaching.
- Modules for in-service training programmes should be developed according to the needs of the teachers.

The following are the suggestions for improving the secondary-stage school curriculum:

- Value education, art education, physical and health education and work education should become integral part of 10-year school curriculum and more weightage should be given to these areas in school curriculum.
- Higher level of knowledge should be included in science and mathematics.
- The syllabus of social sciences should be reduced and integrated approach should be followed for teaching of social sciences.
- The curriculum should have clear-cut future directions for career making so that the students can choose science, commerce or arts.
- Outdated information, difficult concepts to be deleted for reducing curriculum load.
- Linkages to be established between secondary and senior secondary curriculum.
- The curriculum should include Information and Communication Technology (ICT).
- Local examples, specifically to be included in the social sciences, science and mathematics.
- All sections of society including workers, experts, teachers, educationists, elected representatives to be involved in framing curriculum. Their opinions and suggestions to be considered.
- Grading and Continuous and Comprehensive Evaluation should be introduced in the evaluation system.
- The school curriculum up to secondary stage should be visualized as a unit. The totality should reflect the continuity of curricular activities.

- Capacity building programme for secondary school teachers about new techniques and methods of teaching, use of audio, video aids in classroom teaching to be organized on regular basis.
- School Curriculum should be revised on the basis of NCF-2005. Science Subjects should be clearly indicated as physics and chemistry and not as physical science. Stress must be laid on mathematics and vernacular classes.
- Practical work should be encouraged in all subjects i.e. science, mathematics social studies and languages.

CHECK YOUR PROGRESS

1. How is progressivism essential for a democratic society?
2. Howis 'knowledge' regarded by the philosophy of perennialism?
3. List some of the characteristics of existentialism.

2.3 PSYCHOLOGICAL FOUNDATION

We have seen that philosophy helps the curriculum planners to address the following concerns:

- What are the objectives
- What content / subjects are to be incorporated
- How to impart or what type of learning experiences are to be provided
- What type of role a teacher has to play
- What method is suitable for teaching different topics among others?

Now we are going to study the role of psychology in the development of curriculum.

Psychology and Education

Psychology is the systematic scientific study of behaviour and the knowledge that results from that study. It studies the overt as well as covert behaviour. Psychology considers that all human functions are determined and carried out by some mental processes. There are many branches to psychology dealing with specific topics. Educational psychology, one of the applied forms of psychology, deals with how people learn. With the knowledge of educational psychology teacher can stimulate, motivate, guide, direct, test and evaluate the learning of children. The psychology of child development indicates that each individual has certain capabilities, abilities, interests, attitudes, intelligence and many other potentialities. Similarly, everyone has certain needs- physical, mental and emotional; and further all have some kind of psychological problems. The psychology of individual differences indicates that no two are alike.

Pedagogy and psychology run side by side, and the two should be considered congruent features of good education.

Important assumptions on curriculum

It is clear that curriculum should be flexible enough to allow its adaptation to the special needs of children. Teachers must view curriculum as a process of planning the best possible programme for children, parents and teachers. The following assumptions on curriculum are very important that reveal the psychological foundations behind curriculum.

- Curriculum is related to the overall quality of the programme.
- Curriculum must focus on the 'whole child' and programmatically integrate areas of development.
- Recreation and leisure serve many functions and these should be taken into account in curriculum.
- Teachers must agree with the philosophy and practices of the curriculum and understand its content so as to ensure effective teaching considering the individual differences.
- Teachers must understand the development and theories of learning.
- It should be considered that children are active learners.
- Curriculum should be developmentally appropriate.
- Curriculum should reflect the role of social and cultural contexts in children's development and learning.

What are the ingredients of meaningful curriculum? A meaningful curriculum should be in accordance with the mental abilities, personality characteristics, capabilities, and behavioural qualities of children. Moreover, it should cater to the intellectual, emotional, social and aesthetic needs of the learners. To meet the individual differences, it is appropriate to incorporate as many activities and multiplicity of programmes as possible. Thus, the content of curriculum should make a liberal provision for a variety of subjects, courses that are theory based, practice oriented, and vocationally designed. Moreover, there should be core, elective, optional, advanced, add-on and remedial courses in the curriculum.

The curriculum should include:

- Certain subject areas which can be learnt by students of average physical and mental abilities
- Subject areas of special interest to a few learners to meet their special needs
- Subjects and activities which will be competent enough to cater to the needs of gifted and talented ones
- Subjects and or programmes of remediation to the backward students or slow learners
- Provisions for creative and multi talented learners special measures to socially and culturally deprived children.

Recently new materials have been devised, tried out in the classrooms, and then revised in terms of findings gleaned from an analysis of teaching and learning problems. Knowledge of child development has been put to use in actual classroom learning.

Experimented approaches of psycho-friendly curriculum

As per the considerations of psychology of education the following considerations were employed and experimented in different countries over the globe, in order to incorporate the psychological basis of education in curriculum.

- The principle that students can be introduced to a subject as early as desired, provided it is presented properly and the students have the prerequisite background of experience.
- Transfer of learning is enhanced when basic concepts, generalizations, and processes of inquiry are given emphasis.
- Guided discovery of relationships is proven effective for more efficient and permanent learning.
- Interest and motivation can be generated through the lure of inquisitiveness about the subject. The same students can be guided and taught how to raise questions, how to relate and find out the relationships, how to interpret the findings derived, how to formulate principles, and how to engage in different forms of inquiry.
- Meaningful verbal learning, i.e. the organizing of facts into conceptual schemes that can be used to generate ideas, ask questions among others.
- Inductive approach is suggested because of its value in promoting curiosity about the subject. They help in making generalizations as well.
- Deductive approach is good for developing skill in explaining new facts, formulating hypotheses and interpreting information.
- The study of selected topics in depth is required than the study of many in superficial.
- Depth and breadth of learning are attained through recurring encounters with concepts, processes, theories and generalizations of higher cognitive levels.
- Learning is enhanced if it is continuous and linked. When there is a conceptual and process continuity if will be very effective.

Curriculum and learning hierarchy

What learning is, how learning takes place, and the characteristics of learners are to be the considerations in the design and development of curriculum. While talking about learning, important thing is the ordering of material and subjects as per the relevance. To plan sequences of instructions directly related to the teaching and learning process, the theory of hierarchy of learning by Gagne is very helpful to the curriculum planners. Sequences of instructions should be planned in hierarchies to provide for the attainment of specific terminal behaviour. Let us discuss in brief the hierarchy of learning.

Gagne identified eight forms of learning and arranged it in a hierarchy. They are: 1. **Signal learning:** It is the development of a reflexive response to a signal by repeating the signal in proximity to an unconditioned stimulus. It is the first form of learning.

2. **Stimulus-response learning:** It is referred to as trial and error, operant, or instrumental learning. It is the initial stage of learning words.
3. **Motor chaining:** It is the connection of a set of stimulus response learning. It consists of operating a model and use of science equipments.
4. **Verbal association:** It consists of learning sequences of sentence patterns and memorizing verbal expressions.
5. **Multiple discrimination:** It is the learning to make different responses to objects and events and to distinguish among them.
6. **Concept learning:** It is learning to put objects or events into a class and responding to them as a group.
7. **Principle learning:** It is the learning to link concepts to each other to show relationships as in generalizations.
8. **Problem solving learning:** It is the use of principles to attain a goal and thereby learning a higher order principle that change the learners capability.

Now let us discuss the theories of development and learning.

Theories of development and learning

The foundation of all curricula is developmental theory, i.e., how children develop and learn. The developmental theory from which a curriculum originates may be explicit or implicit. Different theories are discussed below:

1. **Socio-cultural Theory:** Lev Vygotsky in his theory emphasized the following.
   - Influence of society and culture on children's development
   - Role of languages in developing higher order thinking skills
   - Importance of play in enhancing social and cooperative behaviour
   - Zone of proximal development in helping children to learn; it is the remoteness between the actual developmental level as determined by learner through independent problem solving and the level of potential development as determined through problem solving in association with others.
   - Children must share their knowledge with others who may be thinking in a different way to derive at a conclusion on shared understanding.
   - Emphasizes the role of imaginative play that may enhance cognitive development of strengthening memory and reasoning power. Moreover, it causes for enriched language development and increased social competence.
2. **Multiple Intelligence Theory:** Gardner proposed seven kinds of intelligences namely, linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal and intrapersonal intelligences. The basic ideas are:
   - Children differ in the strength of all intelligences.
   - Family, culture and community influence the development of intelligences and the way the intelligences are expressed.
   - Curriculum must offer children a diverse array of opportunities to foster development in all the areas of intelligences.
   - Assessment must go beyond the areas typically associated with academic achievement.
3. **Cognitive Development Theory:** Jean Piaget put forward a theory of human development which is relevant to education. He proposed four stages of cognitive development. It is shown in figure 2.2.

The postulates of the theory are:

- There are several processes that describe development and learning.
- Learning occurs as children construct knowledge through active exploration and discovery in their physical and social environments.
- Children assimilate when they match concepts, skills and information gained from their experiences with the environment to their previous understanding pattern.
- Accommodation occurs when the mental scheme must be changed to fit the new and to incorporate it in the cognitive structure.

Cognitive theory considers learning as a cognitive activity. Cognitive development according to them is a product of interaction of the environment with the intellectual potential and activities of the individual. Cognitive approach leads to logical methods for organizing and interpreting learning. The hierarchical system of cognitive stages has often been taken as the foundational basis for structuring the curriculum. They are (a) the content of the curriculum should reflect the stages of development (b) children should not be requested to perform at a cognitive level prematurely, and (b) once child has entered a cognitive stage, experimental enrichment contributes to increased abilities associated with the stage.

4. **Behavioural Theory:** Watson, Skinner, Pavlov, and Bandura are the main proponents of this theory. This theory focuses on objective and observable principles that influence human behaviour. The basic ideas can be summarized as:
   - Pavlov in his stimulus response theory states that an unconditional stimulus and unconditioned response are used to elicit a conditioned response to a conditioned stimulus.
   - Skinner's theory of operant conditioning is an explanation of behaviour that allows for many actions and behaviours being performed spontaneously, not always in response to something else.
   - Learning is viewed as a process whereby a child is conditioned to display expected behaviour and knowledge through the use of reinforcement and punishment.

- Both human and physical factors in the environment should be tailored to produce predictable results in learning.
- Bandura in his social learning theory attempted to describe the cognition of individual.
- Social learning theory recognizes that observation, modeling and incidental learning have a key role in children's learning and behaviour.

Curriculum according to the behavioural school of thought is based on

- Specific objectives which are well defined
- Suitable instructional materials and media as per the capacities of the learner
- Importance to skill acquisition
- Place for diagnostics and remedial measures
- Place for positive reinforcement
- Modification of behaviour through specific tasks and step by step activities.

5. **Psychodynamic Theory:** Sigmund Freud and Erik Erikson explained learning in a different way. Fred emphasized emotional and psychological aspects of children. As children move through different stages of development (Oral, anal, phallic, latency, and genital), their development and behaviour is explained by the action of three subconscious forces- id, ego, and superego.
   - Id is the inborn desire which drives the present at birth and is based on pleasure principles.
   - Ego develops during the anal (1-3 years) stage and is based on reality principles.
   - Ego controls emotions, thoughts and behaviour.
   - Superego develops during phallic stage (3-5 years). It is based on the principle of morality and it represents ethical values.

   Erikson puts forward eight stages of development called as stages of psychosocial development. These stages specify identity crisis or task that each person must resolve at each stage. The successful resolution of each task during each stage results in the ability to perceive the world and self correctly. It ensures the development of a healthy personality and mastery of the environment. Curriculum planners have a lot to adapt from these theories.

6. **Maturational Theory:** Hall, Havighurst, and Gesell are the chief exponents of this theory. Havighurst believed that developmental tasks are those things a person must learn if he or she is to be evaluated. Moreover, this will also help him to evaluate whether he is a happy person or not. Similarly, Gesell developed an array of tests to assess and describe children in ten areas of development. Each category includes numerous areas on which assessment is required. He assessed the following categories of development.
   - Motor
   - Personal hygiene
   - Emotional expression
   - Fears and dreams
   - Self and sex
   - Interpersonal relations
   - Play and leisure time
   - School life

- Ethical sense
- Philosophical outlook

The tested data on different ten areas were used to develop gradients of development that described norms at various stages. Gesell believed that child's genetic endowment determined development and behaviour and that internal maturational factors guided growth and development.

7. **Field and Gestalt Theories:** It considers that human beings are innately interactive. Observing physical interaction between the individual and the environment is relatively insignificant. Therefore, the psychological change in the individual is important. Here learner variables occupy an important position.

   Early field theorists were known as gestalt theorists. They viewed perception and learning as holistic experiences based on the grasping of patterns and configurations. They viewed that whole is greater than the sum of its parts. Kohler and Wertheimer are the major Gestalt theorists. The Gestalt laws of learning are-

   - **Law of similarity:** The pattern or relationship amorig the components is created by their similarity.
   - **Law of proximity:** Items that are closer to each other in space, time, are grouped together.
   - **Law of closure:** It refers perceptually to enclosed areas that form holistic units more readily than do areas delineated in open fashion.
   - **Law of good continuation:** It refers to the perceptual and logical completion of incomplete pattern.

8. **Humanistic Theory:** This theory considers human beings as unique and distinct from all other species. They considered complex traits such as feelings, attitudes and hopes as essential to the understanding of humanness. Moreover, it is not enough as a study of humans in terms of perception and cognition, but they need to be studied outside the laboratory.

Abraham Maslow is the main exponent of humanistic learning. He has developed a theory of human needs and motivation. Maslow identified basic human needs and arranged these into a hierarchy of prepotency. This became a backbone of many curricula. Definitely, this would be a consideration for planners of curriculum. The need hierarchy of Abraham Maslow is shown in Figure 2.3.

We have seen different theories of learning and human development. It is of importance that for every curriculum the consideration of different aspects of psychology is required. Basic needs, individual differences, maturation, developmental stages, etc., are to be taken into account while.structuring a curriculum.

2.4 SOCIOLOGICAL FOUNDATION

We have learnt psychological foundation of education-different development and learning theories and need of considering individual differences now. Similarly, while selecting and structuring or restructuring the curriculum there should be some considerations on socio-cultural aspects and issues. Let us discuss these aspects in detail.

Society and Education

Society and education are related to each other. The purpose of schooling is to serve the needs of the society. Similarly, society and its perceived demands form the basis for content selection for schools. Therefore, the curriculum should be in accordance with the demands of society-existing as well as emerging. Secondary Education Commission states that 'curriculum must be vitally and organically related to community life.'

Another way in which the social setting is utilized as a source of content may be found in the illustrations of contemporary situations that are selected to highlight concepts and main ideas from the disciplines.

Social and Cultural Considerations in Curriculum

How are society, culture and curriculum related to one another? Teachers and other professional educators have realized that society and culture have a major influence on education.

The features of society that influence the education as well as teaching and learning endeavour are:

- The diversity prevailing in society in terms of religion, language, region, caste, community, etc.
- The standards and mores prevailing in different societies.
- Facilities of transportation, communication among others.
- Impact of westernization and modernization and their variation.
- Pattern of discipline prevailing in different communities.
- Child rearing practices of the society and the prevalent parenting styles.

These factors would influence the making of curriculum either directly or indirectly. Other social forces which have a major influence on education comprise separation leading to student attrition, misuse of resources, reducing contact of parents with children, organization of class structure as per the different patterns of values, and teacher empowerment by school-based decision-making.

The needs stimulated by social and cultural conditions are met through educational policies and plans. It is necessary that potential teachers and experienced educators should be aware and be skillful in following the course of policy development and examination considering the different dimensions of social life. The following considerations have to be taken into account.

- Teachers and professional educators need to understand the major sociological and social psychological theories with the aim of analysing objectives, social processes, organization and improvement of formal and non-formal education.
- Preparation of teachers and professionals of education should involve knowledge of human social development.
- Specific contextual theories like functionalism, symbolic interactionism, psychoanalysis, behaviourism, cognitivism, constructive ideology, modern vs. postmodern approaches, emotional intelligence, cross-cultural methodology, cultural learning, etc., are to be taken into account because these theories have high social impact.

There are many social forces which influence educational process and purposes such as:

- Family and its value system and structure.
- Culture- including cultural identity, diversity, patterns of socialization among others.
- Race, ethnicity, citizenship and educational issues of multiculturalism, group and individual identity, desegregation, change of attitude and effects of incorporation.
- Social class- class differentiation and education, consequences of class, social mobility, socio-economic status, social reproduction, stigma of poverty and meritocracy.
- Gender issues- socialization processes, motivational comparisons, and role definitions.
- Alienation- including student attrition, substance abuse and gangs.

Schools are an integral part of society and are established for the development of society. School influences society through its curriculum- the way and plan of teaching and learning and other activities. Through teaching of curriculum, schools can influence the way society functions. Similarly, society also influences curriculum in several different ways. No curriculum will be a success without reflecting the society in which it is being enacted. It is essential to examine the social forces that create the curriculum. The following issues need to be addressed while creating or designing a curriculum:

- The extent of influences that are experienced outside school on a good curriculum
- Changes occurring in society and their affect on curriculum

Society-related curriculum should be connected to the level of knowledge that is required by an average person in daily life. It should be futuristic and sufficient to get a career. It should fulfill basic and unavoidable needs thrust by society as a mandatory qualification to various degree and professional courses. The basic minimum should be ensured by imparting the curriculum.

Cultural Diversity and Curriculum

Diversity is becoming a very common feature of society. This can especially be observed in urban areas. In the present day, society is now characterized as being extremely multicultural, multi-ethnic, and multi-religious. It has been mentioned earlier in the text that curriculum influences society and in a similar manner society influences curriculum. Therefore, it is of utmost significance that curriculum designers comprehend the diverse

changes taking place in society and integrate them in the curriculum so as these changes are reflected in the curriculum. Globalization has become the culture of this rapidly-changing world. This will result in society becoming more diverse as human migration will bring new values and new teachings which will develop a new way of life. Therefore, curriculum should address these requirements of society.

Educators and policy planners should incorporate the learning experiences and content desirable enough to ensure the assimilation or integration of the diverse groups. This will involve an understanding of different cultures, religions and ethnicity. Cultural diversity of pluralism recognizes that society is composed of numerous voices and ethnic groups. Curriculum should be flexible to consider all the peculiarities of these diverse groups of society to meet its real goals. Hence, it is essential to establish different programmes, pedagogical approaches and strategies, flexible nature of curriculum and different educational environments to meet the demands of all types of students.

2.4.1 Use **of Technology in Curriculum Development**

The judicious use of technology can increase the reach of educational programmes, facilitate management of the system, as well as help address specific learning needs and requirements. For instance, mass media can be used to support teacher training, facilitate classroom learning, and be used for advocacy. Possibilities of teaching and learning at varied paces, self-learning, dual modes of study, etc. could all benefit from the use of technology, particularly ICT. The increasing use of the Internet has enabled the sharing of information and provided space for debate and dialogue on diverse issues hitherto unavailable on such a scale. Technological innovations are also necessary for appropriate equipment and aids for meeting the learning requirements of children with special needs. What needs to be underscored is that technology could be integrated with the larger goals and processes of educational programmes rather than viewed in isolation or as an add-on. In this context, technological use that turns teachers and children into mere consumers and technology operators needs to be reviewed and discouraged. Interaction and intimacy are the keys to quality education, and this cannot be compromised as a principle in any curricular intervention.

2.4.2 Modernization and Innovation of Curriculum Development

Individual teachers often explore new ways of transacting the curriculum in addressing the needs of students within their specific classroom context (including constraints of space, large numbers, absence of teaching aids, diversity in the student body, the compulsions of examinations, and so on). These efforts, often pragmatic but also creative and ingenious, by and large remain invisible to the school and the larger teaching community, and are usually not valued by teachers themselves.

The sharing of teaching experiences and diverse classroom practices can provide opportunities for an academic discourse to develop within schools as teachers interact with and learn from each other. This will also encourage new ideas and facilitate innovation and experimentation. How can innovative and creative ways of teachingand learning be encouraged and supported by the system so that they can become a body of practice that can be brought to a stage when they can be built back into the system?

For a start, there is a need to create structured spaces within schools, and at the level of the cluster and block where teachers are encouraged to share and discuss classroom practices and experiences. If seen as worthwhile, some of these ideas and practices can be systematically followed up. It is also important to bring together groups of teachers within and across schools and provide support to them in terms of resources as well as time to work together. There is also, a need for documentation and research of identified 'good practices'. At present, there are funds for this purpose both with DIETs (part of whose mandate is identification and documentation of innovative practices). SSA also has funds for school-based research. Some of this could be used to document the diverse practices that teachers use in different classroom contexts. In addition to providing the necessary funding, the creation of an enabling environment that nurtures and provides support to such initiatives is also important.

As mentioned earlier, efforts to mainstream innovative processes and practices will be necessary. One of the main objectives of creating resource centres at the cluster level was to break the isolation of individual schools and bring teachers together on a regular basis for sharing their experiences and ideas with their peers. This is important if teachers are to develop their own professional identities and sense of belonging to a larger teaching community. It could also be one way of creating among them a sense of their own agency and fostering a sense of greater involvement and commitment to their work.

CHECK YOUR PROGRESS

4. Name the forms of learning as stated by Gagne.
5. Name the various kinds of intelligence as stated by Gardner.
6. Name the major Gestalt theorists.

2.5 HISTORICAL FOUNDATION

A plethora of events can be listed which assisted in the historical development of the curriculum. It might be too, that in individual credited with doing something vitally significant in the past had others who also practiced the same thing, sequentially or simultaneously.

Let us discuss some selected important happenings in the curriculum development.

2.5.1 John Locke and the Curriculum (1632-1704)

John Locke was an early supporter of the opinion that schools should be a pleasant place to learn. During his time, students in schools were subjected to never-ending beatings, whippings, and derision. School was a very unpleasant place to be in. Locke advocated that learning should be made interesting. He believed in the Tabula Rasa theory where a student had a mind like a blank sheet with nothing printed on it at the beginning. With good teaching the mind would imprint positive things. The teacher then is a role model for students.

Instead of rote learning and drill, which was widespread for students in his day, Locke emphasised that students learned through the five senses and then the mind worked on them. The mind then reflected upon sense input to come up with reflections such as doubting, wailing, accepting, modifying, rejecting and relating. Locke's contributions emphasized thinking about what had been taken in by the senses. School was more than drill and memorization. Locke stressed on four broad objectives of education in sequential importance:

1. Virtue which stressed living a decent life and refraining from evil.
2. Wisdom whereby a person develops foresight in order to make appropriate choices in life.
3. Good breeding which stresses being able to work well with others and having good manners.
4. Knowledge objectives which needed to achieve goals.

These four broad objectives emphasize that knowledge alone is not sufficient for a student to achieve anything but being a well adjusted person is more important. Even though John Locke made his proposals in the seventeenth century, his goals on reflection pertaining to what was learned through the senses (sensation) are also minimal. Certainly, Locke's concepts of doubting, modifying, rejecting and relating are important when reading content. He believed that education is more of a process than a product. Ulich (1950) wrote the following pertaining to Locke's emphasis upon attitudinal development within students:

> Starting from the conception that knowledge has to foster, rather than to impede, the growth of an all rounded persdnality, Locke demanded a method of education apt to encourage initiative, independent judgment, observation, and critical use of reason. He wanted languages taught by conversation, not by grammatical exercise and memorization; generally speaking, he preferred learning by doing to learning by imitation.

John Locke's ideas on education are still important today.

2.5.2 Johann Friedrich Pestalozzi and the Curriculum (1746-1827)

Johann Friedrich Pestalozzi advocated the use of the *object lesson* in teaching. The lesson then would stress the use of real objects in teaching. Thus, if students were to read about a 'dog', a model of the animal or an actual dog would be shown to children. Children then connect the word 'dog' with the actual or model dog. Realism was always related to concept or abstract. During the times of Pestalozzi, the abstract and rote learning alone were emphasised and students were drilled until they achieved mastery. Corporal punishment was used if students did not achieve what the teacher wanted them to learn. Pestalozzi stressed that schooling should be a joyous place to be in and humane methods of instruction should be used. Learning should be natural, not coercive. Rivalry and fear should not be used to motivate students to learn since each student has different talents and abilities. There should be no gulf between home and school; both should work together for the good of the child. Each student has inherent powers to use in learning. Good will should respect these abilities and talents. Pestalozzi was altruistic; he saw the gulf between the rich and the poor and wished the elimination of the same. The children from wealthier homes looked down upon those from poor families. Pestalozzi

believed in raising humanity to new heights with personal progress. Each person according to him should have dignity and worth. Society must provide opportunities for the ethical and social growth of students. All facets of a student need to be developed—the intellectual, the moral, and the physical side.

In sequence learning, one must move from the simple to the complex as well as from the concrete to the abstract. According to Eby (1964), the teacher is like a gardener as he/she helps students to grow in the natural environment.

From the thinking of Pestalozzi, the following are considered highly important for present day teachers:

- Using concrete materials of instruction with objet lessons
- Quality student sequence, such as teachers moving from the simple to the complex
- School being a pleasant place for learning including an appropriate environment
- High respect for students and children
- Development of the total pupil such as intellectual, moral, physical, and emotional

2.5.3 Johann Friedrich Herbart and Sequence in Learning (1776-1841)

Johann Friedrich Herbart had his own teacher training school where he practiced his theories of education. There were a few steps of teaching which Herbart believed to be essential.

1. The first step emphasized that teachers prepared learners for the ensuing lesson. This was the step of preparation. Thus, a student needed background information to benefit from the new lesson.
2. In step two, the teacher presented the new lesson directly. Students were to perceive the relationship and not be left with isolated thoughts.
3. The next step is association in which the learner associates the new with the old learning. This assisted learners to develop one or more generalizations.
4. The last step emphasised 'use". Students were to use what they have learnt so that there is better retention rather than forgetting.

As we already know, good instruction uses the incentive inherent in interest. For this purpose, the teacher must find out what kind of presentation and learning is appropriate with the child's capacity. The school otherwise obstructs instead of assisting the growth of a child's personality.

Herbart believed strongly in character education. A study of literature and history were the two best academic areas to stress character development. Here, students may imitate those traits and characteristics which help to build a good character. Herbart identified the following standards for curriculum improvement:

- Building background information before starting a new lesson
- Stimulate interest in reading
- Relate ideas read in the past with the present
- Guide students to generalize on ideas read and not accept ideas in isolation
- Help students to apply what was learnt and achieved

Pertaining to Herbart, Bowyeer (1970) wrote:

> One of the most important and lasting contributions that Herbart made to pedagogical theory is the *doctrine of interest.* Interest, according to Herbart, is some inner tendency, an active power residing in the mind that urges the retention of a concept (an object of thought) in the conscientiousness or a return to the object of consciousness. The tendency is increased by the law of frequency and by the law of association. The primary task of the educator is to present the ideas constantly and consistently to the attention of the child. In this way the teacher is able to control the experiences of the child, and to provide him the sorts of insight that will mature his judgement.

Recognition of the moral law is acted out by an exhibition of good judgement, decisiveness, warmth, and self-restraint. In all regards, children should be educated to will good freely and consistently that it becomes their nature. Since it is impossible to foresee what the choices and goals of man will be, it depends upon the teacher to prepare the child with principles that would guide a normal man to good choices and with abilities and qualifications that will enable the man to attain his goals. Therefore, it is very essential for the instruction to cover a wide range of subjects.

Herbart believed that individuals were born as neutral beings, not good nor as sinful, bad persons. He believed that people could become evil while growing up in a negative environment. According to Herbart whatever society is like it leaves its marks in the same way upon the human mind.

2.5.4 Friedrich William Froebel (1782-1852)

Friedrich is credited for starting the kindergarten movement. He believed strongly in students being creative beings. This idea was far removed from the teaching practices of his day where students were conformists to demands by adults, such as being seen but not heard and learning by memorization of subject matter. To be creative in kindergarten, Froebel emphasized the use of three kinds of learning activities for students:

- When using geometrical models such as cubes, lines, points, rectangular solids, cylinders, spheres, and pyramids, among others, creativity of the students was revealed through the making of different structures. These structures included the building of houses, castles and cottages, among others.
- Occupations emphasized the use of a material, such as clay, to make something else. Paper cutting also indicated how a material could be altered. With occupations, the form and shape of the original materials had been altered.
- Play songs stressed the importance of children creatively dramatizing what was sung. For example, if students sang a song pertaining to gardening, each would dramatize what was sung. A child then while singing might dramatize planting seeds, hoeing weeds, watering the plants, and harvesting the crops.

Friedrich Froebel played a great role in changing the curriculum whereby the students were being encouraged to build up exceptional ideas in the school curriculum rather than duplicating what others had completed. Novel, unique ideas were expected and encouraged. Learners were taught by trained teachers using Froebel's methodology. Students had definite materials of instruction to use in the classroom and school environment. Students were highly accepted by others in the school and community

environment. Students were encouraged to exhibit creative behaviour and not mould their products relating to what others had done. They were born with creative tendencies according to Froebel. Creative behaviours are priced highly in today's classroom. Clay modelling, for example, is as important in kindergarten today as it was during Froebel's' times.

Friedrich William Froebel believed that children were bom good and not as depraved individuals. He felt that goodness needed to be brought out from within the individual with creative behaviour.

2.5.5 Kierkegaard and the Curriculum ((1813-1855)

Soren Kierkegaard emphasised life as being subjective and filled with the many choices to be made. Aphilosophy of existentialism was then born. Each decision to be made, from among alternatives, emphasizes subjectivity, not objectivity. Kierkegaard stressed the importance of students making choices and decisions. One first exists and then finds the essence of their purpose in life and is up to the individual to find essence and purpose in life. Each individual chooses and cannot blame others for the consequences of personal choices made. There must be complete freedom to make these choices. Kierkegaard emphasised existentialism as a philosophy of life. Existentialists believe in the following concepts which are faced by human beings in day-to-day situations: feelings of dread, alienation, loneliness, guilt, fear of death, as well as happiness.

Kierkegaard emphasised that there are three stages of development which individuals go through in terms of morality. These are:

1. **Stage One: The Aesthetic Phase:** Here, the individual decides for the self and concern for others. The self alone is what is important in life. It definitely is a selfish stage of living. Everything centres around the self.
2. **Stage Two: The Ethical Phase:** In this stage individuals are interested in making authentic decisions. Commitments are made. Strong feelings of anxiety and tension are evident. Choices are made that are awe inspiring. There is awareness of death and the will to one day make for better deeds and acts during this stage. To live a quality life, one must live as if this day is the last. One needs to know oneself well in order to make good authentic choices to fulfil ones duty.
3. **Stage three:** Here, a leap of faith needs to be made in moving from stage two to stage three, which stresses humanness and a desire for the good. Being an authentic being, not a facade, is important in baring oneself to others as one truly is. Being conscientious and having a strong will is needed to possess the ideals of stage three. Faith overcomes doubt and despair.

When making choices from among alternatives subjectivity is involved. Decisions cannot be made objectively since human beings weigh the values of each choice and then makes a decision as to which one to pursue. There is uncertainty when choices are made in life's arena.

It has been a long standing goal, since the early 1900s, for students to be able to choose and make decisions. Being able to make good choices or decisions is as admirable a goal as possible to emphasize in the curriculum as well as in life. Each person is

bombarded with opportunities and chances to choose. Will the involved person then make good choices?

Learning centres in the classroom provide opportunities for learners to select sequential learning activities. If there are seven learning centres in the classroom with four learning activities listed on each task card per centre, there are a total of 28 tasks from which pupils might choose sequentially to participate in. The teacher introduces the centres briefly to pupils and then learners individually may select the centre and sequential tasks to work on. Perseverance is needed to complete each sequential task chosen. There needs to be a commitment to complete what is chosen and be punctual in producing quality work. There is much freedom for learners to make choices in terms of which learning activities to pursue. The learners need to be responsible to do quality work. There is an advantage for students working at learning centres in each academic area:

1. Learners get to complete what is desired and self selected, rather than someone else choosing.
2. Learners may work at his/her optimal speed in completing a learning activity rather than someone else making unrealistic time demands in completing an activity.
3. Learners may select what he/she can benefit most rather than an imposed learning activity which might be too complex or too easy or lacks challenge.

An individualised reading programme might well tress library book titles which deal with the feelings of individuals as indicated by existentialists. A wide variety of tiles and genres need to be in the offing for the child to make authentic choices as to what to read. The benefits of individualised reading to pupils are the following:

- Students may select library books sequentially which capture personal interests.
- Students may choose library books to read of their own unique reading level.
- Students may choose their own optimal reading level.
- Students who like to learn by themselves get the opportunity to do so.
- Students may have a conference with the teacher after the completion of reading a library book. Here, the learner may reveal his achievement in the completed library book and indicate feelings he/she has towards the content read.

In individualised reading, the learner is in control of what is to be read. Decision making is important in individualised reading.

In the original version of individualised reading, teachers held individual conferences with students. In a reading workshop, teachers hold group as well as individual conferences. At the heart of the workshop is the time when student read self selected books, respond to their reading, or engage in group or individual conferences. Self selected books, respond to their reading, or engage in group or individual conferences. Self selected reading may last approximately thirty minutes or longer. If available, the time may be extended, because students will be reading their self selected books independently they should be encouraged to use appropriate strategies. Before reading, they should survey, predict, and set a purpose for reading. As they read, they should use summarizing, inference, and imaging strategies-if appropriate-

and should monitor for meaning. As they read, students can use sticky notes to indicate a difficult work or puzzling passage...

Response time may last thirty minutes or longer. During response time, students may meet in a literature discussion groups to discuss their reading, write in their journals, work on an extension activity, plan a reader's theatre or other type of presentation, work at one of the classroom's centres, continue to read, or attend a conference. If time allows, circulate around the room, giving help and guidance as needed. Visiting literature circles should be a priority.

2.5.6 Charles Sander Pierce and Experimentalism (1893-1914)

Charles Sanders Pierce was an early advocate of students engaging in problem solving activities. The consequences of an act are the most salient in problem solving. Ideals can be tested in action to see which work and which are of little value. Thus, if two ideas are tested in a life like situation, the consequences of each are noticed. Ideas have to be relevant and vital to be tested. If the consequences of each idea do not matter when tested, they have no worth. One looks at the results, not the intent, to notice the cash value of each idea. This is opposite of learning something for its own sake, since Pierce's philosophy of experimentalism advocated looking at results/consequences to see what has value and what works.

Pierce looked upon belief as occupying a very important middle position between thought and action. Beliefs guide our desires and shape our actions. Doubts in our minds instigate us to think. Through doubt, we try to fix our beliefs so that our actions can be guided. There are several ways in which we can fix our beliefs, according to Pierce. There is the method of tenacity, whereby people cling to their beliefs and refuse to entertain doubts. Another method is to invoke authority. Still another method is that a metaphysician or a philosopher according to Pierce would settle questions of belief by asking whether an idea was agreeable to reason. With all these methods Pierce found himself in agreement precisely because they could not, in his view, achieve their intent, namely to fix or settle belief. What they all lacked was some connection with experience and behaviour.

Pierce therefore offered a fourth, the method of science, whose chief virtue, he thought, was its realistic basis in experience. Unlike the methods of tenacity, authority, and reason, all of which rests upon what a person possesses within his mind solely due to thinking. The method of science is built on the assumption that real things affect our senses as per the general laws and we can assume that it will affect each observer the same way. Beliefs that are grounded in such real things can be verified, and their 'fixation' can be a public act rather than a private one. There is in fact no way to agree or disagree with a conclusion arrived at by means of the first three methods since they refer to nothing whose consequence or real existence can be tested.

Problem solving is important presently and, no doubt, will always remain salient. Each person has problems and needs to identify them, whether in the school curriculum or in society. Each problem needs clear identification. Information needs to be obtained to solve the problem. The information, acquired from a variety of sources, needs to be tested in life like situations. That which works as a solution presents a desired course of action.

2.5.7 Post-Independence Efforts in the Field of Curriculum Development

One has to give credit to the British for establishing in India an organized modem system of education. From the objective point of view, one cannot condemn the efforts of the British rulers to develop an educational system which served their purposes better than Indian purposes. Even the harshest critic of Macaulay's system would agree that it was effective in producing results, i.e., creating the manpower needed to run the British Empire in India. From the sheer academic point of view, one is wonderstruck by the fact that, even after more than six decades of freedom, it has not been possible to derive a similar kind of satisfaction at having developed a system of education (and constructed a curriculum) relevant to the needs and aspirations of our people!

Recognizing the threat posed by the colonial system of education, especially the alienation of those so educated from their cultural roots, Gandhiji proposed an indigenous system of education, namely, Buniyadi Talim (Basic Education) as expressed in the Wardha Scheme. The curriculum developed under this scheme aimed at the total development of the child, reflecting the Gandhian philosophy of education, i.e., development of Body, Mind and Soul. The failure of this curriculum to emerge as a national curriculum and an alternative to the prevalent alien curriculum indicated the magnitude and complexity of the problems involved in changing the established structure of education and pattern of curriculum and posed a challenge to the Indian nation. Evolving a curriculum commensurate with the country's needs, aspirations and genius is, indeed, a formidable task. The earlier this truth is realized, the better for all concerned with the policy, content and process of curriculum.

Since then, serious efforts have been continuing to restructure the pattern of education and to reconstruct the curriculum. The curriculum reforms generated as a consequence of the recommendations made by the Secondary Education Commission (1952-53), the Education Commission (1964-66) and the National Policy on Education 1986 (NPE- 86), Programme of Action 1986 (POA-86) and the National Curriculum Framework (NCF) are concrete evidence of the efforts being made to generate an indigenous curriculum. While a lot has yet to be attained, considerable success has been achieved in establishing a common structure of education throughout the country, i.e. the 10 + 2 + 3 pattern, in accepting a common scheme of studies for boys and girls, and in incorporating science and mathematics as compulsory subjects and assigning a prime place to work experience therein. The NPE-86 took a bold initiative in including some common components as a core part of the national curriculum. Thus, one would like to assert that, though quite slowly, the challenge for change in the educational system and curriculum is being met.

National Curriculum Framework (NCF)

In spite of the recommendations of the NPE, 1986 to identify competencies and values to be nurtured at different stages, school education came to be driven more and more by high-stake examinations based on information-loaded textbooks. Despite the review of the Curriculum Framework in 2000, the vexed issues of curriculum load and the tyranny of examinations remained unresolved. The current review exercise takes into cognizance both positive and negative developments in the field, and attempts to address the future

requirements of school education at the turn of the century. In this endeavour, several interrelated dimensions have been kept in mind, namely, the aims of education, the social milieu of children, the nature of knowledge in its broader sense, the nature of human development, and the process of human learning.The term National Curriculum Framework is often wrongly construed to mean that an instrument of uniformity is being proposed. The intention as articulated in the NPE, 1986 and the Programme of Action (PoA) 1992 was quite the contrary. NPE proposed a national framework for curriculum as 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. "The NPE - PoA envisaged a child-centred approach to promote universal enrolment and universal retention of children up to 14 years of age and substantial improvement in the quality of education in the school". The PoA further elaborated on this vision of NPE by emphasizing relevance, flexibility and quahty as characteristics of the National Curriculum Framework. Thus, both these documents envisioned the National Curriculum Framework as a means of modernizing the system of education.

Guiding principles

The guiding principles of the NCF are as follows:

- Connecting knowledge to life outside the school
- Ensuring that learning is shifted away from rote methods
- Enriching the curriculum to provide for overall development of children rather than remain textbook centric
- Making examinations more flexible and integrated into classroom life
- Nvjrturing an over-riding identity informed by caring concerns within the democratic polity of the country.

CHECK YOUR PROGRESS

7. What was Locke's view on learning?
8. State the views of Pestalozzi on the methods of learning.

2.6 SUMMARY

- Curriculum is a totality of what is happening in and out of the classrooms, what are the causes behind, what will be the outcome and so on.
- Despite an increased knowledge base, growing understanding of human development, sophistication in the use of technology and an emerging focus on teaching and learning, curriculum remain primitive and traditional.
- The philosophy of education offers some practical purpose to the teachers. Its most significant role is to help teachers to think more clearly and accurately about different matters and aspects of education.

- Philosophy is the contemplative side of life and is the science of knowledge. It understands man in relation to the universe. According to Dr S. Radhakrishnan, Thilosophy is a logical enquiry into the nature of reality.'
- We know that education is dealing with how to prepare for life and it aims at making man fit for different life situations.
- Specialists in the philosophy of education have made significant contributions to clarifying the relationship between the nature of knowledge and curriculum development.
- Idealism believes in supernatural powers. It believes in spiritual nature of man. Ideas are believed as unchanging. According to idealist philosophy, education should help in realizing the spiritual nature of the child.
- To achieve these goals there should be in-depth knowledge about the cultural heritage, maturity in thinking, reasoning, and higher order capacities like problem solving and reasoning.
- Naturalism is a type of philosophy which considers nature as the whole of reality. It approaches philosophy from a pure scientific point of view. Rousseau, Locke, Pestalozzi, Tagore, Nunn among others are the major advocates of naturalistic philosophy.
- Method of direct experiences and observation, play way method, and heuristic method are the suggested methods of teaching in naturalism. Teacher is an observer and stage setter in education.
- Pragmatism is an attitude, a method, and a philosophy that employs the practical consequences of ideas and beliefs as a standard for determining value and truth. Kilpatrick, John Dewey, William James among others are the chief advocates of pragmatist ideology.
- Education should aim at training the students to develop values for themselves. Knowledge should not be imparted and it should be constructed, that is, students should be enabled to create it from their own activities as well as experiences.
- Realism regards the physical world as real. It argues for reality and practical knowledge. Milton, Erasmus, Francis Bacon, Comenius, Russell among others are the chief exponents of realism.
- Realists oppose bookish and abstract knowledge and they want to bridge the gap between the situations and life at school and the outside life. It is possible only through inculcating teaching and learning on real issues. Realists demand for vocational subjects.
- Existentialism is a protest against totalitarian movements. It is an attempt to reach the inmost core of human existence in a concrete and individual fashion.
- Reality is a world of existing, truth subjectively chosen, and goodness a matter of freedom. According to existentialism man should be the master and machine should be the slave.
- Existentialists do not argue for a rigid curriculum since they place freedom at the top. All the subjects in schools should enable the learner to develop in a better way. They give first place to humanities, especially arts and literature.

- The most conservative, traditional, or inflexible of philosophies are perennialism, a philosophy drawing heavily from classical definitions of education. Perennialists believe that education, like human nature, is a constant.
- Perennialism is consistent with the religious conceptions of divine control over life and according to perennialism religious conception is not a necessary characteristic. They also believe in the form of knowledge that is external to human beings.
- Essentialism emphasizes on cultural heritage. Similarly, it advocates the need to pass on to the younger generation the knowledge as well as the skills essential to the continued functioning of our society.
- Education has the function of cultural conservation. It has the responsibility to pass along the principles and foundations of cultural conservation. Essentialism is a conservative philosophy of education that expects change to come in an orderly fashion along the pathways that have already been laid.
- Schools are the means of maintaining the cultural structure of society. Schools have the duty to develop the certainty and trust to sustain the culture and society.
- Progressivism represents the quintessential philosophy of education for a democratic society. It believes in an underlying belief in each individual's ability to deal with the greater questions of the world.
- According to progressivists, knowledge is both social and individual- is the product of activity; education prepares people to engage in the decision making process of the community in an effective and desirable way.
- According to reconstructionism, the established institutions of society are no longer sufficient to deal with the problems.
- Social Reconstructionists assume that education has the power to educate people to analyse and understand social problems, envision a world in which those problems do not exist, and act so as to bring that vision into existence.
- Schools should teach the child not only to develop socially but also to participate in the social planning as well. Learners must see how society plays a critical role in evolving people. Learners must also be convinced of the validity and urgency ofchange.
- Secular education is advocated for- the development of moral outlook, the development of wider attitude and to make one dynamic, the development of pluralistic outlook, the development of democratic qualities like liberty, equality, fraternity, and cooperation, the promotion of cultural development and the development of scientific spirit.
- Science helps to improve life by resolving problems and plays a vital role in the progress and improvement of human life. Similarly, life is spiritual as well.
- Considering the postulates of different philosophies on education and curriculum, it can be concluded that a curriculum should be a reasonable one in terms of its subject matter and method of teaching.
- Psychology is the systematic scientific study of behaviour and the knowledge that results from that study. It studies the overt as well as covert behaviour. Psychology considers that all human functions are determined and carried out by some mental processes.

- It is clear that curriculum should be flexible enough to allow its adaptation to the special needs of children. Teachers must view curriculum as a process of planning the best possible programme for children, parents and teachers.
- As per the considerations of psychology of education the following considerations were employed and experimented, in different countries over the globe, in order to incorporate the psychological basis of education in curriculum.
- What learning is, how learning takes place, and the characteristics of learners are to be considered while designing and developing curriculum.
- Different theories of development and learning are: (a) Socio-cultural theory (b) Multiple Intelligence Theory (c) Cognitive Development Theory (d) Behavioural Theory (e) Psychodynamic Theory (f) Maturational Theory (g) Field and Gestalt Theories (h) Humanistic Theory.
- Society and education are related to each other. The purpose of schooling is to serve the needs of the society. Similarly, society and its perceived demands form the bases for content selection for schools.
- Schools are part and parcel of society and exist for the development of the society. School influences society through its curriculum- the way and plan of teaching and learning and other activities.
- Society is increasingly becoming diverse, especially in urban areas. Societies are becoming more multicultural, multiethnic and multi-religious and it is important that curriculum understands and reflect these changes.
- Educators and policy planners should incorporate the learning experiences and content desirable enough to ensure the assimilation or integration of the diverse groups- assimilation of people of different cultural, ethnic and religious backgrounds.
- While designing curriculum, the supports of effective learning are to be taken into account.
- Educational technology is the efficient organization of any leaning system adapting or adopting methods, processes and products to serve identified educational goals.

7 KEY TERMS

- **Philosophy:** The critical analysis of essential suppositions or principles
- **Idealism:** The act or practice of imagining things in a perfect state.
- **Naturalism:** Naturalism is a type of philosophy which considers nature as the whole of reality.
- **Pragmatism:** Pragmatism is an attitude, a method, and a philosophy that employs the practical consequences of ideas and beliefs as a standard for determining value and truth.
- **Realism:** It is considered as a belief which looks upon the world as it seems to us, to be a mere phenomenon.
- **Existentialism:** It is an attempt to reach the inmost core of human existence in a concrete and individual fashion.

- **Perennialism:** Perennialism is a reactionary educational philosophy that would return the content of education to its very earlier roots.
- **Progressivism:** Progressivism is a philosophy that builds the seeds of revolutionary change into its very texture without suggesting what the change shall be.
- **Essentialism:** Is a conviction that things have a set of features which make them what they are. This conviction is based on the fact that essence is given preference to existence.
- **Reconstructionism:** Reconstructionists have a Utopian view of a just society in which all the members contribute to the benefit of the group and thus to each other.
- **Secularism:** It is a belief that state, morals, and education should be independent ofreligion.

2.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. Progressivism represents the quintessential philosophy of education for a democratic society. It believes in an underlying belief in each individual's ability to deal with the greater questions of the world.
2. Perennialism considers knowledge as eternal and it would bring the study of the great works of the past to centre stage.
3. Some of the characteristics of existentialism are:

    - Man is the centre of the universe and the basic feature of human personality represent his uncontrolled freedom
    - Existentialism gives emphasize on man's inner life and experiences
    - Freedom is the watchword in existentialism
    - It holds that action is the only thing that enables man to live

4. The forms of learning as stated by Gagne are: (i) Signal Learning (ii) Stimulus-response learning (iii) Motor chaining (iv) Verbal association (v) Multiple discrimination (vi) Concept learning (vii) Principle learning (viii) Problem solving learning.
5. Gardner proposed seven kinds of intelligences namely, linguistic, logical-mathematical, musical, bodily-kinesthetic, spatial, interpersonal and intrapersonal intelligences.
6. The major gestalt theorists are Kohler ad Wertheimer.
7. Locke advocated that learning should be made interesting. He believed in the Tabula Rosa theory where a student had a mind like a blank sheet with nothing printed on it at the beginning. With good teaching the mind would imprint positive things. The teacher then is a role model for students.
8. Pestalozzi stressed that schooling should be a joyous place to be in and humane methods of instruction should be used. Learning should be natural, not coercive. Rivalry and fear should not be used to motivate students to learn since each student has different talents and abilities.

2.9 QUESTIONS AND EXERCISES

Short-Answer Questions

1. In what way philosophy is related to education?
2. How does philosophy relate to curriculum construction?
3. How does psychology relate to education?
4. What are the major psychological aspects that we have to consider when we develop a curriculum?
5. What are the major social considerations of curriculum?
6. Write a short note on the historical foundation of education.

Long-Answer Questions

1. What are the philosophical considerations that a curriculum planner has to keep in mind?
2. Discuss various philosophies in terms of aims of education and methods of teaching.
3. Which philosophical approaches do suggest the innovative teaching methods?
4. Explain various theories of development and learning.
5. State the views of Locke and Pestalozzi on curriculum development.

2.10 FURTHER READING

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UNIT 3 PROCESS OF CURRICULUM DEVELOPMENT

Structure

3.0 INTRODUCTION

Curriculum Development process encompasses the design and development of integrated plans for learning, the design of implementation of the plans, and the evaluation of the plans, their implementation and the outcomes of the learning experience. Curriculum design is a process of critical questioning to frame learning and teaching. The main purpose of the process is to translate broad statements of intent into specific plans and actions. The intention is to ensure, as far as possible, alignment between the three states of curriculum—planned curriculum, the delivered curriculum and the experienced curriculum.

The fundamental purpose of curriculum development is to ensure that students receive integrated, coherent learning experiences that contribute towards their personal, academic and professional learning and development.

3.1 UNIT OBJECTIVES

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

- Understand the principles of curriculum development
- Discuss the ideas of selection of content and selection of learning experiences

- Describe the assessing needs and organization of learning experience
- Explain the need and importance of evaluation

3.2 SITUATION ANALYSIS AND FORMATION OF AIMS AND OBJECTIVES

In any process of curriculum development, contemporary thinking in education plays a very significant role. All over the world, curriculum is both a policy and a technical issue. It is both a process and a product. The process of developing a curriculum for any subject is unique to any national setting. 'It is a complex outcome of the opinions and solutions that key stakeholders propose for society's requirements and needs' (Innovations and Curriculum Development for Basic Education in Nigeria: Policy Priorities and Challenges of Practice and Implementation M.A. Ajibola Department of primary education Nigeria). There have been different processes adopted for designing the curriculum.

3.2.1 Assessing Needs

Teaching and learning have a definite purpose. We have to assess what is needed in order to carry out these activities in an unhindered manner. Major questions that help us decide about the educational needs are as follows:

- What part of the curriculum or course content does the topic fit?
- Why is the topic required?
- What are student requirements?
- What should be the outcome of the topic?
- Define the objective of the topic.

In simple terms, aim is purpose or intention of the desired outcome. It can also be understood as the starting point, a declaration of educational intention and director for the subject. To exchange a few words with students about what a topic is intended to do is a fine educational practice. When preparing declarations of aims, words play a significant role. The statement should be able to define the required characteristics of what the topic means to do.

Developing the topic description

Topic description involves the explanation of ideas and essential educational traits of a topic. This is usually not the first set of information that students may encounter. This influences the first impression that students get and can easily change enrolment decisions. The main question that arises in terms of topic description is: What is the relevance of the topic's elements in attaining the topic aim? This phase results to the creation of a detailed statement which defines the precise characteristics of the scope of the topic.

Detailed Topic Design

Detailed topic design states the common structural and administrative parameters of a topic. Students should be provided with the detailed design in the topic booklet and Statement of Assessment Methods (SAM).

Students

Students are the focal point of any type of learning experience. Different students bring different learning experiences to any kind of learning environment. The character of the student association has significant effect on what is to be achieved in a topic of a particular size. Comprehensive design needs to keep in mind matters pertaining to educational setting, cultural variety and inclusive teaching.

With regards to student associations, the following questions need to be asked:

(i) What environment and level of knowledge are they required to bring to the topic concerning:

(a) Academic skills, practices and conventions

(b) Knowledge and culture of the discipline or field of study.

(c) Cultural and behavioural knowledge

(ii) The pre-existing skills and knowledge required for a student to be successful in acquiring the intended learning result of the topic.

The probable entry competencies need to be made clear to future students, and if required, mechanisms should be put in place to help make those competencies.

3.2.2 Formulating Objectives

In everyday English, we have a tendency to use the terms aims, goals or objectives interchangeably. Within the educational lexicon, curriculum scholars, planners and administrators have been trying to regulate terms so that they refer to exceedingly specific components of a curriculum. The following definitions are generally accepted by groups trying to regulate curricular terms in order that they are not confusing to readers and users.

- **Aims:** These are common statements that offer direction or intention to educational deed. Aims are more often than not written in nebulous terms using words such as: learn, know, understand and appreciate. These are not straightforwardly measurable. Aims may serve as organizing doctrines of educational course for more than one grade. Indeed, these organizing doctrines may include the continuum of educational course for whole programmes, subject areas or the district. For example, students will appreciate and become capable at identifying the diverse types of spoken English.
- **Goals:** These are statements of educational intent which are more particular than aims. Goals too may encompass the whole programme, subject area, or manifold-grade levels. They may be in both nebulous language or in more particular behavioural terms. For example, students will be able to recognize and use Indian slang terms and phrases. (This example is a subset of the aforementioned aim, but the area [India] becomes more specific. The objectives related to this goal should specify how the students will identify and use new knowledge.)
- **Objectives:** These are more often than not specific statements of educational intent which define either general or specific outcomes. There are advantages and disadvantages to different kinds of objectives.
  - Behavioural objectives
  - Holistic objectives

- o Non-behavioural objectives
- o Problem-solving objectives
- o Expressive activities that result in meaningful results

For example, objectives can be written in many ways. At present, most objectives are written in behavioural terms. Behavioural objectives commonly use observable verbiage and can be divided into explicit domains — cognitive, affective and physical.

Samples

- **Cognitive**: Students will recognize and list five slang terms they have heard from their peers.
- Affective: Student will select three of the most offensive slang terms from a list developed by the whole class.
- **Physical:** Students will create communicative gestures to go with their favourite slang terms.

3.2.3 Selection of Content

Content is defined as the subject or topics that are covered in a book or a document. Content is more than simple knowledge and therefore selecting proper content requires achieving a fine balance between subject knowledge, process skills and the growth of a student as a learner. While selecting content it is also essential to specify context. The following questions need to be kept in mind during the selection of content:

- What type of knowledge (ideas, concepts, interpretations and application) should be added to enhance student learning to attain intended learning results?
- By the end of the topic discussion, what process knowledge and skills should the student acquire?
- At the end of the topic, what context in the discipline should the students achieve?
- What is the correct balance of content in terms of knowledge/skills, processes/ values and depth/breadth?
- How can global perspectives be included in the topic?

Once the content has been finalized, it is essential to organize the content in terms of scope and sequence. When deciding the scope of the content, time is considered to be a key factor. Time is also relevant in confirming the balance between breadth and depth. Integration is also a significant factor pertaining to scope. It has been seen that students learn more when they are able to connect new content with previous knowledge. Students understand better when they are able to apply their knowledge in real-life situations. Content selection is considered to be incomplete when as much as possible has been put in, but rather when so far as possible has been taken out without compromising the reliability of the topic as a learning experience towards the planned learning results.

3.3 IDENTIFICATION OF LEARNING EXPERIENCES AND ACTIVITIES

It is important that detailed deliberation of learning and teaching interaction are in line with educational objectives and proposed learning results for the topic. Teaching should

convey and represent the values that are expected in the end in order to assist and enhance learning.

The following basic questions need to be answered when selecting a learning experience:

- What method will contribute to achieve the main objective of the topic? For instance, should one use problem-based learning, work-integrated learning (WIL) or group-based learning?
- How can teaching be applied to attain student learning in terms of the projected learning results?

While selecting a teaching method along with learning-teaching interactions, the following factors need to be kept in mind:

- Aptness for the learners and comprehensive teaching
- Resources required to facilitate and sustain student learning, for instance, text books.

There are a number of strategies that can help to enhance greater learning for students. It has been observed that students are bound to study more when:

- They are more enthusiastic and energetically involved in education
- Awareness regarding their preference of learning
- They are able to apply their learning in real-life situations
- Working effectively on a regular basis with staff and other students

3.4 ORGANIZATION OF LEARNING EXPERIENCES AND ACTIVITIES

In simple terms learning outcomes may be defined as the features and abilities that a student should possess on completion of a topic. The main purpose of learning objectives is to evaluate progress and prepare evaluation strategies and methods for future use. Learning outcomes are seen as signposts with respect to suitable content and learning interactions in order to assist students to achieve results.

The main questions that are required to be asked with respect to the results of intended learning are as follows:

(i) What is .the expected result of the student's learning experience in the following areas:

(a) Discipline

(b) Awareness

(c) Application of knowledge

(d) Course competencies including basic skills

(e) Student development at the beginner's level

(ii) What is the correct balance across the intended result?

(a) Words, in particular verbs, matter when it comes to developing and recording proposed outcomes.

(b) Learning outcomes are the abilities that a student should possess on completion of a topic.

CHECK YOUR PROGRESS

1. What is the need of a 'detailed topic design'?
2. What are the 'aims' in the context of curriculum designing?
3. What happens once the content is selected?

3.5 EVALUATION

Evaluation is an indispensable component of curriculum planning and the advancement process. We can give a broad definition of curriculum evaluation as a process of delineating, obtaining and providing information that is useful for making decisions about curriculum development and implementation.

On Curriculum development in education, two aspects of evaluation are mentioned as part of the process of curriculum development. The students of education need to understand the purposes of evaluation, and how the evaluation can be done. Modern trends in formal education have made the evaluation highly complex, both in its purpose and use. Today a teacher in a college is required to know why a particular evaluative instrument should be used, as also how that particular instrument could be made, used, and how the results could be interpreted. At times the evaluative instruments are not properly made by the teachers, or the instruments, if properly made, are not used correctly and, therefore, they do not give reliable results. To prevent such mistakes the knowledge of evaluation is absolutely essential for every student who aspires to be a teacher. Evaluation has become a major concept in education now; and the need and the functions of evaluation, as also the characteristics and types of selected evaluative instruments have to be properly understood.

3.5.1 The Need for Evaluation

Three different dimensions of evaluation are depicted through the modern concept of evaluation and are as follows:

(i) The attempt to evaluate a wide range of behavioural objectives instead of mere knowledge regarding the subject matter.

(ii) A number of evaluating instruments are put to use depending upon requirement, availability and application of the instrument along with the skills of a teacher in using them. Tests, questionnaires and interviews are some of the instruments used in evaluation

(iii) The process of evaluation involves the integration and interpretation of different behavioural aspects into a whole, or into an inclusive picture of a student, or of a class of students as may be required.

Evaluation is therefore the measurement of selected knowledge, skills, attitudes and values for finding behavioural changes in the students. As Wrightstone mentions, evaluation emphasizes broad personality changes and involves three broad steps:

- Identifying and formulating objectives

- Defining these objectives in terms of behaviour to be realized by the students
- Selecting or making valid, reliable, and practical instruments to assess the behaviour of the students

The major purposes of evaluation can be summarized as follows:

1. To check the effectiveness of teaching programmes.
2. To check the effectiveness of the educational institution as a whole.
3. To assess the progress of the students.
4. To select students for higher courses, specialization at under graduate and post-graduate levels, and for jobs.
5. To indicate points and levels of improvement.
6. To validate and verify the hypotheses upon which the teacher base their teaching and evaluation of students.
7. To guide the students in removing their weaknesses as reflected in the evaluation.
8. To provide certain psychological security to the school staff, students, parents of the students, and the community at large.
9. To help both teachers and students to see their objectives.
10. To help teachers to improve, or change, their methods of teaching and evaluation.

3.5.2 Characteristics of Evaluative Instruments

The characteristics of an effective evaluative instrument are, in general, its adequacy, efficiency, and consistency. These three characteristics are depended upon the qualities called validity, reliability, objectivity, norms, and practicability

Evaluation of curriculum

Cronbach (1963; 673) distinguishes three types of decisions for which evaluation is used:

1. **Course improvement:** Deciding what instructional material and methods are satisfactory and where change is needed.
2. **Decisions about individuals:** Identifying the needs of the students for the sake of planning instructions, judging merit of the students for the purposes of selection and grouping, acquainting the students with their own progress and deficiencies.
3. **Administrative regulation:** Judging how good the school system is, how good individual teachers are, etc.

In measurement-based evaluation, it is argued, the function of objectives is to make it possible to develop criterion-referenced, rather than norm-referenced, tests. Norm-referenced tests show how an individual performs as compared with a group. Criterion-referenced tests tell us about an individual's performance in relation to a standard.

A teacher or a curriculum developer is invited to nominate by stating his/her objectives, the standard by which they wish their work to be assessed, provided that the standard is couched in behavioural terms which make it possible to develop criterion-referenced tests.

They can opt for how the curriculum is to be measured but not for how it is to be judged. They cannot, for example ask how it is to be judged. It is to be judged in the light of measurement of the performance of students on criterion-referenced tests.

Glaser (1970) has distinguished six different educational needs and has suggested the considerations for evaluation and measurement.

1. With respect to the specification of learning outcomes, the following are required.
   - Behavioural definition of goals, evaluation progress toward these goals, and clarifying these goals in the light of evaluated experience
   - Prior evaluation of educational procedures, insuring they are in effect before assessing educational accomplishment
   - Development of techniques for criterion referenced measurement
2. The requirement for the determination of long-term individual differences related to adaptive educational alternatives of initial state.
3. For the design of instructional alternatives a key task is to be determined to measure the highest discriminating potential for allocating between instructional treatments.
4. For continuous assessment discovery of measurements of ongoing learning that facilitate prediction of the next instructional step is required.
5. For adaptation and optimisation, the instructional model requires (a) the detailed analysis of individual-difference by instructional treatment interactions, and (b) the development of procedures like the optimising methods.
6. For evolutionary operation, we require a systematic theory or model of instruction into which accumulated knowledge can be placed and then empirically tested and improved.

What happens if the curriculum for a particular grade is not revised for a long time? Almost any one of you can guess the answer. It would become obsolete, recent developments in the field will not find a place in it and it will not be effective and efficient. In order to develop an efficient and effective curriculum what should we do? We should evaluate the existing curriculum and modify it to make it more relevant. Thus the need for evaluating a curriculum emerges from the field. In any content area there would be developments taking place periodically and if the current changes are not incorporated, the students would be unable to know the reality. In order to incorporate recent developments and to fit them into the structure of the course one requires analysing curriculum systematically. This scientific analysis if followed logically leads to curriculum evaluation.

A curriculum evaluation exercise would help us modify curriculum and improve its effectiveness. To improve the efficiency of a curriculum one has to analyse the outputs and the inputs into educational system and make the necessary modifications as revealed by the analysis. This can be accomplished by conducting curriculum evaluation.

There could be differences between the intended curriculum and the operational curriculum. Intended curriculum refers to the prescriptions in the curriculum document including the operational and evaluation procedures of a course. The operational curriculum refers to the actual processes in a classroom through which the intended curriculum is transacted. There could be differences between what is intended and what is implemented. To reduce this gap and bring it to a reasonable level of acceptance, curriculum evaluation would again be helpful.

3.5.3 Importance of Curriculum Evaluation

The following are the main purposes of curriculum evaluation

- **To develop a new curriculum:** To make objective decisions on the development of the new curriculum, evaluation of the existing curriculum is necessary.
- **To review a curriculum under implementation:** It may be required by policy planners and decision makers to get an immediate feedback on the implementation of a curriculum in order to make amendments if required for effective realization of all the objectives related to it. A curriculum evaluation exercise would be necessary for this purpose.
- **To review a curriculum under implementation:** It may be required by policy planners and decision makers to get an immediate feedback on the implementation of a curriculum in order to make amendments if required for effective realisation of all the objectives related to it. A curriculum evaluation exercise would be necessary for this purpose.
- **To remove 'dead wood' and update an existing curriculum:** It is essential to remove obsolete ideas and practices from a curriculum and include current development in the curriculum. In order to make objective decisions about inclusion or deletion of content or practices a curriculum evaluation exercise would again be necessary.
- **To find out the effectiveness of a curriculum:** To make an objective evaluation of the effectiveness of a curriculum in terms of the achievement of its immediate as well as long-term objectives, a curriculum evaluation exercise would be essential. This evaluation is different from the evaluation of the students of a course for the purpose of certification. The difference is that curriculum evaluation is more comprehensive and includes student evaluation plus the feelings generated among the students regarding appropriateness of the various components of the curriculum.

3.5.4 Sources of Curriculum Evaluation

Students: The students of a particular course are the primary and most important source of information regarding how relevant the intended curriculum is and how well it is being implemented. The list of the output specifications can be given to the students who are undergoing a particular course and detailed information can be gathered in two ways.

- By finding out whether the students have really achieved the intended output specifications. They feel they have achieved the objectives of the course. Information is generally gathered through the evaluation system as prescribed in the curriculum for certification purpose and is mostly quantitative in nature.
- By finding out the perceptions of students regarding the extent to which they feel they have achieved the objectives of the course. This information is more qualitative in nature as these are the perceptions of students and they are of immense value from the point of view of revising the curriculum.

Teachers: Curriculum review/evaluation should be done by the teachers in the school. However the involvement of others cannot be denied. The teachers are part of the

curriculum in the sense that they transact the curriculum in the class. They can give valuable information regarding the implementation of the curriculum. The teachers are valuable agents of curriculum evaluation. Teachers who are not currently teaching the subject but have sufficient content knowledge and background information on a particular curriculum can also be helpful in curriculum evaluation in addition to those teachers who are currently implementing the curriculum.

Subject experts: To get balanced information on the implementation of a curriculum, especially from the disciplinal point of view, it would be worthwhile to consider the views of other subject experts in the field as relevant and reliable. The subject experts could be from other systems like a practitioner in the field or even a self-employed person. The experts will provide valuable information on the field conditions which would be of tremendous value for the purpose of curriculum evaluation.

Curriculum experts: Curriculum experts can provide information on the modern techniques used for developing a curriculum so that it becomes more meaningful from the student's point of view. In the meaningful curriculum the output specifications are made clear, the conditions under which they will be observed and the level of acceptance of errors.

Policy Makers: Policy makers occupying responsible positions in apex bodies like Central Board of Secondary Education (CBSE), National Council of Educational Research & Training (NCERT), National Open School (NOS) and State Boards of Secondary Education are also excellent sources of information for curriculum evaluation. By virtue of their position they are better informed about the current and envisaged changes in government policies regarding economy, industry, agriculture and education. All these areas have direct or indirect implications for school curriculum.

Community: The local community where the products (educated/trained persons) of a particular course are to be absorbed can be yet another important source of information for curriculum evaluation. The requirements of the local community can make the curriculum relevant and need-based. A curriculum revised on the basis of needs and requirements of the community will be able to serve the cause of the community better in producing better socialized and more responsible citizens.

Dropout sample: Those students who have dropped out of a particular course can be yet another valuable source of information for curriculum evaluation. These students can pin-point the curricular factor that might have been responsible for their withdrawal from the course.

Employers and entrepreneurs: The opinion of the employers, who have to absorb the products needed by them, will reflect on the strengths and weaknesses of the curriculum. Those who are self-employed, even in the unorganized service sector can provide valuable information on the strengths and weaknesses of a particular curriculum.

3.5.5 Methods of Curriculum Evaluation

Curriculum evaluation can be done by an external agency or by insiders (those who are involved in the planning and development of the curriculum or by a combination of both the groups). A combination of outsiders and insiders would be preferable to get a comprehensive and objective evaluation. The methods of evaluation vary from a

questionnaire based evaluation to evaluation based on unstructured interview. The method of collecting information would depend on the objective of evaluation. When we require more qualitative descriptions of the implementation of the curriculum, unstructured or structured observations can be used. When we require quantitative data regarding various aspects of a curriculum being designed, a check-list can also be used. Similarly many other techniques can be used depending on the purpose of evaluation and the stage of evaluation i.e., whether evaluation is being done at the development stage or at the implementation stage. Curriculum evaluation at the planning stage is mostly confined to job analysis or task analysis. Similarly the content analysis that follows also required the support of formative evaluation. These exercises are usually not practiced in schools and so the curriculum suffers from several drawbacks. A well prepared school curriculum should accommodate an evaluation cycle at the planning stage also.

3.5.6 Evaluation during Curriculum Development

One of the major tasks during the development of a curriculum is to prepare an exhaustive list of specific objectives to be achieved through the curriculum. Once the list is prepared, it has to undergo an evaluation cycle. The list may be supplied to a set of practicing teachers for their specific comments, additions and deletions, if any. In addition to working teachers, information from other individuals like prospective employers of the products, the next higher grade teachers, a group of prospective students, planners and administrators can be given to check whether the entry behaviour of their grade suits the output specifications. Based on the feedback collected from the evaluators the objectives can be modified.

A second major task which requires the support of an evaluation exercise during the development of a curriculum is the instructional materials that have been prepared to achieve the objectives. These materials have to be tried out on a sample of students for their feedback on their learning routes and difficulties. Afield tryout with a small sample is ideal in getting adequate evaluation information from a sample. This can be used for further improvement of the material. Data collected from the inbuilt evaluation of the learning material can also be used in modifying the learning material. Curriculum material here refers to all learning materials which included textbooks, self-learning text, audio and video programmes, teacher's manual, assignment questions, project work, etc. Similarly, the evaluation procedures to be adopted during curriculum development also need a tryout and possibly further modification based on data collected through the tryout.

3.5.7 Evaluation during Curriculum Implementation

After the curriculum has been tested and the curriculum materials are duly modified, it is important that the teachers and administrators are oriented and trained for proper implementation of curriculum. To implement curriculum without introductory or supporting courses would be quite a severe risk; it may lead to the use of new materials in unsatisfactory ways. Training of the personnel involved and the provisions of all necessary facilities and resources are essential for successful implementation of any curriculum.

Evaluation is necessary at the time when curriculum is implemented as well as after each offering of the course. The purpose of evaluation at this stage is two-fold (a)

to find out the areas of support needed for effective implementation of the curriculum in schools; and (b) to control the quality of the product i.e. the educated person. Important information to be collected at this stage includes.

The existing situation: All aspects of curriculum according to the curriculum plan need to be studied in order to identify the missing features of the curriculum being implemented in the schools. A checklist which gives all the features of the objectives and the content of the curriculum, students' characteristics necessary to begin the teaching-learning process, teachers' characteristics necessary for implementing the curriculum, basic assumptions regarding how teaching and learning should take place to ensure active participation of the students, additional materials required to implement the curriculum, organization of the curriculum with respect to time requirements and the order in which the activities and the materials are to be processed, methods of implementation of the curriculum and evaluation of student's performance can be used to assess the discrepancies or the gaps in the implementation of different aspects of curriculum.

Effectiveness of the curriculum: The crucial question is that determining the effectiveness of curriculum is to determine the extent to which the students attain the standards or achieve the objectives as described in curriculum planning. Thus the effectiveness of curriculum reveals whether curriculum is able to achieve objectives set by the social system.

Acceptability of the programme: In addition to assessing the effectiveness of the curriculum it is also important to assess its acceptability. Acceptability here means whether the people involved in implementing the programme like it or not. To get an insight into the acceptability of the programme, the perceptions of students, teachers and the supervisors/ administrators of the school should be ascertained.

CHECK YOUR PROGRESS

4. What are the dimensions of evaluation?
5. Name the different sources of curriculum.

3.6 SUMMARY

- In any process of curriculum development, contemporary thinking in education plays a very significant role.
- To exchange a few words with students about what a topic is intended to do is fine educational practice.
- Aims may serve as organizing doctrines of educational course for more than one grade.
- Goals may encompass the whole programme, subject area, or manifold-grade levels. They may be in both nebulous language or in more particular behavioural terms.
- Content selection requires offering suitable balance to subject knowledge, process skills and the growth of the student as learner as well as to specify and context.

- Evaluation is an indispensable component of curriculum planning and the advancement process.
- Evaluation has become a major concept in education now; and the need and the functions of evaluation, as also the characteristics and types of selected evaluative instruments have to be properly understood.
- The evaluation attempts to measure a widespread range of behavioural objectives rather than the meagre knowledge of subject-matter.
- In modern evaluation, a variety of evaluative instruments are used depending upon their availability and applicability of the instruments and the skill of the teacher in using them. Some of these instruments are tests, essays questionnaires, and interviews.
- The evaluation includes integrating and interpreting various aspects of behaviours into a whole, or into an inclusive picture of a student, or of a class of students, as may be required.
- The characteristics of an effective evaluative instrument are, in general, its adequacy, efficiency, and consistency. These three characteristics are depended upon the qualities called validity, reliability, objectivity, norms, and practicability
- One of the major tasks during the development of a curriculum is to prepare an exhaustive list of specific objectives to be achieved through the curriculum.
- A second major task which requires the support of an evaluation exercise during the development of a curriculum is the instructional materials that have been prepared to achieve the objectives.
- After the curriculum has been tested and the curriculum materials are duly modified, it is important that the teachers and administrators are oriented and trained for proper implementation of curriculum.
- Evaluation is necessary at the time when curriculum is implemented as well as after each offering of the course. The purpose of evaluation at this stage is twofold (a) to find out the areas of support needed for effective implementation of the curriculum in schools; and (b) to control the quality of the product i.e. the educated person. Important information to be collected at this stage includes.

7 KEY TERMS

- **Cognitive:** Pertains to the mental processes of perception, memory, judgment, and reasoning, as contrasted with emotional and volitional processes.
- **Evaluation:** To examine and judge carefully or appraise.
- **Holistic:** Emphasizing the importance of the whole and the interdependence of its parts.

8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The 'detailed topic design' is needed to provide common structural and administrative parameters of what comprises a topic, to the students.

2. With regard to curriculum designing, the term 'aims' refers to the common statements that offer direction or intention to educational deed. Aims are more often than not written in nebulous terms using words such as: learn, know, understand and appreciate.
3. Once content has been chosen, it requires to be organized corresponding to two main principles: scope and sequence.
4. The modern concept of evaluation denotes at least three different dimensions of evaluation:

   - The evaluation attempts to measure a widespread range of behavioural objectives rather than the meagre knowledge of subject-matter.
   - In modern evaluation, a variety of evaluative instruments are used depending upon their availability and applicability of the instruments and the skill of the teacher in using them. Some of these instruments are tests, essays questionnaires, and interviews.
   - The evaluation includes integrating and interpreting various aspects of behaviours into a whole, or into an inclusive picture of a student, or of a class of students, as may be required.

5. The sources of curriculum evaluation are students, teachers, subject experts, policy makers, community drop out sample, employers and entrepreneurs.

3.9 QUESTIONS AND EXERCISES

Short-Answer Questions

1. Define the term ' curriculum design'.
2. How is the 'topic description' developed?
3. Differentiate between 'goals' and 'objectives' in the context of curriculum development.
4. What is meant by the organization of learning experiences?
5. Write a short note on evaluation.

Long-Answer Questions

1. Discuss the processes of selection of content and selection of learning experiences.
2. Write in detail the process of curriculum development.
3. Explain the importance of evaluation in the process of curriculum development.
4. Write a short note on the role that evaluation plays in curriculum development.
5. Write in detail the different methods of curriculum evaluation.

3.10 FURTHER READING

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UNIT 4 CURRICULUM DESIGN

Structure

4.0 INTRODUCTION

The concept of curriculum is an oft debated issue. Each student recognizes content and concepts diversely based on their previous experiences. Yet efficient classroom learning needs more than just linking new material with old ways thinking; it involves new ways of understanding. Students require knowledge that helps them build up new views and make better sense of the world. Learning is the task of the learner but the teacher directs the student towards developing meaning from content and classroom experiences. Only when the student has developed the ability to successfully explain a body of knowledge to others can it be said that the knowledge has been mastered. The textbook is a classroom resource, but not the only resource. True knowledge should incorporate different point of views that includes textbooks, Internet, multimedia and other sources of information. Curriculum is all encompassing and above all it is learner focussed.

4.1 UNIT OBJECTIVES

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

- Discuss the different sources of curriculum design
- Describe the advantages and disadvantages of the various types of curriculum
- Discuss the National Curriculum Framework for Secondary Education-2005

4.2 SOURCES OF CURRICULUM DESIGN

Definition of Curriculum Design

According to Taba (1962),' Curriculum design is a statement which identifies the elements of the curriculum, states what their relationships are to each other, and indicates the principles of organization and the requirements of that organization for the administrative conditions under which it is to operate. A design, of course, needs to be supported with and to make explicit a curriculum theory which establishes the sources to consider and the principles to apply.'

In simple terms, curriculum design refers to the ways in which the curriculum component is put together. Curriculum design can also be understood as the architecture of a course study that integrates a philosophy of learning and teaching, Curriculum design is the architecture of a course of study that embodies a philosophy of learning and teaching, articulates a clear set of desired learning outcomes and describes how the planned learning environment will support the student to achieve those learning outcomes. Courses are organized in an arrangement of units, which may incorporate required, sequenced and optional elements. Curriculum design is an integral part the educational system focusing on creating curricula for students.

4.2.1 Attributes of Curriculum Design

Curriculum design is an aspect of the education profession that focuses on developing curricula for students. Curricula designing is similar to designing any object, method or system in vital respects. On this basis, it is said to have the following attributes:

(i) Curriculum design is focused and purposeful: The main function of curriculum design is not limited to creating a study course. Curriculum design also involves the development of student learning. Besides this, it also serves other purposes which differ in nature. They may be explicit or implied, instantaneous or long range, political or technical, etc. irrespective of their nature or whether they are in agreement or disagreement, the curriculum designers main aim to make the curriculum as clear as possible.

(ii) Curriculum design is intentional: For any curriculum design to be effective, planning is the key. Designing cannot be accounted in terms of the diverse changes that have been brought over a period of time. Designing a curriculum involves an explicit process that includes what will be done, by whom and when.

(iii) Curriculum design is creative phenomena: There is no set procedure that is followed to design a curriculum. Curriculum designing includes new ideas and fresh concepts at every stage of curriculum design. Good curriculum design is systematic and creative.

(iv) Curriculum design operatives on many levels: It very imperative that decisions taken at a certain level are in tandem with decisions taken at other levels. For instance, a curriculum design created for middle school is mismatched with elementary and high school designs will result in a defective K-12 curriculum irrespective of the fact that each part individually is prepared excellently. Similarly,

a middle school curriculum cannot be effective on its own unless the designs of its grades are in accordance to it.

(v) **Curriculum design requires some adjustments and compromises:** The aim of curriculum design is not to reach the perfection but the challenge is to come up with a curriculum that functions well. While creating a design that meets multifaceted specifications, trade-offs inevitably have to be made keeping in mind the benefits, costs, constraints and risks. No matter how systematic or inventive the planning is, curriculum designs may not turn out the way that everyone would want.

(vi) Curriculum designs can fail: There may be numerous ways in which curriculum designs may fail to operate successfully. A design may end in failure if one or more components of the curriculum design do not function as desired or if the components do not work well together. On many occasions, people who are required to follow the curriculum may not understand the design. This misunderstanding may lead to the rejection of the design. Curriculum designs are neither wholly satisfactory nor abject failures. Indeed, a key element in curriculum design is to provide for continuous correction and improvement, even during the design process and also afterwards.

4.2.2 Four Stages of Curriculum Design

Curriculum design is a methodical way of going about planning instruction, even though there is no hard and fast rule to follow some inflexible set of steps. Curriculum decisions that are made at one stage necessarily do not depend on decisions made at other stages, and that the curriculum-design process tends to be iterative, so it is always likely that different stages being crossed can return for reassessment and possible amendment. But recognizing the different tasks and problems at each stage is important in making the process work. The stages are:

1. Establishing curriculum-design specifications (i.e. we should know the motive of initiating instruction or aims)
2. Conceptualizing a curriculum design (It should be clear what content or subject matter is to be taught to realize our set aims and objectives)
3. Developing a curriculum design (The way of communicating target learning experiences i.e. pedagogy, instruction)
4. Refining a curriculum design (What has been realized and what measures are taken accordingly in relation to the instructional program, learners, and teachers (evaluation).

Most of the curriculum designs comprise these four components but they may significantly differ in how they address these elements due to different curriculum philosophy and model on which a design is based.

4.2.3 Different Sources of Curriculum Design

- Knowledge
- Learner

- Science
- Society
- External and divine sources

Knowledge as a Source

- It is one of the prime sources of curriculum
- There are two kind of kno wledge-
  - o *Disciplined knowledge* that has a particular constitution, structure and a particular method which can be used to extend its boundaries
  - o *Undisciplined knowledge* does not have exclusive content but pulls from many sources

For example, Physics has a conceptual structure but home economics is undisciplined in nature which means that its content is not unique to itself but is drawn from a variety of other disciplines and tailored for a special focus

Learner as a Source

- The progressive and flexible curricularists, humanistic educators, and those engaged in *postmodern* dialogue consider the learner to be the primary source of curriculum design.
- The source of curriculum origin is from what we know about the learner and emphasis is on 'learningby doing.'
- This basis is focused on the societal foundation and restoration of knowledge and the empowerment of individuals to be engaged in these processes.

Science as source

- The scientific method provides meaning for the curriculum design. The curricula emphasizes on scientific procedures.
- This design stresses on learning that focuses on how to learn or 'think'.
- Only those items that can be observed and quantified should be included.
- Problem solving should have the prime position in the curriculum.
- This view coincides with the scientific and rational world of Western culture.

Society as source

- The institutions and schools are the agents of society thus the curriculum taught in schools provide the idea that in turn is drawn from the analysis of the social situations.
- Serves the broad social interests of society as well as the local community.
- Society shows where to modify the curriculum.
- The challenge is how to address the unique needs of students and demands of diverse social groups and still allow students to gain understanding of the common culture, as well as common, agreed on competencies to engage productively in society.

External and Divine Sources

- Curriculum design should be intended to perpetuate society.
- It should pass on the significance of values and personal morality.
- Includes divine will, eternal truth from religious documents.
- Has little influence in public schools primarily due to the mandated separation of religious institutions and state. However, to many private and parochial schools, this source of curriculum is still valid and has a major influence.

CHECK YOUR PROGRESS

1. Name the different sources of curriculum designs.
2. How does curriculum design operate on different levels?

4.3 TYPES OF CURRICULUM DESIGN

In formal education, a curriculum is the set of courses, and content that is offered at a school or university. It is prescriptive, and is based on a more general syllabus that merely specifies what topics should be understood and at what level to achieve a specific grade or standard.

- **Scope:** Breadth and depth of curriculum content
- **Sequence:** Vertical relationship among curricular areas
- **Continuity**: Vertical management or replication of the curriculum components
- **Integration:** Connects types of knowledge and experiences enclosed within the curriculum plan
- **Articulation:** Relationship or association between elements of curriculum
- **Balance:** Giving appropriate weight to each aspect of the design

4.3.1 Subject-centered **Curriculum**

Dr. Bagley, late professor at Columbia University in New York City, advocated implementation of a subject-centered curriculum. According to him subject matter taught should echo basic essential learning for all pupils. He stated that this meant steadiness and should therefore be adopted.

William Chandler Bagley felt that the subject curriculum gave stability to the subjects taught. Once essential content is identified this becomes the core values on which the curriculum must be based. These core values set standards and these standards become the criteria for setting the academic and social expectations of schools.

This approach has a 'subject-centered' orientation. Students attain mastery of subject matter that is pre-determined by a set of 'experts.' Curriculum is systematized around content units and the sequence of what is taught pursues the logic of the subject matter. Usually the school is the holder of power in decision making regarding the following:

- What gets taught?
- What educational purposes should the school seek to attain?
- How can learning experiences be selected that are likely to be useful in attaining these objectives?
- How can learning experiences be organized for effective instruction?
- How can the effectiveness of learning experiences be evaluated?'

Curriculum is a cumulative process and the experiences in the school exert its influences on the learner like the ways water dripping on a stone wears it away. Knowledge and skills are not duplicated, but instead, are taught sequentially over time. Skills-based or competency-based instruction draws upon a traditionalist approach to curriculum, with students mastering a particular set of skills or processes in a logical instructional progression.

Advantages of subject-centered curriculum

Advantages of subject-centered curriculum are as follows:

- It has traditional approach, which is liked by students as they are used to it and it fits in their idea of what a school should be.
- Learning distinct skills in a step-by-step process leads to traditional testing.
- Test scores can be effortlessly quantified and explained to funders as program outputs.
- Program administrators can use the results of traditional tests to validate their program's accomplishments.
- Whatever the students learn, they learn well.
- They do not have to wait for a class to start or fit it in their timetables, particularly in case of adult learners.

Disadvantages of subject-centered curriculum

Disadvantages of subject-centered curriculum are as follows:

- Learners spend time learning what is in the text instead of learning to think for them.
- The information is partitioned; where it should be included in other studies.

4.3.2 Learner-centred Curriculum

Student-centred learning also known as child-centred learning is an approach of education. It focusses on the requirement of students, rather than of others involved in the educational process like teachers and administrators.

Implications of learner-centred curriculum

- The curriculum is focussed on the needs of students and so the subject taught would be geared to the specific requirements of the students.
- It is focussed on student needs, abilities, interests and learning styles with the teacher as a facilitator.
- Students are also responsible for their own learning.

- Students participate in discovery learning processes.
- Students construct new knowledge and are proactive.
- Hands on activities are designed to facilitate student learning.
- Students are able to achieve life long learning goals, which enhance motivation and acts as an incentive to learning.
- Students learnto reflect on their work and so develop self-regulatory practices.
- Students are involved in knowledge production and not just rote learning.
- The multiple intelligence theory that studies student learning styles is very much a part of this method.

Advantages of learner-centred curriculum

The advantages of learner-centred curriculum are as follows:

- It strengthens student motivation.
- It promotes peer communication.
- It reduces disruptive behaviour.
- It builds student-teacher relationships.
- It promotes discovery/active learning.

This approach has changed the educator's methods and the way student's learning is innovative and is to a large extent also impacted by the teacher's mind set. When a teacher allows his student to make enquiries; he sets the stage for his academic success. Successful learning takes place when the students are folly engaged. The teacher's goal is to make new interpretations of the learning material. This is closely related to James Henderson's three basic principles of democratic living, which are as follows:

- **Subject learning:** Students learn better if the subject matter is thoughtfully presented.
- **Self-learning:** One should engage himself in the generative process.
- **Social learning:** Social interaction with various groups develops generosity.

According to V.Y. Gotsky 'Learning is oriented towards developmental level that have already been reached. It is ineffective from the view point of the child's overall development as it does not aim for a new stage of developmental process but rather lags behind this process.' In short, instruction is planned to access a developmental level, which is measurable to the student's current stage in development.

Disadvantages of student-centred curriculum

- **Cannot help everyone:** There are some extremes like the intellectually handicapped, or those impaired in a certain area e.g. dyslexia or those who are severely gifted, e.g. who can read Shakespeare at the age of three cannot be helped via student-centered curriculum.
- **The Internet as a classroom and community:** Usage of Internet without supervision is not healthy. Discovering useful links to areas of interest through search engines is usually, but not always a useful thing to do. It entails to be supervised.

- **Thoughts about discipline:** The concept of discipline is not as prominent in student-centered curriculum as it should be; because the basic aim of discipline is to gradually teach children to internalize it.

4.3.3 Undifferentiated and Differentiated

Differentiated approaches to curriculum development

When there are several stages in an outcome-based curriculum development, it is characterized as being differentiated. This type of curriculum development can be witnessed in countries that follow the IVET (Initial Vocational Education and Training) programmes in mainstream institutions and are closely associated with general education to a certain extent. This suggests that IVET curriculum is inclusive of general or academic knowledge, although the level needed may be lower than that of the entire academic programmes. For example, Sweden, where the IVET programme is a part of the national curriculum.

Undifferentiated approaches to curriculum development

In the undifferentiated approach, there are a few recognizable changes during curriculum development. The undifferentiated approach deals with curricula that serve different programmes which basically cater to learners who have already completed national curriculum. These programmes mainly emphasize on vocational learning that includes a small component of generic skills. General or academic knowledge is usually absent in these programmes. The programmes have a work-based character. The training programmes provided under the undifferentiated approach are not a part of upper secondary schools that also provide general education. These training programmes are conducted in special upper secondary vocational schools or post secondary institutions. This can be seen in United Kingdom at the NVQ Level 3 curriculums for travel services and in Ireland for professional cooking traineeship where the entire structuring of the design process is simple and undifferentiated.

In an undifferentiated classroom instruction only student similarities takes the core stage. In a differentiated classroom, commonalities are acknowledged and teaching and learning is built upon student differences.

At its most fundamental level, differentiating instruction means' shaking up' what goes on in the classroom so that students have numerous options for captivating information, making common sense of ideas, and expressing what they learn. In simple words, a differentiated classroom provides different avenues for acquiring content, processing or making sense of ideas to develop products.

Curriculum differentiation

Gifted students work through the curriculum at a quicker pace and requires less time on the basics and revision. Thus a differentiated curriculum is a programme of actions that offers a range of entry points for students who are at variance in abilities, knowledge and skills. In a differentiated curriculum teachers offer diverse approaches to *whet students learn* (content), *how students learn* (process) and *how students demonstrate what they have learnt* (product).

- **Differentiated instruction is Student-Centered:** Learning experiences are considered to be most effectual when they are engaging, applicable, and interesting. But all learners do not have the same pace of leaning, teachers who make a distinction in instruction in mixed-ability classrooms try to find appropriately challenging learning experiences for all their students.
- **Differentiated instruction is Proactive:** The teacher keeps in mind that different learners have differing needs therefore the teachers proactively proceeds with a variety of ways to 'get at' and express learning.
- **Differentiated instruction is more qualitative than quantitative:** Adjusting the quantity of an assignment will generally be less effective than adjusting the nature of the assignment to match the needs of the students.
- **Differentiated instruction provides multiple approaches to content, process, and product:** Teachers keeping in mind the nature of difference among the three, offers different approaches to what students learn, how they learn it, and how they demonstrate what they've learned
- **Differentiated instruction is a blend of whole:** Class, group, and individual instruction
- **Differentiated instruction is organic:** In a differentiated classroom, students and teachers learn together. Though teachers may know a little more about the subject matter at hand, they are constantly learning about how their students learn. Teachers assess students' readiness in a variety of ways, continuous association with students is compulsory to refine the learning opportunities so that they prove to be effective for each student. The nature of differentiated instruction is dynamic.

4.3.4 Problem-centered Design

Problem- centered design can be classified into

- Life Situation Design
- Core Design
- Social problems and Reconstructionist Design

1. Life Situation Design

Persistent life situations are vital to a society's functioning and therefore it makes sense to systematize and organize a curriculum around them. Students will see direct significance to what they are studying if the content is organized around the various aspects of community existence. By making the students study these social or life situations, they not only come to know the ways to improve society but also become directly involved in that development.

Strengths

- Presents subject matter in an incorporated manner
- Motivates students to learn and apply problem solving procedure
- Helps students to determine scope and sequence of essential areas of learning

Weaknesses

- It does not expose student effectively to their culture

2. Core Design

Centers on all-purpose education and is based on problems arising out of common human activities

Strengths

- Unified content
- Provides relevant subject matter
- Encourages active processing of information
- Develops democratic environment in the classroom

Weaknesses

- It is non-traditional thus difficult in accepting
- Ignores the fundamentals
- Materials are hard to find
- Requires an exceptional teacher

3. Social problems and Reconstructionist Design

- Curriculum should concentrate on current social problems and social action projects that are aimed at reconstructing society and educators will effect social change and create a more just society.

4.3.5 Experience-cum-Activity-centred Curriculum

The opinion behind the activity based approach is that children are 'doers' and learn language basically because they need it and remember new language better when they encounter and use it in a realistic situation. Activity-based learning identifies that young children are physical, tactile and use all their senses. Its major aim is to teach language and address a child's linguistic intelligence while developing the child's other intelligences as well.

Advantages and disadvantages of an activity-based curriculum

Activity-based learning refers to learning by doing. In it, instead of sitting through a lecture, students go out and follow an activity-based curriculum and complete tasks and use their artistic energy to guide them through the material while the teacher plays the role of a facilitator. This learning style consists of both the advantages as well as disadvantages when compared to the other instructional methods.

- **Student led:** It is led by students and it creates a feeling of responsibility among the students by holding them accountable for seeing the lesson through in a meaningful way. Students help in planning, organizing and executing a lesson plan from the beginning to the end. Executing the material rather than just listening to it assists a number of students in retaining the information in a meaningful maner.

- **Student creativity:** The freedom of an activity-based curriculum produces an openness and spirit for experimentation in the classroom. Students tap into various sources of knowledge while they explore the material by physical tasks. Students have to look at basic mathematics, language arts, social studies and science lessons from several perspectives, both creative and practical. A student who has hard time learning in a traditional fashion might see an improvement through active learning.
- **Planning time:** An activity-based curriculum requires more time to plan and organize than a lecture. For planning an active lesson, teachers have to master the art. of making a basic structure for the lesson while simultaneously permitting room for student ideas and other deviations from the original plan. This needs thinking via possible setbacks that proves difficult prior to having experience making and performing active lessons. As a teacher tests out her procedures for making active lesson plans, they will cany on improving and becoming more effective.

4.3.6 Balanced/Coherent Curriculum

There has always been a lot of confusion regarding the curriculum. This confusion is at times equated to a jigsaw puzzle. When you work on a jigsaw puzzle it is necessary for you to actually see the picture that you are about to finish. If you do not see it, all the pieces of the puzzle appear to be incoherent. The child confronted with the curriculum is very often unable to see the whole picture and tends to ask 'why do we have to do this'. The answer given often is'You will find out later'.

This is perhaps the origin of the 'coherent' curriculum. 'The idea of coherence begins with a view of the curriculum as a broadly conceived concept-as the curriculum-that is about something. It is not simply a collection of disparate parts or pieces that accumulate in student experiences and on transcripts. A coherent curriculum has a sense of the forest as well as the trees, a sense of unity and connectedness, of relevance and pertinence. Parts or pieces are con-nected or integrated in ways that are visible and explicit. There is a sense of a larger, compelling purpose, and actions are tied to that purpose.' James A. Beane towards a Coherent Curriculum .1995.

'When a curriculum is coherent it is more relevant and pertinent. The educational experiences are better integrated and this in turn broadens their understanding of the world. The coherent curriculum offers unforgettable experiences to young people.

Creating coherence includes connecting parts or pieces of the curriculum. It also means classifying information and skills and making the best use of learning experiences. Coherence also implies identifying themes and purposes.

Coherence in curriculum involves creating and maintaining vis-ible connections between purposes and everyday learning experiences.

Adults must decide on learning objectives and learning experiences .There must be a continuous connection between the larger purpose and the specific activity. Students must always get a sense of the curriculum as a whole. Moving towards a coherent curriculum includes creating contexts that organize and connect learning experiences.

In real life when you face a problem you do not sit to analyse it as if it is a math problem or a science problem. You resort to your educational experiences to sort it. Knowledge is integrated in real life but tends to be separated at school. So you come to the concept of organizing the curriculum around themes. This serves the purpose of seeing some use of the learning experiences....' Infra-disciplinary efforts bring together smaller pieces of content or skill that are actually parts of a larger discipline of knowledge but that have been disconnected by overspecialization in the curriculum. Here you might place the struggle to create 'social studies' out of history, geography, civics and other aspects of social living (Saxe 1992). Other intra-disciplinary examples are the more recent whole language movement and projects in science and mathematics aimed at reconstituting the larger disciplines. A second exam-pie is multidisciplinary or multi-subject arrangements that involve correla-tions among two or more areas' (Jacobs 1989). This leads on to the concept of curriculum integration and it implies non-separate subject arrangements. Advocates of this type of curriculum reassure that content will not be abandoned, but there is a risk that content covered through the subject curriculum is at risk.

Moving towards a coherent curriculum must involve more fully exploring how people make sense out of experiences. Students of all ages construct schemes of meaning about themselves and their world (Caine and Caine 1991). Such schemes are constructed out of experiences and are shaded by the influences of culture. So it is that any particular experience might have a variety of meanings among young people, depending on race, ethnicity, class, gender, geography, age, family patterns and many other cultural aspects. Such aspects of cultural diversity may also serve as a kind of 'glue' for piecing together experiences to create the 'pictures' that are schemes of meaning. In short, the continuous interplay between experience and meaning is a crucial dimension of a sense of coherence. Iran-Nejad, McKeachie and Berliner put it this way: 'The more meaningful, the more deeply or elaborative processed, the more situated in context and the more rooted in cultural, background, meta-cognitive and personal knowl-edge an event is, the more readily it is understood, learned and remem-bered' (1990, p. 511).

Advantages of balanced curriculum

The advantages of balanced curriculum are as follows:

- It puts a stop to boredom and poor behaviour in classroom.
- It can meet the need of every child in classroom without having to order costly materials.
- It is cost-effective and gives access to an online curriculum that includes the following:
  - Limitless mix and match digital lessons
  - Instant downloads
  - Personalized teacher and student Internet links
  - Individual e-mail accounts for each child in the classroom
  - Customized digital textbooks
  - Personalized video and audio instruction
- Parents, teachers and students practice the satisfaction of learning within a affordable and convenient balanced curriculum.

- It captures the attention of the students in classroom and gains the respect of the parents and child.

4.3.7 Fused Curriculum

This curriculum is designed specially for gifted learners. It has been created to respond to gifted learners' characteristics of precocity, intensity and complexity through its three dimensions of advanced content, higher level processes and product development and inter-disciplinary concepts, issues and themes.

As this curriculum is so learner specific it cannot have far reaching implications for the learner population. However it is necessary for us to know about it.

The notion of a fused curriculum is not new and has been in existence from quite some time.

The very notion of'integration' incorporates the idea of unity amongst different forms of knowledge and the respective disciplines. It is closely related with the constructivist theory and is dependent on the fact that brain finds connections all the time while creating new knowledge.

Educational researchers have discovered that a fused curriculum can lead to the following:

- Greater intellectual curiosity
- Improved attitude towards schooling
- Enhanced problem-solving skills
- Higher achievements in college

Barab and Landa (1997) pointed out that when students concentrate on problems worth solving, motivation and learning increase.

Another premise supporting the move towards integrated curricula is that the current system of discipline-based education is not as effective as it must be. The assumption is that most real world problems are multidisciplinary in nature and that the current curriculum is unable to engage students in real world situations. Thus, a discipline-based curriculum should be replaced with an integrated curriculum (Kain, 1993).

In this approach teachers teaching a number of different subjects are grouped together to work with students. The most typical daily schedule includes groups of approximately 30 students rotating through the four disciplines. Some times, the teachers might decide to initiate a new theme to the entire group at the same time. Or, they may take all of their students on a field trip. In practice, this model is being used with greater frequency at the middle school level.

Advantages of fused curriculum

Fused curriculum offers several advantages:

- Teachers are given time to work together.
- They have a limited number of students.
- It supports traditional curriculum.
- It offers scheduling flexibility to the team.

Disadvantages of fused curriculum

Fused curriculum offers several disadvantages. Some of them are as follows:

- Teachers have to just continue doing what they have always done without paying any attention to the inter-disciplinary or integrated curriculum.
- The teachers have to develop their own curriculum.
- As the process of curriculum development is quite time consuming, they are able to execute an integrated curriculum for only a small part of the school year.

4.3.8 Co-related Curriculum

Correlated curriculum refers to the other topics or subjects that are akin the subjects chosen by you. It helps you understand the chosen subject in a better manner.

Advantages of co-related curriculum

The advantages of co-related curriculum are as follows:

- **Teamwork:** Those students who take part in co-related activities achieve teamwork skills. They have a sense of belonging and unity. Their communication skills are quite enhanced, and they learn how to work well with others, how to take turns and be patient. These skills are usually helpful to students in their future careers and in relationships with family, friends and co-workers. Teamwork guides towards the increased self-confidence when students feel support from their peers.
- **Exercise:** A lot of co-related activities encourage a healthy and active lifestyle. Athletic extra-curricular activities like soccer, football, track, dance, cheer leading and choir group all include body movement. The cardiovascular workout that takes place during these programs brings energy to participants and keeps students attentive in class. When a student keeps healthy lifestyle, he is less liable to be sick and, therefore, is less likely to miss school. The healthy lifestyle that a student inculcates at a young age by co-related activities usually follows him all through his life and makes him a healthy and dependable employee.
- **Direction:** The students who are involved in activities outside school are more likely to gain an idea of direction. A student might choose a particular career path due to his accomplishments in a lot of co-related activities like a student who likes to participate in debates or speech teams might realize that he wishes to become a politician or lawyer. Co-related activities might even lead students to attend college or university. Students at times even receive scholarships based on their performance in a co-related manner.
- **Positive experience:** Contribution in co-related activities encourages positive experiences like teamwork, motivation and reaching goals. Whenever a student is involved in any extra-curricular activity, he is less probable to get involved in negative and harmful schemes like drug or alcohol use, vandalism or gang involvement. Furthermore, most of the schools have policies, according to which any student who makes poor choices like drug or alcohol use or fails in any class is prohibited from participating in such events. This can encourage those

students who enjoy playing sports and other activities to lead a drug-free lifestyle and sustain good grades.

Disadvantages of co-related curriculum

In the correlated curriculum, it is assumed that two or more subjects often exist in a school side by side with no apparent connection. However, there are some possible points at which relationship may be established. There are many points at which any two subjects do not correlate and efforts to correlate them are made. Correlation necessitates cooperative planning and mutual help and understanding among the various teachers before any cooperative project can be undertaken.

4.3.9 Horizontal and Vertical Design

Horizontal and vertical organizations form the essential dimensions of a curriculum design. While vertical designs (sequence, continuity) are related to the longitudinal arrangement of a design component, horizontal designs (scope, integration) on the other hand deals with the side-by-side arrangement of the components in the curriculum design. For example, a spiral format of the curriculum provides for both horizontal (widening of knowledge) and vertical (deepening of knowledge) aspects of a curriculum design at the same time. Figure 4.1 represents the concept of horizontal and vertical articulation from preschool to adult.

CHECK YOUR PROGRESS

3. List the advantages of subject-centered curriculum.
4. Define core curriculum.
5. State any three advantages of learner-centered curriculum.
6. What is the difference between differentiated and undifferentiated curriculum design?

4.4 NATIONAL CURRICULUM FRAMEWORK FOR SECONDARY EDUCATION-2005

The National Curriculum Framework (NCF 2005) is one of four National Curriculum Frameworks published in 1975,1988,2000 and 2005 by the National Council of Educational Research and Training (NCERT) in India. NCF 2005 has been translated into 22 languages and has influenced the syllabi of 17 States.

The document frequently revolves around the question of curriculum load on children. National Curriculum Framework (NCF) 2005 owes its present shape and form to the outbreak of ideas generated through a succession of rigorous deliberations by distinguished scholars from different disciplines, principals, teachers and parents, representatives of NGOs, NCERT faculty, and several other stakeholders at various levels. It received noteworthy contributions from state Secretaries of Education and Directors of SCERTs, and participants of the regional seminars organized at the RIEs. Experiences shared by principals of private schools and Kendriya Vidyalayas (KVs) and by teachers of rural schools across the country helped in sharpening the ideas. Voices of thousands of people, students, parents, and public at large have through regular mail and electronic media helped in mapping multiple viewpoints.

Since the time around year 1986 when the National Policy on education was approved by the Parliament, efforts to redesign the curriculum have been focused on the construction of a national system of education. The basic concerns of education are to help the children to make sense of life and develop their potential, to define and follow a purpose and be acquainted with the right of others. What we require to replicate is the shared interdependence of humans, as Tagore has said, 'we achieve our greatest happiness when we realise ourselves through others.' Likewise, we need to summarize our commitment to the concept of equality, within the background of cultural and socio-economic diversity from which children enter into the gateway of the school. Individual aspirations in current competitive economy have forced to reduce education to just being an instrument of material success. The insight, which places the individual in exclusively competitive relationships, puts irrational strain on children, and thus distorts values. It also makes learning from each other a matter of little consequence. Education must be able to support values that foster peace, humaneness and tolerance in a multicultural society .This document seeks to provide a framework within which teachers and schools can choose and plan experiences that they think children should have. In order to realise educational objectives, the curriculum should be conceptualised as a

structure that clearly expresses the feeling of the required experiences. For this, it should deal with some basic questions such as:

(a) What educational purposes should the schools pursue to achieve through the students?

(b) What educational experiences can be provided that is likely to achieve these purposes?

(c) How can these educational experiences be meaningfully planned?

(d) How do we ensure that these educational purposes are indeed being accomplished?

The review of the National Curriculum Framework, 2000 was initiated specifically to address the problem of curriculum load on children. A committee appointed by the Ministry of Human Resource Development in the early 1990s had analysed this problem thoroughly, tracing its roots to the system's tendency to treat information as knowledge. In its report, *Learning Without Burden,* the committee pointed out that learning at school cannot become a thrilled experience unless we change our outlook that perceives the child as a mere receiver of knowledge and should move further than the convention of using textbooks as the basis for examination. The desire to teach everything is based on the thinking that children lack their own creative instinct and their capacity to construct knowledge out of their experience.

Guiding Principles of NCF 2005

It proposes four guiding principles for curriculum development, namely:

- Linking knowledge to the life even outside the school
- Ensuring that learning is shifted away from rote methods to live experiences
- Enriching the curriculum to provide for overall development of children rather than textbook centric,

- Making examinations system more flexible and integrated into classroom life The document is divided into 5 areas:

- Perspective
- Learning and Knowledge
- Curriculum Areas, School Stages and Assessment
- School and Classroom Environment
- Systemic Reforms
- Systemic Reforms

(a) Areas of Curricular Concern

1. Teaching of Sciences
2. Teaching Mathematics
3. Teaching of Indian Languages
4. Teaching of English
5. Teaching of Social Sciences

6. Learning and Habitat
7. Art, Dance, Theatre and Music

(b) Areas for systemic reform

1. Aims of Education
2. Systemic Reform for Curricular Change
3. Curriculum, syllabus and Textbooks
4. Teacher education for Curriculum Renewal
5. Examination reforms
6. Early childhood education
7. Work and education
8. Educational technology
9. Heritage crafts
10. Health and physical education

NCF 2005 recommends significant changes in Language, Maths, Natural Science and Social Sciences with an outlook to reduce stress and making education more pertinent to the present day and future needs of children. In Language, it makes a renewed attempt to put into practice the three-language formula giving importance to mother tongue as the medium of instruction. India is a multilingual country and curriculum should encourage multilingual proficiency in every child, including proficiency in English, which will become achievable only if learning builds on sound language pedagogy of the mother tongue. The NCF document draws attention to four other areas, specifically Art, Education, Health and Physical Education, Work and Education and Education for Peace.

Examination Reforms

The report 'Learning without Burden' notes that public examination at the end of Class X and XII should be reviewed with a view to replace prevailing text based and quiz type questioning which induced an inordinate level of anxiety and stress. While urban middle class children are stressed from the need to perform extremely well, rural children are not sure about whether their preparation is adequate even to succeed. The high failure rates, especially among the rural, economically weaker and socially deprived children, forces one to critically review the whole system of evaluation and examination.

Paper Setting, Examining and Reporting

In order to improve the validity of current examinations, paper setting needs to be revalued. The focus could shift to question setting rather than paper setting. Such questions need not be generated by experts only. Through wide canvassing, good questions can be pooled all year round, from teachers, college professors in that discipline, educators from other states, and even students. These questions, after careful vetting by experts states, and even students could be categorize, according to level of difficulty, topic area, concept/competency being evaluated, time estimated to solve. These could be maintained along with a record of usage and testing record, to be drawn on at the time of generating question papers.

Assessment Reforms at Secondary Level

Secondary and Higher Secondary Stage (Class IX to XII): Assessment may be based more on tests, examinations and project reports, for the knowledge-based areas of the curriculum, along with self-assessment. Other areas would be accessed via observation and also through self-evaluation.

Reports could be presented along with much more analysis provided to the student regarding various skill/knowledge areas, and percentile, etc. This would assist them in understanding areas of study that they need to focus on and also help them by providing a basis for further choices they make regarding what to study further.

Innovation in Ideas and Practices

Plurality of Textbooks

Given the perspective that curricular content must meaningfully incorporate experiences of children and their diverse cultural contexts, including languages, it is important that textbook writing is decentralized keeping in view the capacities that are required as well the systems that will make this possible. The writing of textbooks requires a range of capacities that include academic and research inputs, understanding of children's developmental levels, effective skills of communication and children's developmental levels, effective skills of communication and design, etc. While the SCERT which presently has been given the task of textbook writing can continue to be the nodal organization for this purpose, the actual envisioning of the process, selection and writing of content must be done in a collaborative manner by teams rather than by individual subject experts.

Encouraging Innovations

Individual teachers often explore new ways of transacting the curriculum to address the needs of students within their specific classroom context (including constraints that they may be facing of space, large numbers, absence of teaching aids, diversity in students, the compulsions of examinations and so oh). These efforts, often pragmatic but also creative and ingenious, by and large remain invisible to the school and larger teaching community and are usually not valued by teachers themselves. The sharing of teaching experiences and diverse classroom practices can provide opportunities for an academic discourse to develop within schools as teachers interact with and learn from each other. It will also encourage new ideas and facilitate innovation and experimentation.

For a start there is a need to create structured spaces within schools, at the level of the cluster and block where teachers are encouraged to share and discuss classroom practices and experiences.

The use of Technology

The judicious use of technology can increase the reach of educational programmes, facilitate management of the system as well as help address specific learning needs and requirements. For instance, the mass media can be used to support teacher training, facilitate classroom learning and be used for advocacy. Possibilities of teaching and learning at varied paces, self-learning, enabling dual modes of study etc. could all benefit from the use of technology, particularly ICT to enable these processes.

The NCF covers an immense range of crucial parameters of the curriculum. It makes a concise survey of the educational scenario and the efforts made in the past in the restructuring of the curriculum. It contains quite a lot of excellent recommendations of the various dimensions of the curriculum and related issues.

The CBSE curriculum presently in use covers almost all the features of the proposed NCF. The CBSE takes due care of updating it, revising it, and incorporating changes in the evaluation practices. Of course there is always scope for improvement.

CHECK YOUR PROGRESS

7. Mention the examination reforms as suggested by NCFSE-2005.
8. How can technology be used in schools according to NCFSE-2005?

4.5 NATIONAL CURRICULUM FRAMEWORK FOR SECONDARY EDUCATION- 2009

Overview

The Teacher Education Policy in India has evolved over time and is based on recommendations contained in various Reports of Committees/Commissions on Education, the important ones being the Kothari Commission (1966), the Chattopadhyay Committee (1985), the National Policy on Education (NPE1986/92), Acharya Ramamurthi Committee (1990), Yashpal Committee (1993), and the National Curriculum Framework (NCF, 2005). The Right of Children to Free and Compulsory Education (RTE) Act, 2009, which became operational from 1 st April, 2010, has important implications for teacher education in the country.

Legal and Institutional Framework

Within the federal structure of the country, while broad policy and legal framework on teacher education is provided by the Central Government, implementation of various programmes and schemes are undertaken largely by state governments. Within the broad objective of improving the learning achievements of school children, the twin strategy is to (a) prepare teachers for the school system (pre-service training); and (b) improve capacity of existing school teachers (in-service training).

For pre-service training, the National Council of Teacher Education (NCTE), a statutory body of the Central Government, is responsible for planned and coordinated development of teacher education in the country. The NCTE lays down norms and standards for various teacher education courses, minimum qualifications for teacher educators, course and content and duration and minimum qualification for entry of student-teachers for the various courses. It also grants recognition to institutions (government, government-aided and self-financing) interested in undertaking such courses and has inbuilt mechanism to regulate and monitor their standards and quality.

For in-service training, the country has a large network of government-owned teacher training institutions (TTIs), which provide in-service training to the school teachers.

The spread of these TTIs is both vertical and horizontal. At the National Level, the National Council of Educational Research and Training (NCERT), along with its six Regional Institutes of Education (REIs) prepares a host of modules for various teacher training courses and also undertakes specific programmes for training of teachers and teacher educators. Institutional support is also provided by the National University on Education al Planning and Administration (NUEPA). Both NCERT and NUEPA are national level autonomous bodies. At the state level, the State Councils of Educational Research and Training (SCERTs), prepares modules for teacher training and conducts specialized courses for teacher educators and school teachers. The Colleges of Teacher Education (CTEs) and Institutes for Advanced Learning in Education (IASEs) provide in-service training to secondary and senior secondary school teachers and teacher educators. At the district level, in-service training is provided by the District Institutes of Education and Training (DIETs). The Block Resource Centres (BRCs) and Cluster Resource Centres (CRCs) form the lowest rung of institutions in the vertical hierarchy for providing in-service training to school teachers. Apart from these, in-service training is also imparted with active role of the civil society, unaided schools and other establishments.

Financing of Programmes and Activities

For pre-service training, the government and government-aided teacher education institutions are financially supported by the respective State Governments. Further, under the Centrally Sponsored Scheme on Teacher Education, the Central Government also supports over 650 institutions, including the DIETs, CTEs and the IASEs.

For in-service training, financial support is largely provided by the Central Government under the Sarva Shiksha Abhiyan (SSA), which is the main vehicle for implementation of the RTE Act. Under the SSA, 20 days in-service training is provided to school teachers, 60 days refresher course for untrained teachers and 30 days orientation for freshly trained recruits. Central assistance for in-service training is also provided to District Institutes of Education and Training (DIETs), Colleges of Teacher Education (CTEs) and Institutes of Advanced Studies In Education (IASEs) under the Centrally Sponsored Scheme on Teacher Education. State Governments also financially support in-service programmes. Several NGOs, including multi-lateral organizations, support various interventions, including in-service training activities.

Implications on Teacher Education of the Right of Children to Free and Compulsory Education Act, 2009

The Right of Children to Free and Compulsory Education Act, 2009 has implications on the present teacher education system and the Centrally Sponsored Scheme on Teacher Education. The Act inter alia provides that:

- The Central Government shall develop and enforce standards for training of teachers;
- Persons possessing minimum qualifications, as prescribed by an academic authority authorize by the Central Government shall be eligible to be employed as teachers;
- Existing teachers not possessing such prescribed qualifications would be required to acquire that qualification within a period of 5 years.
- The Government must ensure that the Pupil-Teacher Ratio specified in the Schedule is maintained in each school

- Vacancy of a teacher in a school, established, owned, controlled or substantially financed by the Government, shall not exceed 10 per cent of the sanctioned strength.

National Curriculum Framework on Teacher Education

The National Council of Teacher Education (NCTE) has prepared the National Curriculum Framework of Teacher Education, which was circulated in March 2009. This Framework has been prepared in the background of the NCF, 2005 and the principles laid down in the Right of Children to Free and Compulsory Education Act, 2009 which necessitated an altered framework on Teacher Education which would be consistent with the changed philosophy of school curriculum recommended in the NCF, 2005. While articulating the vision of teacher education, the Framework has some important dimensions of the new approach to teacher education, as under:

- Reflective practice to be the central aim of teacher education;
- Student-teachers should be provided opportunities for self-learning, reflection, assimilation and articulation of new ideas;
- Developing capacities for self-directed learning and ability to think, be critical and to work in groups.
- Providing opportunities to student-teachers to observe and engage with children, communicate with and relate to children. The Framework has highlighted the focus, specific objectives, broad areas of study in terms of theoretical and practical learnings, and curricular transaction and assessment strategies for the various initial teacher education programmes. The draft also outlines the basic issues that should guide formulation of all programmes of these courses. The Framework has made several recommendations on the approach and methodology of in-service teacher training programmes and has also outlined a strategy for implementation of the Framework. As a natural corollary to the NCFTE, the NCTE has also developed 'model' syllabi for various teacher education courses.

Reforms in Regulatory Framework

The National Council for Teacher Education (NCTE) was constituted under the National Council for Teacher Education Act, 1993 for achieving planning and coordinated development of teacher education in the country, for regulation and proper maintenance of norms and standards in the teacher education system. In the recent past the NCTE has undertaken various steps for systemic improvements in its functioning and in improving the teacher education system, as under:

- Based on the study of demand and supply of teachers and teacher educators of the various states, the NCTE has decided not to receive further applications for several teacher education courses in respect of 13 States. This has led to substantial rationalization in the demand-supply situation across States;
- The Regulations for grant of recognition and norms and standards for various teacher education courses were revised and notified on 31 st August, 2009. The applications for grant of recognition are now processed strictly in chronological order. The new Regulations make the system more transparent, expedient and time bound, with reduction in discretionary powers of the Regional Committees;

- E-Governance system has been introduced by way of providing online facility for furnishing of applications and online payment of fees. MIS has been developed to streamline the process of recognition;
- The National Curriculum Framework for Teacher Education has been developed keeping in view NCF, 2005;
- Academic support is being provided through preparation of Manual for the teacher education institutions and publication and dissemination of Thematic Papers on Teacher Education.
- Various quality control mechanisms have been developed, including re-composition of the Visiting Teams, periodical monitoring of the teacher education institutions and de-recognition of institutions not conforming to the Norms and Standards prescribed by the NCTE,

CHECK YOUR PROGRESS

9. What is the twin strategy of teacher education
10. For what purpose was the NCTE established?

SUMMARY

- The curriculum has different approaches and types.
- In subject-centered curriculum, subject matter taught should echo basic essential learning for all pupils.
- Curriculum is a cumulative process and the experiences in the school exert its influences on the learner like the ways water dripping on a stone wears it away.
- Student-centered learning also known as child-centered learning is an approach of education. It focusses on the requirement of students.
- Instruction is usually planned to access a developmental level that is measurable to the student's current stage in development.
- Creating coherence includes connecting parts or pieces of the curriculum. It also means classifying information and skills and making the best use of learning experiences.
- Coherence in curriculum involves creating and maintaining vis-ible connections between purposes and everyday learning experiences.
- Activity-based learning identifies that young children are physical, tactile and use all their senses. Its major aim is to teach language and address a child's linguistic intelligence while developing the child's other intelligences as well.
- A core curriculum is a curriculum, or course of study that is deemed central and usually made mandatory for all students of a school or school system.
- Critical thinking curriculum model views curriculum as an integration of technology with the curriculum.

- A good curriculum needs to have experiential-oriented instruction.
- Curriculum design is focused and purposeful
- Curriculum design is creative phenomena
- Curriculum design is a methodical way of going about planning instruction, even though there is no hard and fast rule to follow some inflexible set of steps. Curriculum decisions that are made at one stage necessarily do not depend on decisions made at other stages, and that the curriculum-design process tends to be iterative, so it is always likely that different stages being crossed can return for reassessment and possible amendment.
- Different Sources of Curriculum Design are Knowledge Learner Science Society and External and divine sources
- In an undifferentiated classroom instruction only student similarities takes the core stage. In a differentiated classroom, commonalities are acknowledged and teaching and learning is built upon student differences.
- In a differentiated curriculum teachers offer diverse approaches to *what students learn* (content), *how students learn* (process) and *how students demonstrate what they have learnt* (product).
- The National Curriculum Framework (NCF 2005) is one of four National Curriculum Frameworks published in 1975, 1988, 2000 and 2005 by the National Council of Educational Research and Training (NCERT) in India. NCF 2005 has been translated into 22 languages and has influenced the syllabi of 17 States.
- **Guiding Principles of NCF 2005** proposes four guiding principles for curriculum development, namely:
  - o Linking knowledge to the life even outside the school
  - o Ensuring that learning is shifted away.from rote methods to live experiences
  - o Enriching the curriculum to provide for overall development of children rather than textbook centric, o Making examinations system more flexible and integrated into classroom life
- The judicious use of technology can increase the reach of educational programmes, facilitate management of the system as well as help address specific learning needs and requirements.

7 KEY TERMS

- **Curriculum:** It refers to the regular or a particular course of study in a school.
- **Pupil:** It refers to a student who is under the direct supervision of a teacher or professor.
- **Coherence:** It is the quality or state of cohering, especially a logical, orderly and aesthetically consistent relationship of parts.

4.8 ANSWERS TO 'CHECK YOUR PROGRESS'

1. The different sources of curriculum designs are:
   - Knowledge
   - Learner
   - Science
   - Society
   - External and divine sources

2. Curriculum design operates on many levels. Design decisions that are taken at one level must be well-suited with those at the other levels. For example, a middle-school curriculum design that is mismatched with the elementary and high school designs will almost certainly result in a defective K-12 curriculum, no matter how good each part is on its own. In the same manner, the middle-school curriculum itself alone cannot be effective as a whole unless the designs of its grades are in accordance to it.
3. The advantages of subject-centered curriculum are as follows:

   - It has traditional approach, which is liked by students as they are used to it and it fits in their idea of what a school should be.
   - Learning distinct skills in a step-by-step process leads to traditional testing.
   - Test scores can be effortlessly quantified and explained to funders as program outputs.

4. A core curriculum is a curriculum, or course of study that is deemed central and usually made mandatory for all students of a school or school system.
5. The,advantages of learner-centred curriculum are as follows:

   - Strengthens student motivation
   - Promotes peer communication
   - Reduces disruptive behaviour
   - Builds student-teacher relationships
   - Promotes discovery/active learning

6. In an undifferentiated classroom instruction only student similarities takes the core stage. In a differentiated classroom, commonalities are acknowledged and teaching and learning is built upon student differences.
7. The report 'Learning without Burden' notes that public examination at the end of Class X and XII should be reviewed with a view to replace prevailing text based and quiz type questioning which induce an inordinate level of anxiety and stress. While urban middle class children are stressed from the need to perform extremely well, rural children are not sure about whether their preparation is adequate even to succeed. The high failure rates, especially among the rural, economically weaker and socially deprived children, forces one to critically review the whole system of evaluation and examination.
8. According to MCRSE 2005 the judicious use of technology can increase the reach of educational programmes, facilitate management of the system as well as help address specific learning needs and requirements. For instance, the mass media can be used to support teacher training, facilitate classroom learning and be used for advocacy. Possibilities of teaching and learning at varied paces, self-

learning, enabling dual modes of study etc. could all benefit from the use of technology, particularly ICT to enable these processes.

9. Within the federal structure of the country, while broad policy and legal framework on teacher education is provided by the Central Government, implementation of various programmes and schemes are undertaken largely by state governments. Within the broad objective of improving the learning achievements of school children, the twin strategy is to (a) prepare teachers for the school system (pre-service training); and (b) improve capacity of existing school teachers (in-service training).
10. The National Counc':! for Teacher Education (NCTE) was constituted under the National Council for Teacher Education Act, 1993 for achieving planning and coordinated development of teacher education in the country, for regulation and proper maintenance of norms and standards in the teacher education system.

4.9 QUESTIONS AND EXERCISES

Short-Answer Questions

1. Write a detailed account on 'Attributes of Curriculum Design'.
2. Differentiate between subject-centered and learner-centered curriculum.
3. What are the advantages of a balanced curriculum and how can it be achieved?
4. What is a fused curriculum?
5. Write a short note on problem-centered curriculum.

Long-Answer Questions

1. Describe the implications of student-centered curriculum.
2. Discuss the concept of fused curriculum.
3. Explain the advantages and disadvantages of an activity-based curriculum.
4. What are the main sources of curriculum design? Explain any three.
5. Write a short note on National Curriculum Framework for Secondary Education-2009.

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