PREFACE

In a bid to standardize higher education in the country, the University Grants Commission (UGC) has introduced Choice Based Credit System (CBCS) based on five types of courses viz. *core, discipline specific / generic elective, ability and skill enhancement* for graduate students of all programmes at Honours level. This brings in the semester pattern, which finds efficacy in sync with credit system, credit transfer, comprehensive and continuous assessments and a graded pattern of evaluation. The objective is to offer learners ample flexibility to choose from a wide gamut of courses, as also to provide them lateral mobility between various educational institutions in the country where they can carry their acquired credits. I am happy to note that the University has been recently accredited by National Assessment and Accreditation Council of India (NAAC) with grade "A".

UGC (Open and Distance Learning Programmes and Online Programmes) Regulations, 2020 have mandated compliance with CBCS for U.G. programmes of all the HEIs in this mode. Welcoming this paradigm shift in higher education, Netaji Subhas Open University (NSOU) has resolved to adopt CBCS from the academic session 2021-22 at the Under Graduate Degree Programme level. The present syllabus, framed in the spirit of syllabi recommended by UGC, lays due stress on all aspects envisaged in the curricular framework of the apex body on higher education. It will be imparted to learners over the six semesters of the Programme.

Self Learning Materials (SLMs) are the mainstay of Student Support Services (SSS) of an Open University. From a logistic point of view, NSOU has embarked upon CBCS presently with SLMs in English / Bengali. Eventually, the English version SLMs will be translated into Bengali too, for the benefit of learners. As always, all of our teaching faculties contributed in this process. In addition to this, we have also requisitioned the services of best academics in each domain in preparation of the new SLMs. I am sure they will be of commendable academic support. We look forward to proactive feedback from all stakeholders who will participate in the teaching-learning based on these study materials. It has been a very challenging task well executed, and I congratulate all concerned in the preparation of these SLMs.

I wish the venture a grand success.

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Vice-Chancellor

Netaji Subhas Open University

Under Graduate Degree Programme

Choice Based Credit System (CBCS)

Subject : Honours in Education (HED)

Course : Curriculum Studies

Course Code : CC-ED-07

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Module - I
CURRICULAR ISSUES

Module – II
DEVELOPMENT & TRANSACTION OF CURRICULUM

UNIT 1 ❑ Introduction to Curriculum

Structure

1.1 Objectives

After studying this unit the students will be able to :

- ❑ Understand the meaning of curriculum;
- ❑ Understand the nature and scope of curriculum;
- ❑ Identify the determinants of curriculum;
- ❑ Classify students' activities into different types of curriculum;
- ❑ Explain the importance of Co-curricular Activities;
- ❑ Categorise Co-curricular Activities;

- ❑ Explain the organisational procedure of the Co-curricular Activities;
- ❑ Realise the significance of Co-curricular Activities in students' life.

1.2 Introduction

A curriculum is the "roadmap" or "guideline" for any given discipline. A curriculum is the combination of instructional practices, learning experiences, and students' performance assessment that are designed to bring out and evaluate the target learning outcomes of a particular course. It is a detailed plan for instruction set by policy-makers. The philosophy of teaching of the instructors as well as of the educational institution both serve as two of the principles on which a curriculum is formulated. Curriculum is a selection of information, segregated into disciplines and courses, typically designed to achieve a specific educational objective. It encompasses a variety of technical and non-technical courses that are required to complete a specific degree. Curriculum refers to an interactive system of instruction and learning with specific goals, contents, strategies, measurement, and resources. The desired outcome of curriculum is successful transfer and/or development of knowledge, skills, and attitudes. Everything that is written or unwritten taught and tested in an educational programme of study. Therefore, Curriculum includes everything that takes place, and everything that does not take place, within the purview of the school and other educational institutions.

1.3 Curriculum : Meaning, Nature, Scope of Curriculum

1.3.1 Meaning of Curriculum

There are four components of education – student or the learner, teacher, school or educational institution and curriculum. These components are the four pillars of education process and the effectiveness of any educational programme depends on the working of all components in proportionate ratios. Thus curriculum is an important element of education as the aims of education are reflected through the curriculum. In other words, the curriculum is determined by the aims of life and society.

Aims of life and society are subject to constant change. Some popular concepts in Education are - Education for development, Education for work and Education for lifelong learning; hence, the aims of education are dynamic and subject to change. The aims of education are attained by the school programmes, concerning knowledge, experiences, activities, skills and values. The different school programmes are jointly known as curriculum and one static factor that characterises curriculum is 'change' since it is ever-changing.

The origin of the word curriculum was derived from the Latin word 'currere', which means to run a race or a runway on which one runs to reach a goal or a race course referring to the course of deeds and experiences through which children grow and mature to live successfully in adult society. This means that once a child starts to learn, he/she begins to run the race. This race is comprehensive in nature because, in the course of the race, the child or the learner encounters a lot of experiences, which may be intellectual, social, moral, spiritual or physical. These experiences are necessary to produce the complete man. The experiences may be formal and planned or informal and accidental or unplanned. In the course of the race, the child may also encounter some obstacles which he/she must overcome either through his/her own efforts or by the assistance of someone else to enable him/her to attain the expectations of the society. The child is the main focus of the curriculum. It is the instructional and the educative programme which helps the pupils achieve their goals, ideals and aspirations of life. It is curriculum through which the general aims of a school education receive concrete expression.

One of the most popularly used definitions of a curriculum is that curriculum is the total learning experience. This description implies that the crux of a curriculum is the different planned and unplanned activities which have been lived, acted upon or done by the learners under the guidance of the teacher. So, curriculum is nothing but content, programme of planned activities, intended learning outcomes, cultural preservation, experience and agenda for social reconstruction.

Towards a definition of the term curriculum—

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

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

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

Curriculum refers to a written plan outlining what students will be taught (course of study). Curriculum may refer to all the courses offered at a given school in a particular area of study. J.L. McBrien and R. Brandt (1997)

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

Cunningham (1994) - "Curriculum is a tool in the hands of the artist (teacher) to mould his material (pupils) according to his ideas (aims and objectives) in his studio (school)"

Monroe - “Curriculum includes all those activities which are utilized by the school to attain the aims of education.

Crow and Crow - The curriculum includes all the learners’ experience in or outside school that are included in a programme which has been devised to help him developmentally, emotionally, socially, spiritually and morally”.

T.P. Nunn -”The curriculum should be viewed as various forms of activities that are grand expressions of human spirit and that are of the greatest and most permanent significance to the wide world”.

Howell and Evans – “Curriculum is a structured set of learning outcomes or task that educators usually call goals and objectives.”

Froebel – “Curriculum should be conceived as an epitome of the rounded whole of the knowledge and experience of the human race.”

Curriculum is composed of all experiences children have under the guidance of the teacher. Caswell and Campbell (1935)

Ronald Doll – “Curriculum is the formal and informal content and process by which learners gain knowledge and understanding, develop skills, and alter attitudes, appreciations, and values under the auspices of an academic institution”.

Mudaliar Commission:- “Curriculum includes all the learner’s experiences in or outside that are included in a programme which has been devised to help him develop physically, emotionally, socially, spiritually and morally.”

Stenhouse suggested a more open definition of a curriculum as ‘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’.

Olivia (1997) offered multiple definitions of curriculum. To her Curriculum is:

- That which is taught in schools
- A set of subjects
- Content
- A program of studies
- A set of materials
- A sequence of courses
- A set of performance objectives
- A course of study
- Is 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
- That which an individual learner experiences as a result of schooling

Some authors define curriculum as the total effort of the school to bring about desired outcomes in school and out-of-school situations. It is also defined as a sequence of potential experiences set up in school for the purpose of disciplining children and youth in group ways of thinking and acting. A document which describes a structured series of learning objectives and outcomes for a given subject matter area. It includes a specification of what should be learned, how it should be taught, and the plan for implementing/assessing the learning. Cortes (1981) views Curriculum as the massive, ongoing process, the author also mentions about family, peer groups, neighbourhoods, churches, organizations, occupations, mass media, and other socializing forces that "educate" all of us throughout our lives in the form of informal curriculum.

Curriculum may be viewed - as a course of studies offered in the school for the education of the learners, and which students pursue in order to get a degree, a certificate, a diploma or any other forms of academic awards. Learning experiences are embedded in courses taught to the learners in schools. The learning experiences are learner oriented, goal oriented; and they can be physical or mental activities, observable or unobservable (Offorma, 2002) i.e. having unlimited scope. On the other hand it can be viewed differently as Curriculum covers all learning inside and outside school, it is something more than teaching and learning. It is a tool in hands of a teacher. Curriculum is a blueprint and pre-planned but can be revised and changed accordingly. It also caters to the needs of individually different learners. Hence, curriculum is formulated for fulfilment of the following objectives - complete development of an individual, which includes preparation for complete living i.e. self preservation, self protection, social & political protection, proper utilization of leisure time; and also the social aspects like - Modernizing the society, National integration, Raising standard of living, Developing democratic life and National development.

In a nutshell, curriculum can be defined as the total and complete experience. From this view point, curriculum is not only the content selected and delivered, but also the planned and unplanned activities in which individuals' participate as students.

Traditional concept versus Modern Concept in curriculum

Traditionally, curriculum was a body of preserved factual knowledge to be transmitted from the teacher to the pupils and mastered by them through memorization, recitation and

drill; and to be reproduced on the demand of the teacher. The traditional curriculum was subject- centred while the modern curriculum is child and life-centred. Modern education is the combination of these two dynamic processes. The one is the process of individual development and the other is the process of socialization, which is commonly known as adjustment with the social environment. Modern curriculum prepares the child to fulfil both the objectives.

1.3.2 Nature of Curriculum

From the various definitions and concepts presented, it is clear that curriculum is a dynamic process. Development connotes changes and for curriculum which are systematic. A change for the better means, it is any modification or improvement in the existing condition. To produce positive changes in curriculum, development should be purposeful, planned and progressive.

The nature of curriculum can be described by these brief descriptions derived from the definitions given above –

1. A document which describes a structured series of learning objectives and outcomes for a given subject matter area.
2. Curriculum is the entire range of experiences, both directed and undirected, concerned in unfolding the abilities of the individual in school under the guidance of the teacher. School takes responsibility for all the experiences of the child and the learning experiences are planned and directed by the school to attain its educational goals.
3. It is the written plan outlining all the courses offered in a school to its students and what a school actually teaches under a particular area of study. Some authors mention curriculum as the total effort of the school to bring about desired outcomes in school and out-of-school situations.
4. Curriculum includes the planned interaction of pupils with instructional content, materials, resources and processes for evaluating the attainment of educational objectives. Curriculum may also be described as a sequence of potential experiences set up in school for the purpose of disciplining children and youth in group ways of thinking and acting.
5. This document is a specification of what should be learned, how it should be taught, and the plan for implementing/assessing the learning.

Hence, curriculum includes the process of selecting, organizing, executing, and evaluating learning experiences on the basis of the needs, abilities and interests of the learners and the nature of the society or community. It is a dynamic concept as changes made in content may necessitate changes in experiences, which may again bring about changes in evaluation etc. Experts believe that curriculum process is a very complex set of activities and decisions.

1.3.3 Scope of Curriculum

Scope means the extent of the area or subject matter that something deals with or to which it is relevant. It determines the opportunity or possibility to do or deal with something. Scope is applicable to an area of activity, predetermined and limited, but somewhat flexible. The areas that are covered in curriculum determine its scope, so in other words it is subject matter of curriculum.

The key component of any curriculum is its instructional objectives or learning outcomes. On the basis of the objectives, content is included in the curriculum. Therefore, it can be said that the scope or subject matter or areas covered in any subject or discipline depends on the objectives of that subject.

Now scope directly relates to what should be taught or learned. Scope determines the length and breadth of the curriculum i.e. the content, learning experiences and activities to be included in the curriculum. There should be balance or integration among the three domains of objectives namely - Cognitive, Affective and Psychomotor, to cover all the abilities of students. Balance between Knowledge and experience, Objectives and content, Child's activity and needs of the societal activities and needs to be established. Lastly, there should be integration between the content, learning experiences and activities to be included in the curriculum and every attempt should be related to the social environment, where the students are actually placed.

The scope of curriculum is broad and wide. It ranges from the individual needs to the global needs. It includes all those activities which help in obtaining the comprehensive objectives of education. It is not only about the school, the learners and the teachers. It is also about the development of a society in general.

The scope of curriculum is discussed under the following heads.

Aims, goals and Objectives of Curriculum

Goals and objectives are important because they help to direct the choice of curricular content; suggest what learning methods will be most effective; enable evaluation of learners and the curriculum; suggest what evaluation methods are appropriate; clearly

communicate to others what the curriculum addresses and hopes to achieve. Objectives of curriculum are determined by the objectives of education. There is a close relationship between curriculum and education. Curriculum does not decide its objectives independently rather it seeks guidance from the objectives of education. Curriculum content is selected according to the objectives of education. If it is not done, it would fail in securing the objectives. To summarize, curriculum, without the consideration of objectives of education, is a mere combination of information and skills which lead to the production of socially unproductive individuals.

Selection of Content

Selection of content is a very sensitive activity as the content gives a material form to the concept of curriculum. A curriculum expert should take into account all aspects of individual and social life; the mental, physical, social, economic and psychological needs of the students should also be taken into consideration during the selection of content for a particular level of education. If the content of curriculum is compatible with the needs of the individuals and the society, it would succeed in securing all of its pre-specified objectives.

Curricular Activities

The curricular activities include human learning experiences, observations, skills and other academic excellences. These activities help in developing the personality of the students in a comprehensive way. These curricular activities belong to all aspects of human life. They range from earth to heaven and from an individual to the far end of the society. These activities are developed in line with the objectives of curriculum so co-ordination and integration among these activities are necessary. The social, cognitive, moral, and psychological needs of the students are fulfilled through these activities. Thus they are considered as the soul of the whole process of education.

Co-curricular Activities

The aim of education is all-round development of personality of the individuals. Only the textbooks are not capable of developing the individuals' personality in a comprehensive way. For the balanced development of the personality of the students, the school should arrange the co-curricular activities along with the curricular activities. The, co-curricular activities include games, sports, athletics, student union, tutorial groups, literary society, subject society, scouting, Girls' Guide and welfare organizations etc. These activities leave positive impression of personality of the students and deepen their life experiences. These activities play a significant role in the development of moral and leadership abilities as well as social qualities like cooperation, sharing, sympathy, fellow-feeling etc.

Methodology for Transaction

Along with the content, a method of instruction is also required to transmit the content to the learner by the teacher. This method is selected keeping in view the nature of the content. A teacher should use the technique of teaching which corresponds to the psychological needs of the students and requirements of the content. If the element of methodology is eliminated from the process of curriculum, the transmission of the academic excellences to the students would have become impossible. Methodology is the science of teaching or the medium that includes all strategies through which the content is passed on from the teacher to the student.

Transmission of Curriculum

It is the essence of the process of curriculum. It is the process of transmission of information, skills and other academic excellences from one place to another and from one mind to another. For the successful transmission of curriculum to the students, a teacher must have the ability of explicit communication. If the teacher has mastery in the skill of communication, he/she might have expressed him/herself in an effective way helping the curriculum fulfil the objective. Through appropriate transmission of curriculum, teachers develop the ability of effective communication in the students.

Teaching- learning Materials or TLMs

TLMs play a significant role in the transmission of content to the students effectively and successfully. Appropriate use of TLM is an important element of the process of curriculum transaction. These are also known as instructional aids and effective teaching depends on each other. These aids make the lesson attractive, absorbing, interesting, result-oriented, and effective. Hence a skilled teacher can effectively transmit the selected content to the students with the help of proper TLMs. Therefore, it plays a very significant role in the instructional process and well as in the scope of curriculum.

All-round development

The contents of curriculum should target towards achieving the comprehensive and all-round development of the individual's personality. This is the primary responsibility of curriculum and the foremost aim of education. There must be comprehensiveness, broadness and versatility in the contents of curriculum so that the objectives of curriculum and education may be realized. Personality development of the individual is the core criterion of curriculum, so the curricular and co-curricular activities should be properly amalgamated to keep all aspects of human personality and social stability in consideration.

Guidance

Curriculum attempts to guide the students through all the unknown and unseen ways of life ranging from very simple to very complicated situations. This guidance may involve cognitive, physical, emotional, moral or spiritual aspect of human personality. People are confronted with various problems in everyday life. Curriculum suggests solutions to these problems in a formal way by training the individuals for leading a successful life. Hence, the transmission of curriculum requires the transmission of guidance too. Again guidance is a significant function of education, so a process of guidance is rightly included in the scope of curriculum.

National ideology

Education is directly concerned with the ideology of a nation. Naturally, all the aspects of curriculum are developed on the basis of philosophy of a nation. The contents of curriculum cannot maintain its existence without the guidance of national ideology. All the components of content should correspond to the basic principles of the national ideology. This is the only natural means of promoting the national ideology in the youths of a nation through education.

From the above discussion it is clear that scope directly relates to what should be taught or learned. There should be proper sequencing between the different parts of the curriculum and each part should be learned with respect to the other parts of the curriculum. Integration and not mere collection between the parts of curriculum is desired. The teacher should plan transaction carefully so that previous learning and future learning relate in terms of cumulative effects of learning and the child learns successfully how different strings of a piece of curriculum relate to other things in life.

1.3.4 Functions of Curriculum

Education is an orderly, society oriented and intentional process. So, some plan is needed to guide this effort before actual execution. This plan refers to the curriculum and it is indispensable for the acquisition of the objectives associated with curriculum. Curriculum is the instrument by means of which schools seek to translate the hopes of the society into concrete realities. It is planned and sequenced activity through which education is attained. The real essence of education is the ability to transfer the knowledge, facts, skills, values and attitudes learnt from one situation to solving problems in another situation, and this is done through curriculum. Functions of curriculum in the process of education is not simple and static or fixed rather it is completely a dynamic concept altogether. Role of curriculum is different for different levels of education. The purpose of curriculum changes with demographic location, society, economy, polity etc.

Every curriculum aims at developing certain competencies or abilities in the learners, the aims may range from the very broad to the more specific. The curriculum process must therefore clearly identify the aims that the curriculum is intended to achieve. In fact, that is why we use the terms aims, goals and objectives to refer to them. Aims are broad statements which cover all of the experiences provided in the curriculum; goals are tied to specific subjects or group of contents within the curriculum; while objectives describe the more specific outcomes that can be attained as a result of lessons or instruction delivered at the classroom by the teacher.

Now, the function of curriculum depends on the pre-specified aims and objectives of education. Aims and objectives of education cannot be discussed without mentioning Bloom's Taxonomy of Educational Objectives, which attempted to classify the goals of education. Bloom's taxonomy is a set of three hierarchical models used to classify educational learning objectives into levels of complexity and specificity. The three behaviours: cognitive, affective and psychomotor are borne in mind, while selecting objectives. This is to ensure that the curriculum is comprehensive and will produce the total man. The cognitive domain list has been the primary focus on education and is frequently used to structure curriculum, learning objectives, assessments and activities as it involves knowledge and the development of intellectual skills (Bloom, 1956).

Curriculum is a criterion to provide experiences to the learners toward the maximum growth of their personalities. Same is the objective of education itself. To achieve this objective curriculum has an enormous role to play. In the following section various functions of curriculum are listed and described.

1. Development of Individuals

All learners do not learn equally or in the same manner, as each individual has got his own unique abilities, talents, interests, knowledge, attitudes, ideals, appreciations, skills and understanding. Therefore, the type of curriculum, the design of curriculum, methods applied and techniques followed can offer opportunities to the learners to benefit according to their own abilities. Here lies the function of the curriculum to provide the students those experiences which may meet the need of all the students.

2. Organisation of curricular and co-curricular activities

Curriculum consists of curricular and co-curricular activities. These activities are organised effectively to play an important role in mental, moral, social, emotional and physical development of the learner. The curricular activities help in the intellectual growth while co-curricular activities help in around development of the learners in order to produce balanced personalities. Function of curriculum is to balance and integrate these activities to maximise comprehensive development of the individual.

3. Producing Responsible Citizens

A well-organized educational programme can only produce responsible and useful citizens. Curriculum plays a central role in providing knowledge about rights and responsibilities of the citizens and helping them in the development of desirable and useful skills to be applied in daily life. Ideal curriculum works for development of rights as well as sense of duties in the students.

4. To Develop Basic Skills

This is the major function of written curriculum. Age appropriate application of suitable curriculum may help in acquisition of basic skills like, reading, writing, speaking in the learners and also teach the students to act according to situational demand.

5. Preservation and Transmission of Cultural Heritage

These two functions always come together. This is a vital function of education in any country irrespective of sex, religion, caste, creed and ethnicity. The function of each society is to preserve its culture and to transmit it to its next generation. The curriculum preserves the culture in books, literature and journal; and with the help of suitable teaching-learning situation it is transmitted to the next generation. Only curriculum can perform this function in a suitable way.

Beside the above mentioned functions, curriculum has some other functions too

1. Providing knowledge about the world.
2. Inculcating values.
3. Developing and building up some attitudes towards life.
4. Making the people broad minded.
5. Engaging the people in some useful tasks.
6. Producing scientists, educationists or specialized people for various field improving social, cultural and economic conditions.
7. Improving physical and mental health of the people.

Curriculum is considered the “heart” of any teaching-learning institution, which means that schools, colleges, universities or any other educational institution cannot exist without a curriculum. It is very important in formal education but it no less important in informal status too. Curriculum and society is related in such a way that curriculum has become a dynamic process due to the changes that occur in society. Therefore, in its broadest sense, curriculum refers to the “total learning experiences of individuals not only in school, but in society as well” (Bilbao *et al.*, 2008).

1.3.5 Different Types of Curriculum

The term 'curriculum' has different meanings to different people. For Educational administrators, including head teachers, it often refers to the organisation of school subjects and the allocation of time when each subject is taught, as depicted upon the school timetable. For teachers, the term embraces the content of what should be taught during each of the allotted time tabled periods in classroom. For the students curriculum in the true sense of the term is not very clear, rather they are familiar with the term syllabus or the course content.

Again the concept of curriculum has changed with time. According to the traditional point of view, curriculum in Indian educational system is divided into chunks of knowledge, which we call subject areas in basic education such as English, Mathematics, Science, Social Studies and others. While Progressive view point of curriculum is somewhat broader in scope and view curriculum as the total learning experience of the student. This concept is anchored on John Dewey's definition of experience and education. He believed that reflective thinking is a means to unify all curricular actions, to him thought is not derived from action but it is tested by application. Few other progressive thinkers like Caswell and Campwell view curriculum as – 'All experiences children have under the guidance of teachers' while Marsh and Willis describes curriculum as – 'Experiences in the classroom which are planned and imparted by the teacher and learned by the students'.

Taking into consideration different concepts of curriculum the following types of curriculum are listed here.

1. Written Curriculum

It is also known as overt or explicit, it is simply that which is written as part of formal instruction of schooling experiences. Written curriculum includes documents, course of study or syllabi for implementation. Most written curricula are made by curriculum experts with participation of teachers. It consists of varied activities that are implemented in order to arrive at the objectives or purposes of the written curriculum. It varies according to the learning styles of the students and the teaching styles of the teacher. Written curriculum is usually limited to those written understandings and directions, formally designated and reviewed by administrators, curriculum directors and teachers, often collectively. This is actually the curriculum-in-use, it is the actual curriculum that is delivered and presented by each teacher.

2. Recommended Curriculum

Most of the curricula are recommended and proposed by experts, scholars and professional organizations. The curriculum may come from a national agency or any professional organization or any other stakeholder in education.

3. Social curriculum

This type of curricula can now be expanded to include the powerful effects of social media (Facebook; Watsapp; Twitter etc). It actively helps create new perspectives, and help to shape both individual and public opinion.

4. The internal curriculum

New knowledge is created in the learner when content knowledge and processes are combined with the experiences and realities. Educators should be aware of this curriculum as they have little control over the internal curriculum. Moreover it is unique to each student. It is often very enlightening and surprising to find out what is meaningful for learners and what is not at all meaningful.

5. Taught Curriculum or received curriculum

Received curriculum refers to the students' experiences in real situation. The different planned activities which are put into action in the classroom compose the taught curriculum. These are the things that students actually take out of classrooms; those concepts and content that are truly learned and remembered.

6. Learned Curriculum

It includes what the student understands, learns, and retains from both the intentional curriculum and the hidden curriculum. The discussion here focuses on what is learned from the intentional curriculum. This type of curriculum indicates all the changes in values, percep-tions, and behaviour of the learner that occur as a result of school experiences.

7. Supported Curriculum

This curriculum facilitates each learner to achieve real and lifelong learning. This refers to a tested or evaluated curriculum. Series of evaluations are being done by the teachers at the end of the teaching episodes to determine the extent of teaching-learning or to tell if the students are progressing. Assessment tools like pencil-and-paper tests, authentic instruments like portfolio and projects are being utilized. Support curriculum includes material resources such as textbooks, computers, audio-visual materials, laboratory equipment, playgrounds and other facilities.

8. Rhetorical curriculum

Curriculum elements are comprised of ideas offered by policymakers, school offcials, administrators and politicians. This curriculum may also come from those professionals involved in concept formation and content revision or from those educational programmes resulting from decisions based on national and state reports.

9. Assessed Curriculum

This refers to the learning outcomes achieved by the students. Learning outcomes are indicated by the results of the tests and changes in behaviour which can be under the cognitive, affective or psychomotor domains.

10. Hidden Curriculum

Hidden curriculum is that implicit knowledge students learn in school inside or outside the classroom. This is the unintended curriculum, hence not deliberately planned but may modify behaviour or influence learning outcomes. School environment, peer influence, physical condition, teacher-learner interaction, teacher's temperament and many other factors make up the hidden curriculum. Things that are taught at home, experiences that are a part of a family's experiences, or related experiences sanctioned by the family influence students' behaviour in school. Curriculum can't be always limited to 'intended learning outcome' as criticised by Lawrence Stenhouse. It is simply problematic because much of what occurred and was learned within schools was unintended, as a result the term 'hidden curriculum' was coined.

The hidden curriculum has very strong impact on student learning, Glatthorn and Jailall (2009). They identified the key factors that seem to constitute the hidden curriculum.

Time allocation: For example, are health and physical education allocated sufficient time to change the behaviour of children and youth?

Space allocation: How much space is allocated for teacher conferring and planning?

Use of discretionary funds: How are such funds expended, and who decides this?

Student discipline: Do suspensions seem to reflect an ethnic bias?

Physical appearance: Does the appearance of facilities suggest that those in the building care for the school? Are walls decorated with student artwork?

Student activities program: Does this programme reflect and respond to student talent diversity?

Communication: Are most of the messages over the public address system of a positive nature? How often are student voices heard?

Power: Do teachers have power in the decision-making process? Do students have any real power over the factors that matter?

11. Concomitant Curriculum

Concomitant implies existing or occurring with something else, often in a lesser way. What is taught, or emphasized at home, or those experiences that are part of a family's experiences, or related experiences sanctioned by the family. This type of curriculum may be received at temples, in the context of religious expression, lessons on values, ethics or morals, or social, cultural as well as religious experiences based on the preference of the family.

12. Phantom Curriculum

The messages prevalent in and through exposure to any type of media may lead to enculturation of students into the predominant meta-culture. These components and messages play a major part in the gradual acquisition of the characteristics and norms of a culture or group by students of another culture. This may also result in acculturating students into narrower subcultures.

13. Null curriculum

Null is what is not taught. Not teaching some particular idea or set of ideas may be due to mandates from higher authorities, to a teacher's lack of knowledge, or to deeply ingrained assumptions and biases. Null curriculum means those topics that are not included in the curriculum. So, teachers do not teach, thus conveying students the message that these elements are not important in their educational experiences or in our society. But what schools do not teach may be as important as what they do teach (Eisner, 1994). These are important to consider when making choices within content. In history detailed description and consequences of wars are taught but not peace, selected cultures and their histories are taught in geography but not about others. The curriculum framers should be careful that their choices and omissions should not send and wrong messages to students.

14. The electronic curriculum

This includes lessons learned through searching the Internet for information, or through using e-forms of communication. This type of curriculum may be either formal or informal, and intrinsic lessons may be overt or covert, good or bad, correct or incorrect depending on the person who is using this. Students use the internet on a regular basis, both for educational and recreational purposes. Much of this information may be factually correct, informative, or even entertaining or inspirational. But there is also a great deal of other e-information that may be very incorrect, back-dated, biased, vicious, or even manipulative uploaded for some vested interest.

15. Outside curriculum

It implies information gathered and knowledge gained by students outside classroom and school. The source may be home, peer group, social media, neighbourhood etc.

The development of an effective curriculum guide is a multi-step, on-going and cyclical process. There are many approaches to curriculum development as presented in this section. There is no perfect type, form or approach. Different approaches and types of curriculum are amalgamated in required proportions to get a desirable blend that intends to fulfil the pre-specified objectives to the utmost. However, to be effective, an approach must attract acceptance of the teachers and other stakeholders in the education of the learners. This acceptance will be far easier to attain when the curriculum approach reflects child growth and development, the philosophy of the society, principles of teaching and learning, needs and varying abilities of the learners, ease of implementation; and cooperatively developed by a broad-based committee of teachers and relevant experts.

1.3.6 Difference and Relation between Curriculum and Syllabus

In education, curriculum and syllabus are the two terms which are commonly misconstrued due to the converging boundaries and over-lapping nature of these two topics. Syllabus connotes the subjects as well as the topics covered in the course of study. On the other hand, Curriculum implies the chapters and academic content taught in school or college along with knowledge, skills and competencies that students learn during their course of study.

While studying Curriculum Studies it is necessary to understand these two concepts distinctively as they are two equally important words in the field of Education and are often confused in their meaning and scope. Strictly speaking these are two different concepts that give different meanings.

What is meant by Syllabus?

The *word syllabus is* derived from modern Latin *meaning* - “list”; “table of contents of a series of lectures”, etc. Plural form of Syllabus is syllabi (Oxford English *Dictionary).*

The syllabus is defined as the document that consists of topics or portions covered in a particular subject or discipline. The topics to be included are decided and determined by the experts and professors of that particular discipline, who are responsible for the quality of the course. Essentially it is a descriptive outline and summary of topics that are to be covered in an education or training course and ideally it should be drafted by the subject experts along with the instructor of the course.

It is available to the students by the teachers either in the printed form or in the electronic form directly available in the respective university's website. Syllabus helps the students to know about the subject in detail. It also includes objectives of the selected content i.e. what is expected of the students at the end of the course. General rules, instructions, assignments, projects, dates for assessment and evaluation etc. are mentioned in the syllabus. A syllabus will often contain a reading list of relevant books and articles that are compulsory or optional for students and teachers for reading and reference.

Generally, a syllabus is prescribed for one year as in conventional annual educational programmes or six months as in semester system. In both the cases the teacher or the course instructor is supposed to complete the specific portions within the stipulated time. Examinations are conducted at the end of the course duration.

What is meant by Curriculum?

Curriculum is defined as the guideline of the chapters and academic content covered by an educational system while undergoing a particular course or programme. It includes the teaching methods, lessons, assignments, physical and mental exercises, other activities, projects, study materials, tutorials, presentations, assessment, test series, learning objectives and so on.

A general curriculum, in its broadest sense, lists all courses offered at a specific school. A curriculum is prescriptive in nature, which indicates that it is issued by the concerned authority or governing body, and the listed content or topics must be understood by the student at the end of the course so that they are able to achieve a particular grade to get qualified for the next course.

Theoretically, curriculum refers to what is offered by the schools and colleges. But practically it has a wider scope which covers the knowledge, attitude, behaviour, performance and skills that are imparted or inculcated in a student. It is well planned, guided and designed by the Government or the Education Board. It aims both physical and mental development of students. This is the overall learning experience that a student goes through during the particular course of study.

According to Kelly (1999), purpose of an effective curriculum is not as simple as conveying only the subject knowledge. It should offer much more than a statement about the knowledge-content in order to be a productive curriculum. Learning experiences are equated to curriculum content by authors like - Tyler (1971) and Ivowi (2009). But Wheeler (1978) distinguishes learning experiences from the content. He viewed the former

as the activities engaged by the learners and the latter as the knowledge they are exposed to. The learning experiences are the means while the content is the end. Offorma (2002) offered a comprehensive explanation of the concept, mentioning that curriculum content is made up of the subject matter to be taught, body of knowledge, topics, ideas, concepts, symbols, facts and cognitions, presented to the learners.

Comparison between Curriculum and Syllabus

Syllabus is the portion of study that should be covered in a subject for example – English, Bengali, Mathematics, History etc. each of these subjects are a part of the course. Now what the whole course should cover, including different subjects and their relevant study areas are all included in the curriculum for example – Madhyamik course or Higher Secondary course. Thus syllabus is nothing but a part of curriculum.

Similarities

Both the terms have some features in common.

First, contents and topics are included in syllabus as well as in curriculum in accordance with the aims and objectives of education.

Second, the content of syllabus is also a portion of the curriculum.

Third, both Curriculum and Syllabus are essentially related with the targets and goals of teachers and students.

Fourth, Curriculum is superset of syllabus and syllabus is a sub-set of curriculum so both complement each other.

Fifth, in education curriculum and syllabus are concerned about what/how to teach and what/how to test.

Dissimilarities

CURRICULUM	SYLLABUS
Curriculum refers to all the educational activities of the schools or any other educational institution in the widest possible sense. It refers to the whole course – including different subject areas and experiences.	Syllabus refers to a list of unelaborated headings or book-let. It covers the portions of study to be covered by the subject; so it is a sub-set of curriculum.
Curriculum is based on the philosophy, goals and values of education.	Syllabus does not take into account these factors directly.
Curriculum is the sum total of all subjects, learning experiences and activities required for a particular course of study or a programme.	It is basically concerned with subjects, more specifically a set for a particular subject.
Curriculum has a wider scope.	Syllabus has a comparatively narrow scope.
Learning experiences and content altogether makes the curriculum.	The content only is termed as syllabus.
A curriculum is prescriptive or specific. It is a guide the institution follows for the course as long as the course lasts.	It is descriptive and it explicitly describes the areas to be covered in a subject.
There is prescribed co-curricular and extra – curricular activities in the curriculum.	No prescribed co-curricular and extra-curricular activities in the form of syllabus.
Curriculum includes not only indoor activities but also out-door activities of the school	Syllabus is concerned with activities mostly undertaken in the class room (in-door activities)
The curriculum has a countless role to play and it is considered as a plan, an experience, a subject matter or content and as a field map.	The syllabus has a limited role to play and has less significance in the educational world.
It is an inclusive concept.	It is not an inclusive concept as it is only a part of a curriculum.
The plural of curriculum is curricula	The plural of syllabus is syllabi or syllabuses
A curriculum can be as long as the course lasts.	Syllabus generally covers a specific duration – may be one year or six months.
Curriculum is decided by the government or similar bodies.	Conversely, syllabus is decided by teachers, members of Board of Studies etc.

Curriculum and syllabus are two significant terms used in the field of education. The teachers impart knowledge and skill to their students, thus transferring the fund of knowledge from one generation to the other. In this process of transmission, curriculum and syllabus act as the role of vehicle. Many people still equate a curriculum with a syllabus.

An UNESCO publication entitled "Preparing Text Book Manuscripts" (1970) has differentiated between the curriculum and syllabus. It mentions – 'The curriculum sets out the subjects to be studied, their order and sequence and so ensures some balance between humanities and science and consistency in the study of subjects, thus facilitating inter subject links. It follows that the curriculum determines the amount of school time allotted to each subject, the aim of teaching each subject, the place of the motor skills which take time to acquire; and possibly the variations between rural and urban school teaching. The curriculum in the schools of developing countries is often directly related to the requirements for developments. The syllabus determines the basic content of instructions in a given subject and the range of knowledge and skills which the pupils must acquire and establish in detail, the themes and individual points to be studied in each school year. The syllabus is a refined detail of the curriculum at a particular stage of learning for a particular subject'.

1.4 Determinants of Curriculum

Traditionally the idea of curriculum was limited to mastery of specific knowledge and skill but at present the scope has extended to help pupil to live in present world and also to equip them to live in future world. Curriculum refers to a course of study that will enable the learner to acquire specific knowledge and skills. Determiners are factors which decisively affect the nature or outcome of something. In curriculum development process there are many factors that influence the process of curriculum development from the planning phase to the implementation phase. Mudaliar commission rightly observed that curriculum includes all the learner's experiences to help him/her develop physically, emotionally, socially, spiritually and morally.

The concept of Curriculum is not new in the sphere of education. But the meaning and scope of this term has changed and expanded respectively over the years. There are various dimensions of viewing and understanding this concept. Literally it means 'a course' but deeper delve into the term reveals it is not so simple. As modern education is a combination of two processes – individual development and social development. It aims to achieve individual development, by drawing out the inherent qualities and shaping them; together with preparing those individuals to adjust with the social environment. Education attempts to reach its goals through the 'tool' – curriculum. Hence modern curriculum is bound to be a very comprehensive concept. As Monroe has rightly observed – 'Curriculum includes all those activities which are utilised by the school to attain the aims of education.'

The development of curriculum is a dynamic process and revision of curriculum continues as the goals and objectives of education keeps on changing. In developing a curriculum a number of factors are considered, and these factors are the elements that can promote or ruin curriculum implementation if not taken care of in the beginning. The elements include the learners, who are the curriculum recipients; the teachers who are the curriculum implementers; the society and culture from where the learners come and where they will function after schooling; the philosophy of education, on which the goals of education hinge; psychology of learning, which is the embodiment of the principles for effective teaching and learning; the economy of the society, which determines how robust the curriculum is and its effective implementation; resources, which are important for effective curriculum implementation and without which curriculum development becomes worthless; and values of the society, which is the essence of education.

Content is what teachers teach; learning experience is an activity which the learner engages in and which results in changes in his behaviour; hence those contents and learning experiences that will help in attaining the goals of the curriculum should be selected judiciously.

1.4.1 Factors influencing curriculum:

The factors that help to determine both learning experiences and content are discussed in the following sections.

Need of the child

The child is considered as the centre of the education process so child is the most important determinant of curriculum. Learners' age, characteristics, abilities, aptitudes, intelligence, interest areas etc. should be taken into consideration. Curriculum should be child centred and pay attention to the previous knowledge of the learner, nature of the learner and process of learning for individual learners and the conditions facilitating optimum learning.

To develop a true child-centric curriculum – needs, pattern of growth and development and interest areas should be taken into consideration by the curriculum planners.

Needs - The core pattern of curriculum should be flexible to cater the individual needs of

the learners. The process of learning in the curriculum should be so planned that the learner gets ample opportunity to learn through first hand experiences. Curriculum should focus at all round development of learner i.e. physical, mental, social, emotional, spiritual, moral etc.

Growth – The curriculum framers should have knowledge of growth and development of learners. Contents and experience that are included in the curriculum should be sequenced according to the chronological age and mental age of learners to facilitate learning as well as development.

Interests – One condition of optimum learning is including those learning experiences and contents which are interesting to the learners. Children spontaneously attend to things which seems interesting to them.

Need of society and culture

Social and Cultural aspects include - Visible Rules, Means of Livelihood, Food, Dress, Language, Music, Dance, Political Behaviour Family etc. These visible means are not directly taken care of in the formal educational institutions. Curriculum includes academic and non academic aspects. The non-academic aspects are addressed more by the hidden curriculum or the intended curriculum. The concept of curriculum is influenced by modes of thoughts, pedagogies, political, social as well as cultural experiences. In school settings students of different cultures gather together. Successful teaching indicates teaching students from culturally and linguistically diverse backgrounds. Experience acquired from Social environment is very important for harmonious development of the child. Culture is an important source for determining the content of the curriculum.

Need of discipline

Every subject has got its criterion and accordingly the need for the discipline is decided. Subjects like - Literature, science, mathematics, social sciences etc. has got their own exclusive requirements. Contents in curriculum are included not only for the sake of adding theoretical portions, but the branch to which the subject belongs is also considered, for example pure science (physical science, life science, mathematics) subjects have got a different status in curriculum than a social science (history, geography) subject. Whether the content is meaningful, relevant, practicable, acceptable to students, rational and clear; all these questions should have positive answers before the content is included in the curriculum.

Need of values

Values are socially approved desires and goals that are internalised through the process of conditioning, learning or socialisation and that become subjective preferences, standards and aspirations - R. K. Mukherjee. Values play a crucial part in the formulation and implementation of educational ideologies. Generally, two kinds of values are considered during curriculum making - Ultimate values and Instrumental values.

Ultimate values determine the aims and purposes of education and Instrumental values are related to the means of education. The ultimate values and instrumental values of a society decide the type of curriculum appropriate for it.

Values, attitudes, and behaviours are closely linked. Attitudes refer to the willingness to act in any given moment and behaviour implies the actual action. Values and attitudes are significant as these decide the willingness of learners towards learning the content and influence actual learning. A value is a shared idea about how contents and learning experiences are ranked in terms of desirability, worth or goodness. Thus value system is considered as a very important determinant of curriculum.

1.4.2 Few other determinants

Computer technology of the 21st century influences curriculum development at every level of learning. Computers are provided in large numbers in classrooms as requisite for studies and interaction among students. Technological multimedia use influences educational goals and learning experiences among students. Therefore, technological need is also taken care of in curriculum planning.

National and international needs should also be considered as presently earth is considered as a global village so what is going on in and around the country and abroad should be placed suitably in the curriculum to prepare the child as a global citizen.

Apart from the above determinants of curriculum, some other factors also need to be considered to make effective use of the determiners in terms of content and learning experiences. The curriculum developer should concentrate on useful organization of all these determinants. In India most of the curriculum is subject based. There should be Content-balance between various subdivisions of the content. The learning experiences should be relevant to the child's experience, environment and stage of mental development. Another important area of relevance is the balance required between Instructional objectives and Evaluation strategies. A sense of equilibrium is definitely important among the determinants of curriculum to achieve the best in education.

1.5 Co-curricular Activities

Curriculum is a framework that sets expectations for student learning. It serves as a guide for teachers that establishes standards for student performance and teacher accountability. Curriculum is a group or a set of courses offered by an educational institution that are required to complete an area of specialization. Curriculum is a set of courses that comprise a given area of study. The scope of curriculum is difficult to define

as curriculum can be both written and unwritten. Essentially, curriculum is what the school is attempting to teach, it also includes social behaviours as well as content and thinking skills. Curriculum is the series of things that students must do and experience by way of developing abilities to do the things well that adults do in life. Thus co-curricular activities comprise an important part of the curriculum and theses activities contribute immensely in all round development of the child.

1.5.1 Meaning, Concept, Objectives and types of Co-curricular Activities (CCA)

"By education I mean an all-round drawing out of the best in child and man" Mahatma Gandhi. Modern education needs to address physical, mental, social, spiritual, cultural, aesthetic and vocational development of the learner. Modern curriculum aims at all round and harmonious development of the individual. All round development includes both academic and non-academic activities. Curricular activities and programmes take care of the academic aspects and the non-academic aspects are left to co-curricular activities to be taken care off. So, any discussion on curriculum is incomplete if the area of co-curricular activities is not taken into consideration.

If used judiciously, co-curricular activities may take care of the students' different developmental needs such as their sense of moral values and attitudes, skills and creativity. Through these activities students explore their abilities, develop the strengths and eradicate the shortcomings both inside and outside the classroom to develop their personality. Students can learn to communicate, to co-operate with other people and enrich their life experiences through continuous participation in co-curricular activities.

Evolution of Terminology from Extra-curricular Activities to Co-curricular activities

Co-curricular activities have great 'educational potential' as most classroom experiences are theoretical, and practical knowledge can be imparted through co-curricular activities only. These activities facilitate the development of various domains of mind and personality such as intellectual development, emotional development, social development, moral development and aesthetic development. Creativity, Enthusiasm, Energetic and Positive thinking are some of the facets of personality development and the outcomes of co-curricular activities.

Earlier Co-curricular activities (CCAs) were known as Extracurricular Activities (ECA), as these activities include the components of non-academic domain. But later the

significance of co-curricular activities in child's development was well understood and henceforth, these activities are no more considered as 'extra' and are included as a significant part of the curriculum in the process of education.

Curriculum helps to develop various facets of the personality of the child or the student but mostly it takes care of the cognitive or academic aspects. For all-round development of the child, there is a need of emotional, physical, spiritual and moral development that is complemented and supplemented by Co-curricular activities.

Definition of Co-curricular activities

Co-curricular activities are defined as the activities that enable to supplement and complement the curricular or main syllabi activities. These activities are undertaken side by side with curricular activities as these are the very important part and parcel of educational institutions to develop the students' personality as well as to strengthen the classroom learning. They have wide horizon to cater to the cultural, social, aesthetic development of the child and supplement the curricular activities and prepare the students for life.

"Activities sponsored or recognized by a school or college which are not part of the academic curriculum but are acknowledged to be an essential part of the life of an educational institution. Co curricular activities include sports, school bands, student newspaper etc. They may also be classed as 'Extracurricular' i.e. activities carried on outside the regular course of study; activities outside the usual duties of a job, as extra class activities"- according to The International Dictionary of Education (1977).

"Co-curricular activities were mainly organized after school hours and so were the extra curricular but they are not an integral part of the activities of the school as its curricular work"- according to Aggarwal (2000).

In general we can say - The activities which try to develop the student's physical, moral, mental, social, and emotional development i.e. all-round development are called Co-curricular activities. Such activities complement but are not part of the traditional academic curriculum. These activities are those activities which are beyond the curriculum though they are the part of schools and College.

OBJECTIVES OF CO-CURRICULAR ACTIVITIES

Most of the educational institutions provide many co-curricular activities to the students; the main aim of these activities is to develop all-round development of students. Let us see the objectives of the co-curricular activities in detail.

Physical Development

Outdoor games and sports such as, cricket, volley ball, kabaddi, etc. provide physical exercise to the students; with the help of these exercises physical development of a child is possible.

Mental development

To make education effective the students should be mentally active and energetic. Co-curricular activities aim to develop a child mentally healthy.

Moral Development

Schools and colleges arrange for different events, such as story telling competition, poetry reading, etc. These activities help moral development of students.

Social Development

Man is a social being, born in society and grows in society. Education has an important role to play in social development of children. Co-curricular activities through its different programmes equip the students for leading a suitable social life making them responsible and accountable.

Emotional development

Co-curricular activities attempts to achieve emotional development in students. Through different activities the participants develop feelings for their peers, teachers, their school etc.

Cultural Development

Traditions, heritage, rites and rituals are understood by learners through co-curricular activities. Cultural development may be possible through the use of Drama, Plays, Folk, Folk-Dance, Poetry reading, Religious and Social Ceremonies etc.

TYPES OF CO-CURRICULAR ACTIVITIES

Co-curricular activities may be classified under the following broad heads. These activities are planned for all round development of learners. Types of co-curricular activities are as follows -

1. Activities for Physical development – A common proverb is ‘healthy mind stays in a healthy body. So one condition for academic development of students is healthy physical development. Sports, games and outdoor activities are examples of physical activities.

2. Activities for Literary orientation or academic development – This includes writing in school magazines, essay writing, story writing, recitation, debates, preparation of charts and models etc.
3. Activities for Social development personal and social skills - This type of activities inculcate respect, responsibility and resilience and expand community-based participation of students. This also includes youth parliament, student's council, visit to parliament and assembly.
4. Activities for Cultural development – The students should be made aware of culture and heritage of their own country. Performing art activities and visual art activities are few examples which may help in this type of development.
5. Activities for Aesthetic development – Participation in any school programme that need decoration of school or classroom or any area of the campus helps develop the aesthetic sense in students.
6. Activities for productive Leisure – Excursion encourage pursuit of meaningful leisure activities. Photography, coin collection, stamp collection are some examples of this type of activities.
7. Activities for Emotional development – This includes Celebration of National and International days and other similar activities.
8. Activities for Moral development – Celebration of birthdays of great men and participation in community service are planned to develop the students morally.
9. Activities for development of scientific temperament – Science exhibitions, projects etc. are the examples of activities under this type of co-curricular activities.
10. Activities regarding Spiritual development – Participation in religious festival like Saraswati puja and celebrating birthdays of great men like Swamiji, Rabindranath Tagore, Netaji etc.
11. Activities for Vocational development – These activities include album making, book binding, photography, toy making, soap making, kitchen gardening, manufacturing teaching aids etc. which may help selecting vocation in future.
12. Multipurpose activities – Apart from the above mentioned types there are many other activities which are clubbed together under this. First aid, field trips, science and social science clubs, geography clubs, hobby clubs etc.

Another category of co-curricular activities on the basis of venue or place of conducting the activities may be discussed here, these are Indoor and Outdoor activities. The nature of activities conducted as indoor and outdoor activities are well understood from the names itself.

1. Indoor – These activities are conducted inside the classroom or school auditorium. Example – debate, extempore, exhibitions, drawing/ essay writing competition etc.
2. Outdoor – Activities which are planned and performed on the play grounds or outside the school comes under this type of co-curricular activities. Example – foot ball, cricket, badminton etc.

1.5.2 Organisation of Co-curricular Activities

The process of curriculum development begins with the selection of the content followed by selection of the learning experiences. In order to produce a collective effect, content and learning experiences should be so oganised and scheduled in such a way, so that each of the factors may strengthen the other in a cumulative way. Hence organisation of co-curricular activities is also very important. Organisation is similar to cooking, inspite of putting the best ingredients one may not get the best dish if it is not known how much of what to be used, when to use etc. So best school, best curriculum, best teacher may yield best output if organisation is done carefully between the ingredients of education.

1. **Time Frame –** The activities should be selected in such a way so that it can be completed within school time.
2. **Equal participation –** Every student should be given equal opportunity of selecting and participating in co-curricular activities.
3. **Individual difference –** Similar activities should not be assigned for all the students as each student is different from the other. Adequate types and numbers of activities should be offered so that students get activities of their choice and interests.
4. **Maximum utilisation of resources** - The co-ordinator of co-curricular activities should give suggestions to the school principal regarding the utilisation of finances, the allocation of resources and the equipment needed for the running of CCA. Administratively, the school principal may authorise the teacher-coordinator to plan the financial budget, to control the expenses of various activities or to assist in administering the fund.
5. **Training and support –** The teacher concerned may need training and orientation to support the co-curricular activities programme effectively. Leadership training courses should be organised to prepare students to guide activities with effective assistance of teachers.
6. **Adopt safety measures-** School should ensure that all activities should be conducted safely. Particular attention should be paid to safety measures while

conducting co-curricular activities in school. It is also necessary to remind all teachers and staff, involved with co-curricular activities, to abide by the safety guidelines.

7. **Notifying Parents** – Special attention should be paid when outdoor activities are organised by the school, for which parental consent of the participants should be asked for in writing. Letters to parents should be sent stating the date of the activity, time, venue and teachers-in-charge, etc. School should inform parents mentioning the details of co-curricular activities organised and students' participation for all other indoor activities.
8. **Evaluation and appraisal –** A suitable assessment and appraisal system for the various activities, school clubs, staff and student performance is very important. This will help improve the planning of future activities.
9. **Reporting and record keeping** – At the end of every school year a report should be submitted to the principal, mentioning all the activities undertaken, assessment of the performance of teachers and staff who helped in the activities, evaluation results of students, special area of success etc. These Annual reports should be preserved for later reference.
10. **Teacher's role** - For all activities the role of the teacher should be of a facilitator.
11. **Cost effective** – Less expensive and feasible activities as far as possible should selected for students.

Organisation is thus seen as an important problem in curriculum development because it greatly influences the efficiency of instruction and the degree to which major educational changes are brought about in the learners (Tyler, 1969). If students are given the opportunities to organise co-curricular activities, they will gain first-hand experience of programme planning and leadership, thus enabling them to discover and develop their potential.

1.5.3 Significance of Co-curricular Activities

Views of Mudaliar Commission (1952-53), is of much relevance in this context, which mentions that – "Co-curricular activities are as integral part of curricular activities of a school and their proper organisation needs just as much care and forethought as the organisation of the curricular activities". A curriculum is considered successful if it is capable of building links between the school and the broader community.

Let us now discuss the how activities help in total development of the child -

1. Teaching-learning - Classroom learning is reinforced as it allows students to put

their knowledge and skills into practice. It facilitates the teaching of certain skills and the inculcation of certain values that may be difficult to present in a formal classroom setting.

2. Promoting students' personal development by broadening their interests, developing their potential and providing opportunities for character formation and leadership training.
3. Making school life more challenging and interesting by promoting students' social development by offering opportunities for the broadening of their social experiences. It is useful for socialisation of students as it offers the chance to practice social skills that helps in the internalisation of moral and social values.
4. Physical activities like running, football, volley ball etc. help not only in the physical fitness they also refresh the burdened mind. Games and Sports help the child to be fit and energetic.
5. Co-curricular activities guide students to organize and present an activity; how to develop skills, how to co-operate and co-ordinate in different situations; thus improve the sense of leadership in students and make them aware about their responsibilities. It also prepares one for perfect decision making.
6. Co-curricular activities stimulate playing, acting, singing, recitation, speaking and narrating, hence facilitating cultural development in students.
7. Activities like participation in debates, extempore, narration enable the students to express themselves freely. This is a valuable quality for future life.
8. Sports and games develop a positive sense in students and a sense of healthy competition is also developed for future life.
9. A deep sense of belongingness is developed in students through close interaction with the peers and teachers too.
10. Teaching-learning process in our country does not provide ample opportunity for practical exposure. Co-curricular activities bring a balance between theoretical and practical experiences thus help to provide motivation for learning.
11. The students go through various experiences while participating in the different activities under the school. If all the activities are planned and executed then the students invariably develops the habit of disciplinary life.
12. Almost all the activities are performed in group. The learners interact, share and collaborate to complete the course of action. This lead to inculcation of values to respects other's views and feelings.

Hence, all-round development of students may be achieved through effective introduction of Co-curricular activities. These activities act as avenues of socialization, self-identification and self-assessment, when the child comes in contact with organizers, fellow participants, teachers, and people outside the school during different activities. Co-curricular activities develop the values like physical, psychological, Ethical, academic, civic, social, aesthetic, cultural recreational and disciplinary values.

Role of a teacher in organising Co-curricular activities

1. The teacher must be a good planner so that the different activities could be carried out systematically throughout the year.
2. It should be the duty of the teacher to give more and more opportunity to the child while performing co-curricular activities.
3. The Teacher should act as innovator by introducing some innovative programmes.
4. The teacher must be a good organiser so that the students experience maximum of it.
5. The concerned teacher should act like as director, recorder, evaluator, manager, decision maker, advisor, motivator, communicator, coordinator, so that the student and child could gain the utmost of the finer aspects of Co-curricular activities.

Some Examples of Co-Curricular Activities in Indian Schools and Colleges

Sports, Yoga, Athletics, NCC, NSS

Musical activities – singing and dance

School cleaning and decoration

Annual Gathering in schools and colleges

Morning Assembly Programmes

Spot drawing and painting competition

Quiz Competition, Debate, Recitation, elocution competitions, Story writing competition and Essay writing competition

Exhibitions, Poster competition, Display of material on Bulletin Board

Fancy dress competition

Film and slide shows, Photography

Bicycling, Gardening, Cricket, Football, Basketball, Volleyball, Kabaddi, Kho kho, Hand ball

Preparation of chart & models, Album making, Clay modelling and Toy making

Survey and social service in neighbourhood

Organizing school Panchayat and Student self-government

Excursions, Trips to place of geographical, historical, economic or cultural interest

SOME LIMITATIONS

Co-curricular activities are not evaluated systematically, so some students and parents too think that participation in these activities is mere wastage of time and these activities interfere with studies too.

Teachers are often over-burdened with the academic responsibilities and cannot arrange the Co-curricular activities due to inadequate time.

In overcrowded class of Indian classrooms, teachers find difficult to organise sufficient number of activities involving each student.

These activities are not given any place in the school timetable. One practical problem is that different activities need different time-frame, this flexibility is not permissible in Indian education system.

Sometimes to participate in Co-curricular activities the student requires bearing some extra expenses. Students may not be economically well off to bear this additional expense.

Thus keeping in view the significance and relevance of co-curricular activities in education, it may be concluded that planning and execution of co-curricular activities require lot of time, innovative strategies, genuine involvement and interest of teachers. The teacher-coordinator should also have knowledge of Psychology. Co-curricular activities are practical experiences received by students. Theoretical knowledge, to great extent gets strengthened when a relevant co-curricular activity is organized related to the content taught in the classroom. Intellectual aspects of personality are attempted to be accomplished in classroom, while aesthetic development, character building, spiritual growth, physical growth, moral values, creativity, etc. are supported by co-curricular activities. Co-curricular activities help to develop co-ordination, adjustment, speech fluency, extempore expressions, frankness and clarity in language and personality development among students both at the school as well as college levels.

Sometimes this seems to be a pressure for the subject teachers, there should be co-curricular activities coordinators in schools, serving exclusively for conduction co-curricular activities. He/she is responsible for organising the co-curricular activities of the school, helping to arrange and to coordinate inter-school activities and major school functions. The coordinator is held responsible for setting up of goals following directions and policies for the implementation of co-curricular activities. The co-ordinator also guides students towards development of proper concepts of co-curricular activities and encourages all the students to participate in the activities. The coordinator may need help of other subject teachers for successful implementation of co-curricular activities. The co-ordinator and the head of the institution should understand the strengths, interests and abilities of his/her fellow colleagues, as both of them are responsible for recruiting the necessary personnel for effective running of co-curricular activities.

1.6 Summary

We all know that curriculum is a very important factor of education. It is the basis of any educational system and is the road map to reach the goal of education. In this unit we have discussed various definitions of curriculum given by eminent educationists and curriculum developers. On the basis of various definitions an attempt is made to understand the nature of curriculum. When one wants to gain knowledge and understanding of any concept it becomes necessary to know the length and breadth of the concept. The scope of curriculum gives an idea about the various areas covered by curriculum. In the second sub unit we have discussed the determinants of curriculum. As we have already said curriculum is a very important aspect of education and education is highly influenced by a country's philosophy, society, economy, trade and commerce etc. In this part we tried to know the different factors which influence the development of the curriculum. The last sub unit of this introductory unit discusses the co-curricular activities, which happens to be very important in present educational perspective. In this subunit meaning of co-curricular activities, different types of CCA, the reason behind organising these activities and significance of co-curricular activities for students are discussed. Role of the teacher in organising and implementing co-curricular activities is also described in this subunit.

1.7 Self-Assessment Questions

1. What are the main components of education?
2. What is the etymological meaning of the term curriculum?
3. Define curriculum.

4. Give reasons for considering the need of the child as an important determiner of curriculum.
5. 'Curriculum is a dynamic process' – do you agree with the statement? Give reasons supporting your answer.
6. Mention the similarities between curriculum and syllabus.
7. Justify the concept of hidden curriculum in Indian Scenario.
8. Write a short note on written curriculum.
9. Define co-curricular activities.
10. Briefly mention the objectives of co-curricular activities for students.
11. Write the role of teacher for conducting co-curricular activities.

1. Explain the nature of curriculum.
2. Write a short essay on determinants of curriculum.
3. Compare and contrast between curriculum and syllabus.
4. Discuss different approaches of curriculum.
5. Describe different types of curriculum. Which one do you think is most appropriate for learners?
6. Mention the principles of organising co-curricular activities.
7. Elaborate the relevance of co-curricular activities in education.

1.8 References

Aggarwal, J.C., (1990). Curriculum Reforms in India. Doaba House, Delhi.

Bilbao, P. P., Lucido, P. I., Iringan, T. C., & Javier, R. B. (2008). Curriculum development. Philippines: Lorimar Publishing, Inc.

Bloom, Benjamin S. (1956). Taxonomy of educational objectives; the classification of educational goals. New York: Longmans, Green.

Bobbitt, F. (1918). The curriculum. Boston: Houghton Mifflin

Caswell, H. L., & Campbell, D. S. (1935). Curriculum development. New York: American Book.

Cortes, C.E. (1981) The societal curriculum: Implications for multiethnic educations. In Banks, J.A(ed.) Educations in the 80's: Multiethnic education. National Education Association.

Crow and Crow (1897). Human Development and learning New York, American Book Co.

Cunningham, P., & Allington, R. (1994). Classrooms that work. New York: HarperCollins College.

Dewey, J. (1916). Democracy and education: An introduction to the philosophy of education. New York: MacMillan.

Eisner, E.W. (1994) The educational imagination: On design and evaluation of school programs. (3rd.ed) New York: Macmillan.

Froebel, F. (1861) The Pedagogics of the Kindergarten (Ed. W. Lange in 2001). New York: D. Appleton.

Froebel, F. (1887) The Education of Man (trans. W. Hailmann). New York: D. Appleton.

Glatthorn, A. A., & Jailall, J. M. (2009). The principal as curriculum leader: Shaping what is taught and tested. Thousand Oaks, CA: Corwin Press.

G Terry Page; J B Thomas; A R Marshall (1977). International Dictionary of Education (1977). Kogan page, New York: Nichols Pub. Co.

Howell, K. W., & Evans, D. G. (1995). "Must instructionally useful performance assessment be based in the curriculum?": Comment. *Exceptional Children, 61*(4), 394–396.

Ivowi, U.M.O. (2009). Definition or meaning of curriculum (an I operational) definition suited for Nigeria. In Ivowi, U.M.O., Nwufo, Kate, Nwagbara.

Kelly, A. V. (1999). The curriculum: Theory and practice (4thed.). London: Paul Chapman Publishing Ltd.

McBrien, J. L., & Brandt, R. (Eds.). (1997). The language of learning: A guide to educational terms. Alexandria, VA: ASCD.

Mrunalini, T. Curriculum Development, New Delhi, Neel kamal Publications Pvt Ltd., 2017 New Delhi

Offorma, G.C. (ed) (2002). (Revised). Curriculum theory and planning. Enugu: Donze Press.

Olivia, P. F. (1997). Developing the curriculum (4th Ed.). New York, NY: Longman.

Offorma, G.C. (ed) (2002). (Revised). Curriculum theory and planning. Enugu: Donze Press.

Ragan, W. B. (1960). Modern elementary curriculum (Rev. ed.). New York: Henry Holt.

Report of the Secondary Education Commission (1952-1953), Ministry of education, Govt. of India, New Delhi: India.

T. P. Nunn (1923). The Contact Between Minds: A Metaphysical HypothesisC. Delisle Burns. - *International Journal of Ethics* 34 (1):88-89.

Tanner, D., & Tanner, L. (1995). Curriculum development: Theory and practice (3rd ed.). New York: Merrill.

Tyler, R. W. (1957). The curriculum then and now. In Proceedings of the 1956 Invitational Conference on Testing Problems. Princeton, NJ: Educational Testing Service.

Tyler, RW. (1971). Basic principle of curriculum and instruction. Chicago: The University of Chicago Press.

UNESCO publication entitled Preparing Text Book Manuscripts (1970)

Wheeler, D.K. (1978). Curriculum process. London: Hodder &Stoughton.

UNIT 2 ❑ Curriculum as a Process

Structure

2.1 Objectives

After studying the sub units, the students will be able to—

- ❑ Understand the concept of different bases of curriculum;
- ❑ identify the relationship between philosophical, psychological and sociological bases and education;
- ❑ mention the important guidelines to be followed for developing any curriculum design;
- ❑ state different approaches to curriculum development;

- ❑ describe the subject centred approach to curriculum development;
- ❑ discuss different designs under subject centred approach of curriculum development;
- ❑ define the broad fields approach to curriculum development;
- ❑ define the humanistic approach to curriculum development;
- ❑ understand the importance for assessing the educational needs;
- ❑ mention the sources for content selection;
- ❑ describe the process of selecting and organising learning experiences;
- ❑ discuss the process of curriculum evaluation.

2.2 Introduction

In unit 1 of this block you have studied the meaning nature and scope of curriculum. You have also studied the factors and determinants of curriculum. Curricular and co-curricular activities also form an important section of unit 1 of this block. In this second unit off the block we shall discuss the three different bases of curriculum development in detail, namely philosophical sociological and the psychological base of curriculum development. in this section the major approaches to curriculum development that is Subject centred Approach, Broad Fields Approach and Humanistic Approach will also be discussed. This unit also contains important discussion on the process of curriculum development which includes the assessment of educational needs, formulation of objectives, selection and organisation of content as well as learning experiences and evaluation. All the subunits are very important and interesting too. This will help the students to understand the base of foundation of curriculum development.

2.3 Bases of Curriculum - Philosophical, Sociological, Psychological

Bases are the forces that influence the minds of curriculum developers. These are the foundations of curriculum which set the external boundaries of knowledge of curriculum. These bases will determine - what constitutes valid source of information from which come accepted theories, principles and ideas relevant to the field of curriculum.

In this way, the bases influence the content and structure of the curriculum which reflects the society and culture of a country and this is the desire of any

society including us, that children should learn the habits, ideas, attitudes and skills of their society and culture. Educational institutions are the perfect mediums to impart these skills in a proper way. The duty of the teacher and the school is to provide them the set of experiences in the form of curriculum. The needs, knowledge and information of the society provide foundation or basis in the formation of curriculum, thus forming the bases of curriculum.

The purpose of curriculum planner and developers are to translate traditional norms, philosophies, ethics, knowledge and attitudes in the objectives of education and curriculum, the content, learning processes and the evaluation of elements of the curriculum. Here comes the significance of the bases or foundations of curriculum. The bases of curriculum are considered usually from philosophical, sociological and psychological points of view.

2.3.1 Philosophical Base

Philosophy means the love of wisdom; it also means the search for truth. This search is for the eternal truth that reveals the reality and general principles of life. Philosophy helps in understanding the realities and ideas of life and this world; and curriculum is called the dynamic side of philosophy.

Philosophy is the foundation of knowledge and it provides the theoretical basis for education. Philosophy is the search for wisdom and it is the mother of all disciplines. Education is the practical component of philosophy and curriculum is the component which helps to achieve the aim of education.

Philosophy is a systematic, vigorous, critical and objective study of the reality. Education borrows its theories from philosophy and uses curriculum to put this knowledge into practice.

The term curriculum implies the course of deeds, actions and experiences through which a child grows to maturity. It is the sum total of the selected activities needed for living successfully in the society; and all these activities comprise the curriculum. Curriculum includes all the activities required to develop an individual into social and responsible adult. The curriculum framers should have Knowledge of the desirable qualities for adults in a society. This knowledge of the desirable qualities in the society can be rightly estimated by philosophy. Here lies the basis of relationship between philosophy and curriculum. Philosophy discovers and determines what is good for mankind, which is projected in all goals of education.

The ultimate aim of Curriculum is to set the required principles, standards, knowledge, skills, and values to be attained in a particular course of study. Therefore like philosophy curriculum is also an ideal and not a concrete reality.

Curriculum itself is a complex concept having its own set of principles and theories. Curriculum comprises of a body of knowledge and skills which depends on different principles derived from philosophy, psychology and sociology. But philosophy probably has greater influence on curriculum development as it provides curriculum planners, educationists and teachers with the framework for planning, implementation and evaluation of Curriculum.

In decision making, philosophy provides the starting point. The philosophy of a curriculum planner, implementer or evaluator reflects his or her life experiences, common beliefs, social and economic background and education. Philosophical base as a foundation of curriculum aims at the all-round development of the individual. It is based on the philosophy of the nation. It reflects the ideals and aspirations of the people. It inculcates the desired ideals of life in the younger generation. It helps in the development of proper philosophy of life. It is in accordance with the aspiration level of the individual. Thus, it enables the learners to learn the desirable cultural values, intellectual virtues, societal norms and moral doctrine. It helps in the development of the personal and national character.

Various philosophical foundations of curriculum emphasises different aspects of curriculum. The selection of learning experiences according to the present needs, interests and activities of the child is emphasised under Naturalistic philosophy. Need centeredness or utilitarianism is the pivotal point in Pragmatic philosophy. Activity is the focus of project and basic curriculum. Idealistic curriculum reflects the cultural heritage and civilization of the whole human race.

Major philosophies and curriculum

There are different philosophies determine that influence curriculum in several ways. Idealism, Realism, Naturalism, Existentialism, Pragmatism etc. are the different philosophies that determine the goals of education.

Idealism and curriculum

It is one of the oldest school of thoughts which has its origin in Plato’s ideas. It stresses the mental moral and spiritual nature of an individual and his universe. Idealism emphasizes on the spiritual, mental and moral development of the individual and the self is the ultimate reality of individual experiences. It also emphasizes that social values are realised only when the individual recognises self as a part of the society. Disciplines like literature history, philosophy, religion, mathematics and arts are emphasized in idealist curriculum.

Realism and curriculum

Realists like John Locke and John Amos Comenius believe that education is the process of developing rational powers to their fullest so that the good life can be achieved and education should focus on essential and practical knowledge. Thus in realism great emphasis is put on understanding facts and ways of classifying knowledge. And curriculum should be able to train the individuals senses to develop ones natural powers. Idealist Curriculum consists of reading, writing, drawing, geography, astronomy, arithmetic, history ethics and law.

Naturalism and curriculum

Naturalists believe that truth can be discovered only through nature. Some proponents of naturalism Democritus, Epicurus, Hobbes, Spencer, Rousseau etc. who believed that human development should take place in accordance with the laws of nature. Education for the child should be practical preparation for life and should never be planned for mere development of concepts. Naturalist Curriculum should be planned in such a way so that the child may have first hand contact with the physical environment as knowledge acquired through experience is always superior to the knowledge supplied by traditional sources.

Existentialism and curriculum

This philosophy emphasizes on individual existence freedom of choice and personal responsibility. Concept of goodness truth and reality are individually defined as personal subjectivity prevails also the world. Soren Kierkegaard is known as the Father of existentialism. Aim of education according to Existentialism is to train the individual for significant and meaningful existence. As there are no universal guidelines for decision making, the student is encouraged to make independent decisions to make his existence authentic. The school of philosophy emphasizes subject centred curriculum along with literature, history, ethical values and arts for aesthetic expression. Curriculum should be transacted through experimentation, question answer method and self expressive activities.

Different schools of philosophy have always guided the expansion, growth, organization and management of education. Naturalism serves as the basis of the curriculum, idealism focuses on the nature of the learner and recommends the learning activity of the learner and the positive influence of the teacher, pragmatism suggests the change of knowledge because it is not permanent and realism recommends the acquisition of information about culture. These different schools of thought emphasizes on continuous construction and reconstruction of the curriculum.

Significance of the philosophical base

Aims of education are determined by philosophy of life or aim of life. Philosophy formulates the goals of life, and education offers suggestions how these goals are to be achieved. Aims of education change with the changing philosophy of life. The aim of Spartan system of education was to prepare patriotic citizens and soldiers. The Athenian system of education aimed at the cultural development of each individual.

Curriculum is a major tool of education, used for the modification of the students' behaviour and philosophy help in the process of finding new ways and basis for teachers and curriculum planner to modify their behaviour. Today the world emphasise on finding new ways through which man develops new concepts of reality and knowledge and form a new structure of knowledge. In this dynamic and changing time, a high value is given to discovery, invention and restructuring of knowledge and curriculum in new patterns.

It guides the curriculum planner on the basis of the philosophical and ideological belief of the society in the selection and construction of subject matter keeping in view the future demands and needs of the schools and help in the promoting of human life through social change in the behaviour of the students. Philosophy provides educators, teachers and curriculum makers with framework for planning, implementing and evaluating curriculum in schools.

Philosophy helps in answering what school are for, which subjects are important, how students should learn and what materials and methods should be used. It also helps in exploring new methods of teaching and devise ways to apply them in the classroom situation for better functioning of the teaching learning process. It also provides new ways and methods for the evaluation of student's achievement and evaluation of curriculum.

Philosophy determines the aims of education and curriculum determines how these aims can be attained, therefore, the curriculum is the means to accomplish the aims of education. Curriculum is to be determined by the educational objectives which are again determined by philosophy. Hence, the curriculum to be followed in schools has to conform to the prevailing philosophy of the nation and life. Thus, the issue of curriculum construction is successfully handled and solved by philosophical beliefs.

2.3.2 Sociological Base

"The school must become the child's habitat to be a miniature community and embryonic society" John Dewey (1916). The expectation and aspiration of a dynamic society are reflected through the educational system of a country. Education is process

that takes place in the society for the society and by the society. The changing nature of society has its impact on human culture as well as on education. Education has to adjust itself to the changing situations prevailing in society or else it will be a closed system isolated from life. In short, it will remain unrealistic, useless and without much meaning.

The individual depends upon the society for his existence and self-development. Sociology aims at explaining the inter-personal and group relationships. It explains the nature of occupational, religious and social groups of the nation or the state. It studies various social changes that are taking place within group life and analyses such processes of interaction as competition, Conflict, co-operation, accommodation and assimilation.

Society is an ever dynamic entity and sometimes changes take place very fast making difficult to cope with or to adjust. Schools are expected to understand these changes and reflect the same in its curriculum. In order to make school education more relevant, school curricula should address diversity, explosion of knowledge, social and educational reforms and education for all. Core values and needs of the Indian society are one important Sociological determinant of curriculum. Changing values of the people, Demands of the modern society, Good family, Ways of life, Democratic temper of the society, Faiths, Beliefs and the attitudes of the people are the parameters of social consideration in the curricula. Society grows and changes and as such these social changes must not only be reflected in education but also be influenced by it. Changes occur in the cultural sphere and every sector of natural life. Curriculum should reflect these relevant factors and promote desirable changes in the learners.

The social aim of education makes education an effective media of social control. Human society is dynamic, flexible and progressive. Keeping in mind the social changes the curriculum should reflect the social needs of the community; transmit the values and ideals that the society upholds and consider significant to be inherited by new generation.

Sociologists are of opinion that perhaps this is the most important foundation or base of curriculum as it helps the youngsters to participate efficiently in social life this view emphasise on inculcating in students the respect for different vocations and professions and creates the dignity of labour. It also helps develop the desirable social attitudes and aids them in promoting the social progress. It is socially utilitarian as each individual is assisted to achieve the optimum possible progress.

Social change and curriculum

Learners construct their knowledge through play, experiences and enquiry. The purpose of education is to create a safe environment through meaningful relationships among the child, parents and teacher. Every human being constructs their knowledge immersed in a social context. Teachers, peers, neighbours, parents and other adults forms an important part of this social setting. Children learn through social processes of constructing relationships between objects, events and people through interaction with others in such a way that these interactions help modify their perspectives. Factors like growth of technology structure of family and cultural diversity are important factors of social change that influence the process of curriculum development.

Growth of technology

Technology is the use of scientific knowledge to make tools and techniques that solve specific problems of mankind. Technological advancements have resulted in significant changes around the world. Technology has helped to open access to the sources of information resulting to self-education, environmental awareness, Change is the law of nature, and it is a universal phenomenon that every society experiences regularly even if any society strive for stability. Social change is likely to be influenced by many factors, including the introduction of technology. Technological Shift in the Worldwide Map also indicates the same.

Structure of family

Various factors, like urbanisation, industrialisation and modernisation influence family structure in India. Traditional joint family system, families of the urban and rural India are significantly influenced by the forces of development and change, though the pattern of change may be different. With the penetration of the different forms of media like, the Newspapers, the Television, the Radio, Internet, social media etc.; consumerism culture and market forces have helped individualism grow at a faster rate than ever. A high sense of individualism is also growing among section of the villagers and city dwellers and the members of family have started believing more in their individuality.

Cultural diversity

Cultural diversity helps us build bridges of trust, respect, and understanding across cultures. This indicates various “ways of being” that are not necessarily our own. This diversity makes our country a more interesting place to live in as people from diverse cultures interact with others and contribute language skills, new ways of thinking, new knowledge, and different experiences. Knowledge of Cultural diversity

is important in our country as workplaces, and schools consist of various cultural, racial, and ethnic groups. We can learn about different cultures from one another, but first, we must have a level of understanding about each other. Learning about other cultures helps us understand different perspectives within the world in which we live, more we understand acculturation takes place ultimately leading to change in our society.

Significance of the Sociological Base of curriculum

For any country, the curriculum should be reflective of the society and curriculum design in a way leads to social change. The society manifest through the curriculum and education, and the outcomes of the curriculum developers display the role of both of the above in curriculum development. Curriculum experts and developers are the part of the society therefore they are indirectly influenced by the society and culture. Their cultural standards, attitudes and beliefs leave deep impact on the curriculum and thereafter on individuals because the curriculum designers' personal viewpoints also influence various aspects of curriculum, namely - the selection of objectives, subject matter, teachers' role, teaching learning methods and the process of evaluation.

Sociological factors have highest impact on the content of curriculum and that is the reason that curriculum developers and planner both reflect and transfer their own culture in curriculum. Therefore a curriculum without the reflection of culture is not possible for that reason one should consider what characteristic of the culture should be the part of curriculum and what not. The social and cultural inspirations that affect curriculum designers consciously and unconsciously are apparent from the curriculum and their influence is profound.

Some vital problems and social issues, such as rapid growth of population, democratic values, urbanization, and management problems are considered as a source of content and information for the curriculum formulation.

The present and future trends, issues of national and international interests, Curriculum trends, Equality of educational opportunities in education and access to global education etc. are very important issues in curriculum and education that are taken into consideration in the Sociological basis of curriculum.

The relationship of curriculum and society is mutual and encompassing. Hence, to be relevant, the curricula should reflect and preserve the culture of society and its aspirations. At the same time, society should also imbibe the changes brought about by the formal institutions called schools. In considering the social foundations of curriculum, we must recognize that school is the most important institution that educates

the society after home, family, community etc. But schools are formal institutions that address more complex and interrelated societies.

Therefore it can be concluded, that social and cultural forces have deep effect upon the curriculum as well as education. To find how much and to what degree the society and culture affect the education system of that society is a controversial issue. Curriculum developers are part of the society and culture, therefore they should keep in mind that their decision regarding curriculum should be related to the individual needs and societal values.

2.3.3 Psychological Base

William Kilpatrick (1871-1965) – viewed curriculum as purposeful activities which are child-centred so the purpose of curriculum is child development and growth. Franklin Bobbit (1876-1956) - presented curriculum as a science that emphasizes on students' need and it should aim to develop the whole child. Thus curriculum is a tool which prepares children for adult life. A child centred curriculum needs education to become child-centred. Child-centred education as well as curriculum, to be ideally child-centred should have a strong psychological foundation in other words, it has to be psychologised.

Psychological foundation consists of the accumulated knowledge which guides the learning process and allows the teacher who is executing the curriculum to make intelligent decisions regarding the behaviour of the learner. Hence, psychological determinants of curriculum include - knowledge of the nature of the learner and learning process and the condition facilitating optimum learning, knowledge of growth and development, intelligence, and development capacities. Learning experiences should be provided in accordance with the mental development, interest and ability of the learner for making the curriculum child centred in ideal terms.

The age, physiological development, mental development, problems, needs of the learner – all these factors do have a strong relationship with the curriculum and all these influence curriculum intensely. Psychology is concerned with a basic question – How do people learn? The educational objectives are formulated in terms of the learner's behavioural changes. This is just an indication of how psychology is influencing educational thought and practice.

Learning Theories and Curriculum

Psychology has provided various avenues for better understanding of the teaching-learning process. Psychology as a discipline will be important for curriculum specialists as long as teaching and learning are important considerations in the process of

curriculum development. Psychology provides the theories and principles that influence students and teacher behaviour within the context of curriculum. Psychology forms the basis and background for understanding how an individual child interacts with persons and objects in the environment and the quality of interaction determines the amount and type of learning. The psychological foundation of curriculum unities all the elements of teaching-learning process and clarify some serious issues that crop up in the process of curriculum development. Regarding curricular decisions psychology forms the basis for teaching methods, teaching- learning materials and activities of learning. Major learning theories and their contribution to curriculum development is discussed in the following section.

i) Behaviorist theories

Behaviourist psychology considers that learning should be organized in a specific order for the students to experience success. The subject matter should be presented step by step with proper sequencing of task. Behaviourist theories deal with various aspect of stimulus - response and reinforcement scheme. Behaviourism is the first school of psychology, which studied the nature of learning. Behaviourists emphasized on conditioning behaviour of the learner by changing the environment to elicit selected responses. These theories were predominant in the first half of the twentieth century and have gained popularity with the advent of individualized education. Behaviour is likely to be influenced by the conditions under which learning takes place. With Selective reinforcement learning experiences can be controlled to create desired behavioural outcome. Hence we see that behaviourism has a major impact on education. Curriculum framers who believe in this school of thought use principles of behaviourism to create new educational programme. As a result we find successful implementation of these principles in teacher training programmes, educational technology courses, computer assisted instruction etc.

ii) Cognitivist theories

Theories in Cognitive psychology focus their attention on how individuals process information and manage thinking as learning constitutes of logical method for organizing and interpreting learning. According to this school of psychology teachers use a lot of thinking and problem solving skills in teaching and learning which are represented in practices like reflective thinking, creative thinking, intuitive thinking, discovery learning etc. Cognitive school of thought firmly believes that learning is cognitive in nature. It elucidates the process of human growth and development as cognitive, social, and psychological. The cognitive approach constitutes a logical method for organizing and interpreting learning. Piaget in 1950 described learning and development as a process of maturation, which continues and is based on previous growth. The

stages follow a hierarchical order and the attainment in each stage varies depending on the hereditary and environmental factors. He described the four cognitive stages of development from birth to maturity. First, Sensori-motor stage (birth to age 2) - The child begins to establish simple relations between objects and progresses from reflex operations and undifferentiated surroundings to complex sensori-motor action in relation to environmental patterns. Second, Pre-operational Stage (age 2 to 7) - The child begins to take on a symbolic meaning. Third, Concrete operational stage (ages 7 to 11) - The child learns to organize data into logical relationships and can learn concrete concepts in problem solving situations. Fourth, Formal operational stage (age 11 to onwards) - Child is able to perform formal and abstract operations. The adolescent can think logically about abstract ideas, formulate hypotheses and deduce possible consequences from them. Learning at this stage has no limitations and the individual can learn according to intellectual potential and environmental experiences.

iii) Humanist psychology

This school of psychology emphasizes on human attitudes and feelings, which comes under the affective domain of learning. Humanistic psychology concentrates on how learners can develop their human potential based on Gestalt psychology; where learning can be explained in term of the wholeness of the problem and where the environment is changing making the learner continuously recognize his/her perceptions. Schools are considered as miniature societies that exist within the social context therefore schools and their curricula are significantly influenced by societal culture. The curriculum and society shares a mutual and encompassing relationship hence a relevant curriculum should reflect and preserve the culture of the society and its aspirations.

These theories view the total organism in relationship to the environment, and the personal meaning constructed in a given situation. Learning is explained in term of the “wholeness” of the problem. Human beings do not respond to isolated stimuli but to an organization or pattern of stimuli. However, in the actual teaching-learning situation, this learning model seems to be incomplete as something is lost when implemented in the classroom situation. It is a known fact that many schools are not pleasant places for learners and that quality of student life in the classrooms can be improved. Curriculum specialists must understand that school should be a place where one is free to ask questions, not afraid of being wrong, and not-afraid of taking cognitive risks and playing with ideas. To be sure, schools should be more humane places where students can fulfil their human potentials.

Selection of curriculum content materials or subject matter and its organisation are based on various theories of psychology; theories of learning are conditioning,

trial and error, insight etc. and the laws of learning, such as Law of readiness, law of exercise and law of effect, law of remembering and forgetting etc. Again the theories of interest and attention, transfer of learning, growth and development of physical and mental capacities, intelligence, creativity and personality development are equally important to guide learning of the student. All educators, curriculum planners, psychologists share similar views that curriculum should be organised on the theories of learning and motivation and on the aptitudes and abilities of the learners. Curriculum constructors suggested that if curriculum is planned based on the above mentioned theories and laws of psychology then the curriculum they plan is a psychologically approved one.

Earlier curriculum for child development and learning was developed in traditional ways without keeping in view the psychological implication in the development of curriculum. But with the introduction of child-centric education, the purpose of psychology has broadened and role of psychologist has expanded in the field of studying human behaviour. It Investigates and explains the behaviour of animate creatures. Hence, curriculum needs educational psychology to provide information particularly in formulating the objectives of education, understanding characteristics of the students, planning the methods of teaching according to the learning processes of children.

While formulating the curriculum some questions generally crop up. These are –

Does the curriculum meet the objectives of all round development of learners?

Is the curriculum planned keeping is view the needs and interest of the learners?

Is it sequenced according to the age and particular stage of the development of the learners?

Is it flexible enough to make allowances for the individual differences among learners?

Does it cultivate a sense of innovation, independent and divergent thinking in individuals?

Does it take into consideration the background and input behaviour of the learners?

To give a strong psychological base the curriculum should fulfil all the above mentioned conditions.

Significance of the Psychological Base of curriculum

At present psychology is the core element of all the learning processes; curriculum development, child's mental development, teaching methods, learning theories, administration of education system and planning, character building of the students and attitude of students and teachers. Even the use of different technologies in teaching-learning process is controlled by principles of psychology.

Every student is different in nature, so they can't be treated alike in teaching learning process, some may be fast learner while others may be slow. Psychological foundation is based on the individual differences. It is very true that every student has own unique personality and is different in their learning and acquisition of skills. Therefore the curriculum should be based on the above facts, and it should be designed to support the capacity and potentialities of all the students, which is impossible without a psychological base in curriculum.

Psychology play a vital role in the teaching learning process it is the foundation for all type of education related programme. Psychology helps to determine the methods of teaching, the selection of content and methods, the theories of learning and the overall development of the students according to the norms of the society.

Today, the researchers and Scholars are using experimental approach to find new ways of teaching learning process, how students learn under different conditions. Finding new ways and materials from the analysis of teaching learning problem and formulating new approaches for teaching and learning process is not feasible without psychological foundation and experimental psychology, a very popular branch of psychology helps in this regard.

Thus in a nutshell, it can be said that the impact of psychological sources on the foundations of curriculum is more than significant and still on the rise. The principles, concepts, processes of psychology have immense influence in curriculum construction and with each day it is becoming increasingly more relevant, meaningful and unavoidable. Psychology helps in all fields of education and it is also applied in practical classroom situation as well as in the curriculum development process by defining teaching materials and methods.

After an elaborate discussion on all the three foundations or bases of curriculum, it may be summed up by one single statement that each of the three bases has got their significance both individually and collectively. The concept of curriculum development is equally influenced by these three bases. Philosophical base takes care of the aims and goals of curriculum. The child is the primary and sole concern of the psychological base. The sociological base takes care of the place where a child is

born and attains maturity. So it can be said the three bases are continuously influencing the curriculum development process.

2.4 Major approaches to curriculum: Subject centred, Broad fields approach, Humanistic approach

Approach means the way of dealing with something and it is the way of doing or thinking as per Webster dictionary. When we are referring curriculum development then approach is the way dealing with the curriculum and it includes thinking, creating and designing a curriculum. Curriculum planners and developers main use one or more approaches in planning implementing and evaluating the curriculum. Teachers and curriculum practitioner's have accepted the major curriculum design models which are implemented through different approaches of curriculum. The approach to the curriculum determines how the design should be utilised and implemented.

Curriculum developers and implementers use one or more approaches in planning, designing, implementing and evaluating the curriculum. Different curriculum approaches lays emphasis on the importance of planning in curriculum design.

The components of curriculum can be organised in various ways. Different modes of organisation have generated different approaches to curriculum. Three major approaches in curriculum design are discussed here. Before discussing the major approaches of curriculum design we should understand the basic steps to be followed in designing a curriculum. A committee for designing the Curriculum should be appointed to monitor the developmental process of curriculum design. This committee should include teachers, parents and administrators and if necessary some students too. Some important guidelines to be followed for developing any curriculum design are mentioned here.

1. The curriculum design committee should conduct meetings in the early stages and establish a sense of vision and mission or purpose.
2. While designing curriculum, the committee should address the needs and priorities in relation to the students and society.
3. Goals and objectives of the school should serve as the guiding criteria for curriculum design. The curriculum should be at par to the broad educational philosophy.
4. The design should reveal expected cognitive, affective and psychomotor skills so that the teachers may gain insight into the new and modified design.

6. The curriculum design process should also be supported by the principal.
7. Administrators from district and state should have peripheral impact on the curriculum design, as established policies, rules and regulations have important impact on curriculum and instruction.
8. Comparison with alternative curriculum design should be done to find out cost, class size, facilities, personnel required etc.

Three basic curriculum designs:

2.4.1 Subject centred designs

Knowledge and content are well accepted as integral parts of the curriculum hence this group of design is most popular and are widely used for organising educational experiences. In this design the subject matter is considered as the basis around which learning experiences are organised. There is a very strong tradition of knowledge or content in our culture and content or subject matter is considered as central to schooling. Let us discuss briefly the sub-categories of designs under subject centred design.

1. Subject designs

Subject designs are oldest and best known. This design is well known to teachers as well as persons responsible for text book treatment or preparation of study materials. It is believed that human being is unique and distinctive due to his intellect and fulfilment of that intellect takes place through searching and attainment of knowledge. In mid 1930s Robert Hutchins prescribed language, mathematics, sciences, history and foreign languages would comprise a curriculum design. Since 1980s to till date, due to knowledge explosion subject divisions have increased in number. The teacher usually assumes a very active role, using lecture, recitation, group discussions etc. as major instructional techniques. This category of curriculum design is criticized as it prevents individualisation of the programme and the learner too is not centrally placed in the programme.

Strengths

1. Introduces students to essential knowledge of society.
2. Easy to deliver
3. Textbook and materials are commercially available.

Weaknesses

1. Do not allow students to choose the content which is most meaningful to them.

2. Presented without consideration of context.
3. Fails to foster social, psychological and physical development.
4. Neglects students' needs, interest and experiences.

2. Discipline designs

In this design only academic disciplines were emphasised. This new design grew rapidly during 1950s and became very popular during mid 1960s. But its popularity was tarnished during student protests of 1970. One important reason for this downfall may be over stress on disciplined knowledge that seems like a command to teach only the disciplines of Science, Mathematics, English, History and so on. For example Students would approach History as a historian and investigate biological topics by following procedures used by biologists.

This design lays stress on understanding the conceptual structures and processes of the disciplines. This category of design encourages students to see the basic logic or structure of each discipline i.e. the key relationships, concepts and principles and thus develops a deep understanding of the content.

Strength : Students master the content areas and are able to continue their learning independently.

Weaknesses : A lot of knowledge cannot be classified as 'disciplined'; example aesthetics, humanism, personal- social living etc.

3. Broad-field design

This subcategory of curriculum design is another variation of subject-centred design. This approach developed as an effort to rectify the fragmentation caused by subject design. In this design an attempt was made to integrate content logically. Broad-field approach evolved as an attempt to bring together the subject matter, knowledge and understandings into a broad organization. Thus, subjects like geography, history, political science, economics, sociology, anthropology etc. were considered under a single umbrella term social studies. The main focus of this design was to give students a sweeping understanding of all content areas and try to integrate contents that fit together logically.

Strength : This design is simple and students can learn wide area of knowledge. Knowledge will no longer be fragmented or linear even if multi-disciplinary and multidimensional.

Weaknesses : The depth of knowledge is insufficient because if a student study

economics for one year will surely acquire more knowledge of economics in comparison to one year spent on learning social studies.

4. Correlation design

This particular design lies somewhere in the middle of 'separate subjects' and 'total content integration'. It attempts to identify ways to relate subjects but maintain their separate identities. For example students in a physics course may have a unit in mathematics that deals with those concepts of mathematics required to conduct an experiment in chemistry. Subjects that can be studied in correlation are Science and mathematics; literature and history etc. In this group of design the core or content of the subject is retained but the content is selected on the basis of broad and general themes. For successful implementation of this design, teachers of various content areas work together and have students working on assignments of different but related content areas.

Strengths

1. This category of Curriculum design is innovative and attractive.
2. Collaborative effort and interaction between teachers help to develop good relationship.

Weaknesses

1. It is time consuming and teachers often are from separate disciplines and departments, scheduling difficulties are common.
2. Correlating different subjects and working together in one class requires a lot of planning.
3. Most class schedules do not allow sufficient time for students to study meaningfully correlated subjects.

5. Process designs

In this category of design the procedures and the processes by which students gain knowledge are considered to be important. Thinking process has always been considered important in education and students are taught to think in schools. Students learning process is equally important to what should be learnt and this process of learning is the core of this design. For example - biological procedures to learn biology, ethnographic procedures to study culture and society are employed.

Strengths

1. This design enables teachers to analyse reality, create frameworks to derive knowledge.

2. The students can be made aware of the different learning processes so that they may take decision about their own process of learning.
3. Thinking qualities like fostering critical thinking, rational thinking and problem solving capacities develop through this design.

Weaknesses : Difficult to analyse validity of students' conclusion individually.

2.4.2 Learner centred designs

In early 19th century educator asserted that students are the centre or focus of all educational programmes. These designs can better be followed in the primary level of education, where student is considered as the centre of the process, but it becomes difficult to follow in the secondary level of education where the content or subjects are more emphasised.

a) Child centred design : This design advocates that the students must be active in their learning environments. Learning should be closely linked with students' life. This can be done successfully if is based on students needs and interests. Many proponents of this design laid emphasis on learning by doing for self-realization and social participation. The curriculum based on this design is child centred and experience centred.

It is believed that effective learning did not require strict discipline as child's innate tendency is to become engaged with interesting knowledge.

This design is organised around human impulses like to socialize, to construct, to inquire, to experiment, to express and to create.

Strengths: The process of education centres round the child; here lies the strength of the design.

Weaknesses: Social demands and requirements are also considered in this design.

b) Experience centre design : This design is similar to child centred design to a certain extent but the major difference is that experiences based on needs and interests of children cannot be anticipated, therefore no fixed curriculum framework can be planned for all children. Thus in this design curriculum is not pre-planned rather it is 'on the spot' decision. Teachers have faith in each student's uniqueness. Teachers design potential experiences for students to consider.

Strength: Students design their own learning, construct and revise their knowledge through direct participation and active observation.

Weakness: Every time the teacher has to search for starting points. It is very important as the teacher has to understand the previous knowledge of the learner, interest of students should be linked to formalized knowledge.

c) Romantic or radical design : Radical curricularists believe that learning is a reflective process and which cannot be externally imposed by a person or institution in power. Ideally education should lead to freedom and emancipation. In this particular curriculum design knowledge is not considered to be a finished product in a course of study or syllabus. Learning results from interaction between people. Radicals view the general society as corrupt and repressive. Hence this category of curriculum design advocates students' active involvement with the content, engaging into a dialogue with teachers and fellow students. Teachers ask relevant questions to evaluate knowledge and students should accept responsibility for educating themselves and demand freedom.

Strengths

i. Students learn ways of engaging in a critique of knowledge.
ii. Learning is reflective hence no longer the students have to follow the social conventions without thought for reflections.

d) Humanistic design : Most of the humanistic designs are associated with humanistic psychology that developed in 1950 against behavioural psychology. According to this category of Curriculum design human action was considered to be much more than simply a response to a stimulus so the focus of attention should be subjective nature of human existence. In this design the main emphasis is on the disciplines and individuals are allowed to become full functioning persons. The emphasis is on human potential hence students are empowered by actively involving them in their own growth process. Teachers provide environment that encourages genuineness, empathy and respect. Students approach problems with flexibility and intelligence, work cooperatively but do not need others approval and mistakes are accepted as part of the learning process. Education in this design should address pleasure and desire and curriculum should elicit emotion. Humanistic designs also mentions that cognitive, affective and psychomotor domains are interconnected and follows a specific hierarchy while attainment.

Strengths

i. Education is a successful combination of affective and cognitive domains so, teachers must permit students to feel, value and grow while learning.
ii. This approach adds affective components like feelings, attitudes and values making education and learning more humane.

Weaknesses

i. Overemphasis on the individual ignoring societies needs.

ii. Require teachers with great skills and competence in dealing with individuals.

2.4.3 Problem centred designs

This category of design focuses on the problems of institutional and group life. These designs are organised to reinforce cultural traditions and also address those needs that are currently unmet. These designs often cut across subject boundaries as content is selected and planned even before the arrival of the students. Needs, concerns and abilities of students are considered to be important areas in this design, thus emphasis is both on content and development of the learner. There may be different forms of problem centred designs emphasizing persistent life situations, contemporary social problems, areas of living, reconstruction of society etc.

a) Life situation designs : This design originated in 19th century in Herbert Spencer's writings on education for complete living. Three fundamental assumptions are found in this design; firstly, persistent life situations important for a society to function successfully, secondly, the students will be able to see direct relevance between content of study and aspects of community life; thirdly, the students will be directly involved in improvement of the society. The content is organised in ways that allow students to clearly view problem areas. This design uses learner's past and present experiences to help them analyse the basic aspects of living.

Strengths

1. It focuses on problem solving procedures of learning.
2. The process and content are effectively organised and integrated to help students view problem areas clearly.
3. Subject matter is closely related to real situations to increase relevance of the curriculum.

Weaknesses

1. Tends to indoctrinate youth to accept existing conditions, thus perpetuates the social status quo.
2. Another important problem is to determine the scope and sequence of the essential areas of life.
3. Teachers need to be adequately trained to implement is design at the same time textbooks and other teaching-learning materials cannot help in implementation of this design.

2. Core design

This design centres on general education and basic problems arising out of human activities. Content is an important part of this design, the common needs problems and concerns of the learners are of central concern.

Strengths

1. These designs unify content and present relevant subject matter to learners.
2. It fosters intrinsic motivation as it presents subject matter in a relevant form.
3. Students learn democratic practices as they can view community as a laboratory for learning.

Weaknesses

1. Requires materials that are difficult to find in conventional textbooks.
2. It requires exceptional teacher having wide knowledge of subject matter, skills of problem solving and general knowledge.
3. Reconstructionist design

Curriculum workers in this design believe that through the curriculum educators will affect social change and ultimately a more just society will be created. It was believed that the school should help the individual to be a social being and a skilled planner of social reality. This design advocates that curriculum should foster social action, aimed at reconstructing society. It encourages industrial and political changes and also suggested that students should be involved in creating a more equitable society.

In a nutshell, it can be stated that, curriculum design is a complex process and request careful attention on the part of the educators. Any curriculum design can be successful if it can identify those worthwhile and essential, concepts, attitudes and skills; which help the students in their growth and development.

Every curriculum design has some history and philosophy is there background. There are different sub-categories under each of the three subject centred, learner centred and problem centred designs. Each group of design has got their own pros and cons. But it is difficult to follow a single design in practical life situation, therefore some schools mould these designs to construct a unique curriculum process that will suit the specific requirement of the school and its students.

Design	Curricular Emphasis	Underlying Philosophy	Source	Spokes people
Subject	Separate Subjects	Essentialism Perennialism	Science Knowledge	Harris, Hutchins
Discipline	Scholarly disciplines	Essentialism Perennialism	Knowledge, Science	Brunner, Phenix, Schwab, Taba
Broad-Fields	Interdisciplinary subjects and scholarly disciplines	Essentialism Progressivism	Knowledge	Broudy, Dewey
Correlation	Separate subjects, disciplines linked but identities maintained	Essentialism Progressivism	Knowledge	Alberty and Alberty
Process	Procedural Knowledge of various disciplines, ways of thinking	Progressivism	Psychology, Knowledge	Adams, Dewey, Papert
Child-Centered	Child's interest & needs	Progressivism	Child	Dewey, Parker Kilpatrick,
Experience	Child interest & Experiences	Progressivism	Child	Dewey, Rugg, Schumaker
Radical	Child interest & Experiences	Reconstruc-tionism	Child, Society	Freire, Habermss, Hole, Illich
Humanistic	Experiences, interest needs of person & group	Reconstruc-tionism, Existentialism	Psychology, Child, Society	Combs, Fantini, Maslow, Rogers
Life-Situations	Life (social) Problems	Reconstruc-tionism,	Society	Spencer
Reconstructionist	Focus on society and its problems	Reconstruc-tionism,	Society, Eternal Truths	Apple, Brameld, Counts, Rugg

Source : https://www.slideshare.net/TharhaniGobinathan/curriculum-design-74097159

2.5 Process of Curriculum development

2.5.1 Assessment of educational needs

Need assessment is an important task in determining what the curriculum should prescribe for a given population for a period of time. Every education system is based on some philosophy which helps in the formulation of goals and objectives, which is once again very important to give a definite direction to the curriculum. Before determining the goal of Curriculum, a basic process of need assessment is very important for curriculum development. The degree to which the stated philosophy of education can be followed and implemented and the degree to which the goals can be achieved depend on need assessment. For assessing need, authentic data should be collected by using objective methods and techniques. Perception of students, parents and educators should be included in the need assessment process. Opinion of students, parents and educators may be subjective so the process of need assessment should be analysed scientifically.

Need indicates any necessity of an organism to lead a healthy life. For example air, water, food, clothing, shelter etc. are considered as needs as these are required for a safe, secured and healthy life. As need implies necessity any deficiency may cause a clear adverse outcome that may lead to dysfunction or even death.

Needs are frequently viewed in different categories. These are felt needs, real needs and observed needs.

Felt needs can be simply described as wishes and hopes of human beings which a person thinks to be necessary for his life. These needs are self defined by each person as being important to them. An individual often describes a felt need to be ‘want’ for him. Drinking water, schooling, higher education, road and communication, employment etc. are included under the category of felt needs.

Real needs are real qualities a person needs to develop to fulfil the wishes he desires. Examination of purity of water and the knowledge to treat water, personal cleanliness, maternal and child health education etc. are the real names of individuals.

Observed needs are also termed as normative need and this need is often perceived by others. Persons who are considered as authorities, experts or significant others define something to be important and then it is considered as observed need. For example model fashion. Approach means the way of dealing with something and it is the way of doing or thinking as per Webster dictionary. When we are referring curriculum development then approach is the way dealing with the curriculum and it

includes thinking, creating and designing a curriculum. Curriculum planners and developers main use one or more approaches in planning implementing and evaluating the curriculum. Teachers and curriculum practitioner's have accepted the major curriculum design models which are implemented through different approaches of curriculum. The approach to the curriculum determines how the design should be utilised and implemented.

Curriculum developers and implementers use one or more approaches in planning, designing, implementing and evaluating the curriculum. Different curriculum approaches lays emphasis on the importance of planning in curriculum design. For example modern fashion, Health education on environmental sanitation, health services, safe drinking water, knowledge on various diseases, desirable body weight and attractiveness comes under observed needs.

2.5.2 Formulation of Educational objectives

Formulation of objectives is based on the philosophy and need assessment. After this, the identified needs are then transformed into goals and objectives. Goals are the general statements of the results of educational endeavours and these form the basis for educational planning. When goal statements are made more specific then only we get educational objectives and objectives are made even more specific in behavioural terms to make them attainable. Goals and objectives can be distinguished very easily as goals are general and objectives are specific. Goals are determined philosophically and are related to all aspects of the learning situation beginning from the development of an overall curriculum plan to lesson plans used in the classroom. Hence, we can say goals are generated on the basis of philosophy and specific objectives are formulated on the basis of goals.

The three major sources of objective formulation namely Society, individual and knowledge are discussed here.

Society

The objectives of education are determined broadly by society at the local and the national level. Such needs are preservation and transmission of cultural heritage, implant the democratic values of life and augment the impact of science and technology and other innovations. Social needs are essentially taken into consideration while planning and developing curriculum to develop the competences and qualities in learners.

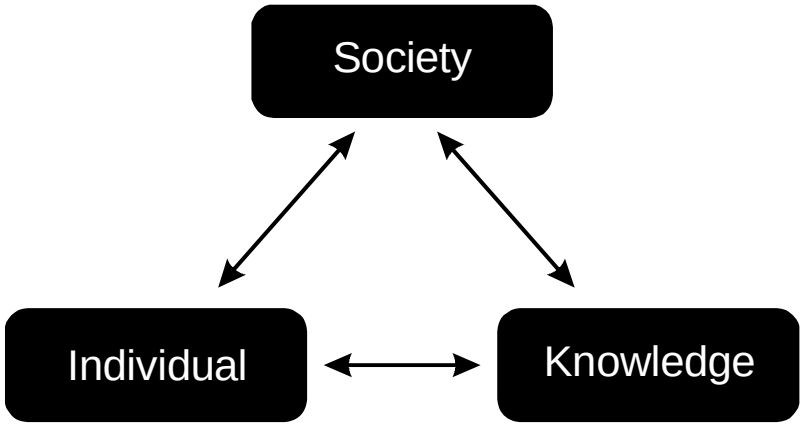
Individual

Society determines the basic requirements of education following that it is the individual whose needs are reflected through the society. There are certain other needs of the individuals like physical and psychological growth of the students which may be grouped as self-development or self-fulfilment. Psychological growth consists of cognitive, affective and psychomotor aspects which need to be considered while determining educational objectives. Some thinkers believe that an individual has some spiritual needs too. Therefore it is desirable to provide him some opportunity to fulfil these spiritual needs too.

Knowledge

In the absence of knowledge, there cannot be any growth of civilization hence knowledge is the most important condition to growth of civilization. Knowledge has its own categories such as facts, processes, basic ideas, concepts, thought systems, etc. The nature of knowledge i.e. subject matter is one of the most important considerations in formulating educational objectives.

Therefore it may be safely stated that there is a close relationship between society, knowledge and individual influencing each other.



Society is a dynamic concept and keeps on changing and the individual has to cope to exist in society. Knowledge helps the individual to adjust in society without sacrificing his individuality. The character of knowledge is related to and is determined by individual and social welfare.

2.5.2 Formulation of Educational Objectives

A learning *objective* should describe what students should know or able to understand and should take into consideration factors like – Matching, Worth, Wording, Appropriateness, Logical Grouping and Revision while formulating educational objectives

Formulating Educational Objectives
Matching
Worth
Wording
Appropriateness
Logical Grouping
Periodical Revision

These factors are briefly discussed here—

Matching: Specific objectives identified to any specific content should be related to the broader or ultimate goals of education from which they had been originally derived.

Worth: Worth or value relates to whether attaining the pre-specified objectives have significant value in the life of the learner at present or in future. The quality of life is gradually improving with time as a result our knowledge base is continually changing, the objectives need to be re-evaluated and modified. The objectives should be meaningful, beneficial, constructive and relevant to the demand and requirement of the learners.

Wording: Pre-specified objectives are expressed in statements of specific pattern. The objectives should be formulated and phrased properly, so that young learners can easily understand the expected outcomes already planned.

Appropriateness: The needs and interests of the learners should be the source of the pre-specified objectives. The objectives should be appropriately chosen. Lack of clarity in an objective may create confusion in the minds of the teachers, the students and other stakeholders. This may adversely affect the process of Curriculum Development.

Logical grouping: Proper organisation and coherence is required in formulation of objectives. Each content area caters to the development of different knowledge,

understanding and application areas. Therefore, objectives need to be grouped according to some common idea or in terms of domains - cognitive, affective and psychomotor. Consistent and sensible grouping of the objectives will help develop a more effective curriculum.

Revision: At present every society and economy is changing very fast causing changes in students' needs, sphere of knowledge, instructional techniques and strategies; thus making revision in objectives to be obvious. Curriculum development is an ongoing process and to keep this process dynamic revision of objectives is mandatory. This will have a recurrent impact on the curriculum keeping it flexible and updated to handle the latest demands in the society successfully.

When objectives reflect specific behaviour in the form of a statement then it is known as behavioural objective. A Behavioural objective helps the learner to know and understand what is expected of him and it also describes what the learner has to do at the time of learning.

Any discussion on formulation of educational or behavioural objectives can not be considered as complete without considering Bloom's Taxonomy

In 1956 under the competent leadership of educational psychologist, Dr Benjamin Bloom, Bloom's Taxonomy was formulated in order to promote higher forms of thinking in education. This system of classification helped in analyzing and evaluating concepts, processes, procedures, and principles, apart from just remembering facts or rote learning. This taxonomy is often used when designing educational, training, and learning processes. Three *domains* of educational activities or learning (Bloom, et al. 1956) are Cognitive Domain- considering Mental skills (knowledge), Affective Domain Growth in feelings or emotional areas (attitude or self) and Psychomotor Domain Manual or physical skills (skills).

2.5.3 Selection and organisation of content

Content should be selected on the basis of students day to day life experiences so that students can apply the acquired knowledge in their day to day life. Content selection should be based on aims, goals and objectives. Content selection is based on various sources. Some of these sources are briefly discussed here —

Knowledge as a source : The domain of knowledge itself is considered as an important source of Curriculum content as no particular content should be left out. Knowledge can be disciplinary and interdisciplinary. Disciplined knowledge has content organised in a particular structure, unique to that discipline. For example the methods of inquiry of a discipline like physics or literature is specific to that discipline only,

whereas interdisciplinary knowledge does not have a unique content or method of inquiry. These disciplines are somehow overlapping where content is taken from different disciplines and clustered around a focus of investigation for example sociology and education, bioinformatics and biotechnology etc.

Learner as a source of content : The child or the individual is of primary importance in content selection process. The individual is the centre of education, who should be motivated to create his or her own ideas. Education can only become learner centred if the curriculum focuses on how the learner learns, form attitudes, values, develop interests, create novel ideas etc. Although students' interests are transitory teachers should identify search interests which shall help the students to develop as socially useful citizens.

Society as a source of content : Analysis of the social situation and selecting content on the basis of social analysis gives curriculum a strong basis. Curriculum designers consider School as a miniature society and believe that curriculum content should be based on an understanding of the society. Children are born and grow up in society so curriculum should enable individuals to make a place for themselves in society at the same time curriculum should facilitate change or improvement of the social order. The role of teacher is very important as they act as agents for social change through the contents of curriculum.

After brief discussion of the sources some important criteria of content selection should also be mentioned here, which are as follows —

- Content selection should analyse the utility criterion which means the usefulness of the content. Usefulness is determined by a person's philosophical orientation.
- Learning ability is another very important criterion which is related to the appropriateness of the selected content. The content should be within the range of students' experiences so that the content can be easily grasped and assimilated by the students for whom it is intended.
- Feasibility is another important criterion of content selection. Whether the content is appropriate with reference to time allowed, whether adequate resources are available, availability of academic expertise, financial resources etc. are some of the components considered under this criterion. The curriculum framers may find a vast body of content important to be included in curriculum but factors like working days in academic calendar, size of classroom, number of teaching personnel etc are the limiting factors that need to be considered.

After selection of the content the next important task is to put the identified content in a particular sequence so that the pre-specified objectives can be realised. The desired objectives cannot be attained if a curriculum lacks systematic organisation. Logical sequencing and organisation of the curriculum is not an easy task as it requires an in-depth understanding of the teaching learning process. The curriculum framers often face problem in ideal organisation of the content as certain concepts are central to the content while some are prerequisites to other concepts, thus proper sequencing becomes a difficult and complex task. Again to some curriculum planners' content should be organised on the basis of psychological principle, hence content should be organised such that the concrete is experienced before the abstract or simple concepts should come before complex ones and so on. For proper sequencing of concepts different ideas should be related together in a logical manner. Again the events should be presented in chronological order so as to maintain a basis of sequencing the content and experiences.

Definite sequence, continuity and integration of various components should be effectively done to prepare a well organised curriculum. Continuity is the second aspect of curriculum that needs to be maintained by vertical repetition and recurring appearances of the content. This process helps to strengthen the permanency of learning in the learner. Jerome Bruner named this concept of continuity as the spiral curriculum. He stated ideas should be developed and redeveloped in a spiral fashion increasing depth and breadth of knowledge and skill in the learner; each time the learner go to the concepts off the content.

Next important aspect is the principle of integration. Human life is a series of emerging themes and every theme is integrated and interconnected. This sense of integration is also important in curriculum design. The boundaries or gaps between different disciplines of subject matter should be erased and isolation should be eliminated to give education an integrated nature.

Another thing that needs to be mentioned here is that too much or too little of these elements may be catastrophic to the curriculum therefore keeping a balance between content, time, experiences and all other elements is always desirable. This requires continuous review regarding the effectiveness and relevance of the curriculum.

2.5.4 Selection and organisation of learning experiences

After selection and organisation of content the next step in curriculum development is selection of appropriate learning experiences. To carry out the instructional programme successfully wide range of experiences should be offered so that that teacher can exercise flexibility in selecting curriculum experiences. At present

the border line between curricular and extracurricular activities has been removed and importance of both academic and non-academic activities is genuinely felt. The task of Curriculum framers has become more difficult as they have to plan for balanced and comprehensive instructional programme providing varied learning experiences. Following this it can be stated that curriculum should help in individual and personal development of the learner, inculcate social competence and should also develop skills for continued learning. For personal development different kinds of activities should be included in the curriculum, for example physical activities according to age and maturity. The curriculum framers should also include activities leading to better self -understanding. For developing social competence different subject areas like Science, Mathematics and Humanities should be effectively used. For developing the skills for continued learning, successful relationship should be developed between learning needs; and instructional programme should be structured on the basis of the nature or characteristics of the individual.

One important factor for selection of suitable experiences in the process of curriculum development is relevance. The experiences are considered to be useful if they reflect recent knowledge, social and cultural trends etc. The process of Curriculum development should be tuned to help students equip to face the future. In view of the goals and objectives of the programme some useful criteria for selection of curriculum experiences can be stated:

1. The knowledge and skills should be valid so that the learners can apply them in and out school situations.
2. Selected experiences should be feasible in terms of time, infrastructure, staff and other facilities in the school.
3. The learner should get optimal chance to learn the content. In other words, the students should be allowed to develop their power of thinking and rationality.
4. The learners' experiences should be organised in such a way so that they achieve a greater understanding of their own existence as individuals as well as responsible members of groups.
5. Experiences in the field of education should allow the students to broaden their interests and satisfy their needs. This will foster a sense of openness to new experiences and tolerance for diversity in learners.
6. Complete development in students can be achieved by including experiences leading to cognitive, affective, psychomotor, social and spiritual domains.

If this phase of Curriculum development is done as mentioned above then this will address social and security needs of the learners in a desired pattern, which

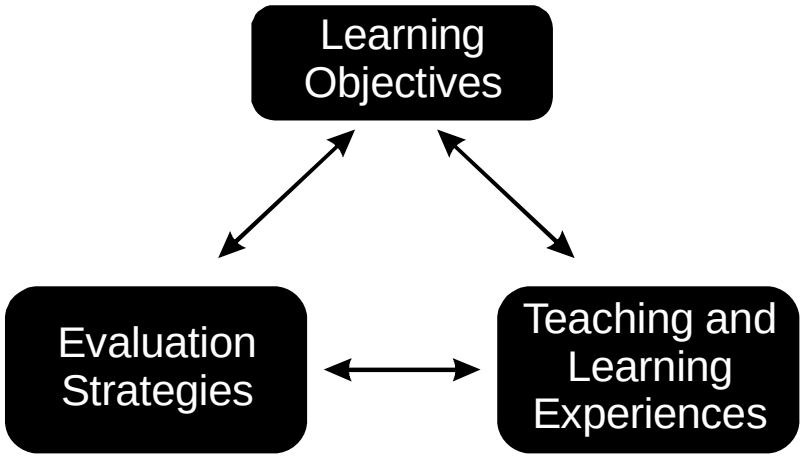
ultimately will instil in them a sense of appreciation and empathy for others. If learning experiences are organised scientifically then the activities selected for students will be meaningful and interesting. In order to translate the selected curricular experiences into reality a wide range of activities should be offered to facilitate learning. Among this wide range of activities the teacher will decide which instructional strategy to be adopted for a particular child. There should be more than one option both in method and teaching-learning appliances to be used. For example lecture, discussion, questioning, collaborative method, group work, library reading, field trips etc. are some of the instructional methods and chalkboard, maps, models, audio-visual aids, movie clips etc. are some of the teaching-learning appliances. The teacher and the students mutually decide which method and teaching learning material to be used to make the students experiences interesting and successful.

While organising learning experiences another important criterion should be kept in mind. The teacher should ensure that the need of the student population is met and the nature of the programme matches the pre-set goals and objectives.

2.5.5 Evaluation of the curriculum

In curriculum development programme evaluation aims to determine the extent to which the objectives are achieved through implementation of the curriculum. Evaluation of the curriculum can be ascertained by expressing the relationship between three major curricular components namely Objectives, Learning experiences (content and method) and outcome.

Three major curricular components of Evaluation.



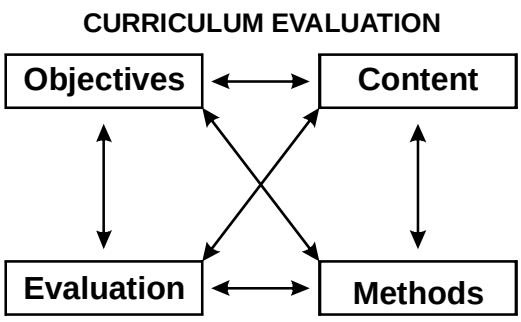
All these three components are interdependent and cannot be studied in isolation. One important outcome of this phase of Curriculum development is to provide useful feedback for improving the curriculum. Evaluation of Curriculum when conducted during the process of development is called formative evaluation. The feedback derived from formative evaluation can be used to accept, modify or reject different aspects of the curricular components.

Evaluation of learning and evaluation of instruction both are two important phases of Curriculum development.

Evaluation of learning implies the techniques by which student learning is evaluated. Tests, projects, multiple choice questions or MCQ etc. are some of the techniques popularly used. Which technique should be suitably used is determined by the degree to which they meet the needs of the specific student population. The extent to which instructional methods and materials used are matched is also analysed. Lastly, whether goals and objectives of the programme match the goals of the institution is also verified. The nature and type of expected learning should also be reflected through the curriculum evaluation programme along with the content of the course or programme.

The term evaluation is generally applied to the process of making a value judgment. Both curriculum evaluation and student evaluation are significant parts of evaluation. Curriculum evaluation is the process of evaluating the curriculum and it aims to examine the impact of implemented curriculum on student's achievement. Curriculum evaluation may be an internal activity and process conducted by the various units within the education system or external, that may be undertaken regularly by special committees or task forces. Student Evaluation connotes assessment or evaluation of student learning. Assessment of student learning could be formative or summative or both. There are various types of tests such as standardized tests, teacher-made tests, performance-based tests, ability tests etc. Methods of administration may be - oral, written, practical, discussions or any other form as required.

Curriculum Evaluation Model



Evaluation of instruction is equally effective and important as evaluation of learning. Evaluation of instruction can be done by review of students' work, student ratings of instruction, anecdotal comments and other records. For making effective changes and improvements in the instructional programme every aspect of the programme should be reviewed regularly and systematically.

2.6 Summary

The above section consists of three sub-sections. In the first sub-section the bases or foundation of curriculum is discussed. Meaning and significance of philosophical, psychological and sociological bases are described here. A student of education should have a clear idea about all these sections to understand the idea of curriculum and education separately as well as mutually. The second sub-section considers the major approaches to curriculum namely - subject centred, broad fields approach, humanistic approach. Curriculum approach is a way of dealing with a curriculum. It is a way of thinking, designing and creating a curriculum. Curriculum practitioners and implementers may use one or more approaches in planning, implementing, and evaluating the curriculum. Broadfields approach implies combining two or more subject areas into a single broad field. Subjects which are closely related are integrated to form a broad field. Subject-centered approach focus primarily on the subject matter and emphasises on bits and pieces of information which are may not be attached from life. The continuous quest of learning outside the formal system is not emphasized. Humanistic Approach Rooted in the progressive philosophy and child-centered movement Considers the formal or planned curriculum and the informal or hidden curriculum. It Considers the whole child and believes that in curriculum the total development of the individual is the prime consideration. In the third sub-section deals with the process of curriculum development. This section includes assessment of educational needs, formulation of objectives, selection and organization of content, selection and organization of learning experiences and evaluation. Formulation of Educational Objectives is done on the basis of Matching, Worth, Appropriateness and Logical Grouping. This is done on the foundation of Felt needs, Real needs and Observed needs. The content is organised following the principles of sequencing, continuity and integration. The curriculum development process closes with Evaluation, which can have conducted at Micro-level as well as Macro-level.

2.7 Self-Assessment Questions

1. What is the importance for assessing the educational needs?
2. Mention the sources for content selection.
3. Describe knowledge as a source for content selection.
4. Briefly describe the psychological base of curriculum.
5. Describe society as a source for content selection.
6. Describe the process of selecting and organising learning experiences.
7. Discuss the process of curriculum evaluation.
8. Describe different bases of curriculum.
9. Mention the different bases of curriculum. How these bases influence curriculum?
10. Mention the important guidelines to be followed for developing any curriculum design.
11. State different approaches to curriculum development.
12. Describe the subject centred approach to curriculum development
13. Discuss different designs under subject centred approach of curriculum development.
14. Describe the Broad fields approach to curriculum development Introduction.
15. Describe the Humanistic approach to curriculum development

2.8 References

Cronback, J. Lee (1964) : Evaluation for Course Improvement in New Curricula, New York : Harper & Row.

Dewey, J. (1916). Democracy and education: An introduction to the philosophy of education. New York : MacMillan.

J. Dewey (1966): The Child & the Curriculum -The School & Society, Phoenix, USA. Ornstein, C. &

Hunkins P. (1988) : Curriculum, Foundations, Principles and Issues, New Jersey, U.K.

Tanner, D. and Tanner, L. N. (1980). Curriculum Development : Theory into Practice. New York: Macmillan.

Schubert, W. H. (1986). Curriculum – Perspective, paradigm and possibility. New York: Macmillan Publishing Company.

Oliva, P. F. (1997). Developing the curriculum (4th ed.). Boston: Longman.

Bishop, G. (1985). Curriculum Development: A textbook for Students. London: The Macmillan Press

The international or encyclopedia of education (pp.1170-79) .Oxford: Pergamon Press.

UNIT 3 ❑ Major Approaches to Curriculum

Structure

3.1 Objectives

After going through the sub units the students will be able to :

- ❑ Mention the important features of curriculum transaction;
- ❑ describe the process of curriculum transaction;
- ❑ discuss the role of media in curriculum transaction;
- ❑ describe the different modes of curriculum transaction in classroom situation;
- ❑ evaluate a given curriculum or a part of it after considering different aspects;
- ❑ define curriculum planning;
- ❑ identify the major areas of consideration in curriculum planning;
- ❑ discuss the economic considerations in curriculum planning;
- ❑ justify the need of social and cultural considerations in curriculum planning;
- ❑ explain the process of system approach in curriculum development;

- ❑ describe the model developed by ralph tyler curriculum development;
- ❑ describe the characteristics of a system;
- ❑ examine the stages of system approach in curriculum development;
- ❑ mention the advantages of system approach in curriculum development.

3.2 Introduction

In the two previous units we have discussed the meaning and concepts of curriculum and its bases. In its broadest sense, curriculum refers to the "total learning experiences of individuals not only in school but society as well" (Bilbao *et al*., 2008). The process of curriculum development is described as planned, a purposeful, progressive, and systematic process to create positive improvements in the educational system. The curriculum is influenced every time there are changes or developments happening around the world. There is a need to update them to address the needs of the society. A curriculum is the instructional and the educative programme by following which the pupils achieve their goals, ideals and aspirations of life. It is curriculum through which the general aims of a school education receive concrete expression. Traditional concept-The traditional curriculum was subject- centered while the modern curriculum is child and life-centered. Curriculum is the instructional programme designed to meet the various requirements of a vast heterogeneous population. It is the courses of study that embodies the outlines of knowledge to be taught. Therefore, it is the sum total of experiences provided under the guidance of the school. The second unit deals with the bases of curriculum. Curriculum development is the most important component of educational programme. Bases of Curriculum development are the pillars upon which the foundation of curriculum is constructed. On the bases of Curriculum development, the content and methodology of education is decided. The root of planning any curriculum depends upon the fundamental ideas of Philosophy, Sociology and Psychology. Curriculum evaluation is the next step in the process of curriculum development. This unit will focus on curriculum transaction and curriculum evaluation, basic considerations in curriculum planning and stages for planning of curriculum development with special emphasis on system approach.

3.3 Curriculum Transaction and Curriculum Evaluation: A Continuum

People get educated both through formal and informal ways. In a formal

environment all sources of information keep influencing our mind so the more we focus on something the greater is our perception about it. While learning through informal ways is always a slow process. The learners have got their own specific needs and aspirations, to cater their needs within a specified span of time, organisations like schools and colleges have been set up. Selected chunks of knowledge and series of learning experiences carried out for educating the learners is known as curriculum. Curriculum transaction is the process of instructional planning and implementation.

Curriculum transaction is the process of putting into practice the set of activities listed or topics covered in the curriculum. This transaction of curriculum is a complicated task and all stakeholders specially the teachers need to reflect, visualise and plan. In order to make this process effective maximum utilisation of all physical, material, financial and human resources is required.

Curriculum cannot be developed in isolation. Issues related to socio-economic factors, environmental conditions help develop meaningful curriculum. The main purpose of the school system is to preserve and transmit the culture of the society; the curriculum helps to achieve this goal.

The curriculum has two important aspects to consider; firstly, what knowledge is most worth is to be preserved and transmitted and secondly how this worthy knowledge can be acquired or transmitted. Now this is the task of the curriculum planner to develop the curriculum according to the two considerations mentioned above.

The process of Curriculum transaction is based on national needs, nature of course of study and the social philosophy. The form of government, recommendation of national commissions and committees, along with the theory of human organisation also determines the process of Curriculum transaction. Another important element to be considered in curriculum transaction is the growth and development of students and type of examination suitable for them.

The process of curricular transaction requires a series of micro-operations performed by students, teachers, parents, School administrators, textbook writers etc. In this process the official curriculum gets transacted in various ways to the target group.

Curriculum according to different perspectives

In objective perspective curriculum is generally built around a set of assumptions about the knowledge, understanding and skill to be acquired and also the way it is acquired. This perspective knowledge is considered to be relatively known, fixed

and transmittable. Students generally demonstrate their mastery of knowledge through performance on tests.

In the constructive perspective knowledge is constructed by the learners through their experience. Learning is considered to be a social process where students construct meaningful concepts through interaction of prior knowledge and new information.

Curriculum can be based on any perspective mentioned above but Curriculum transaction or implementation is an indispensable tool for learning to take place. Curriculum transaction is a tough and complicated job.

Curriculum transaction is the effective and desired implementation of the curriculum contents on the basis of aims and objectives listed in the curriculum. It incorporates effective planning for providing suitable learning experiences for its learners. This process also includes organisation or planning, administration or implementation and evaluation of the implementation procedures conducted by teachers or experts in the relevant field.

3.3.1 Important features of Curriculum transaction:

1. Curriculum transaction is the process of planning and organising the curriculum in a particular subject area for different levels of education.
2. Curriculum transaction requires continuous monitoring while being implemented. It requires direct involvement of teaching staff and a considerable amount of reflection visualisation and planning during the transaction process.
3. Curriculum implementation process should also reflect the changing needs and aspirations of the people. A uniform curriculum for all countries and for all time is difficult to frame.
4. An efficient and effective curriculum transaction calls for maximum utilisation of all available resources – physical, natural, financial and human.
5. The process of Curriculum transaction needs to be based upon current social, economic, and political changes in a country.

From these features of Curriculum transaction it is clear that this process involves rigorous planning. The planning and development process takes into account a step by step procedure for teaching, the selection of learners, resources and facilities that lead to attainment of Pre-specified objectives. This planning phase also involves additions, deletions and interpretations about place, sequence and importance of the curriculum.

Effective curriculum transaction requires adequate planning along with clarity of thought and organisation. Those who are responsible for transaction should know the appropriate method of transaction. Curriculum transaction cannot be done single-handedly therefore each team member should be aware of his or her responsibility. Different levels of children need to be addressed in curriculum transaction which requires clarity in communication. The target group that is the group of children should be observed and understood so that every child can be accessed. Material organisation and appropriate room setup both are important for effective curriculum transaction. Time management again is another important aspect to be kept in mind in all the stages of Curriculum transaction. Persons responsible for transaction should be alert always. Review of the work and keeping alternatives ready are also important criteria in ideal curriculum transaction.

3.3.2 The process of curriculum transaction:

Curriculum is divided into a definite number of subjects for convenience of transaction. The topics and activities that fall under one subject altogether are known as syllabus. Text books are prepared based on this syllabus. Teacher teaches the portion of the syllabus allotted to him or her. By appropriate techniques and methods teachers transact the content of the textbook to the students thereby helping children to acquire appropriate knowledge, develop necessary skills and attitudes. This is actually the process of curriculum transaction. For effective transaction of curriculum, teacher should be competent enough in organising the activities and experiences of the learners.

Planning is an important part of curriculum transaction. While planning and developing of the curriculum the different variables, namely - learners, resources and facilities are taken into account so that students may be helped to attain the pre-specified objectives.

For clear understanding the process of curriculum transaction different aspects of planning need to be discussed.

1. Planning for instruction

In curriculum transaction planning is a process that gives both teachers and students a sense of direction. While planning both students and teachers become aware of the goals or specifically the learning objectives and this also helps in uninterrupted teaching-learning activities. Most of classroom management problems can be handled by consistent planning. In an ideal educational setup the specified objectives are stated in behavioural terms and teaching actions and strategies are

designed to achieve these pre-set objectives; which is ultimately measured in terms of student achievement. Planning results in comprehensive, integrated and meaningful content development at an appropriate level. Effective planning provides for a variety of instructional objectives, economizes cost, time and energy and also provides for logical sequencing and pacing lessons. A sequence of well-organized learning experiences can be the outcome of good planning. Planning for Purposeful Instructional Planning for teaching involves sequences of steps. It calls for decisions with respect to each of the tasks involved. If all these tasks are accomplished successfully, the prospects that students will master what has been taught are excellent. The interrelationships among these tasks are presented as a cycle.

There are several issues related to planning of instruction. Most important issues in this context are Subject matter for teaching, methods to be used, levels of instruction, organising learning etc.

Subject matter or content for teaching

The subject matter for teaching is selected by curriculum planners at different levels. Agencies like Boards of School Education, Board of studies and various bodies associated with the education system determine the broad outlines of the curriculum. Finally, during the course of teaching the teacher decides which parts of curriculum are to be more emphasised and which ones are less emphasised. Time allotment, use of teaching learning materials, use of technology, methodology used in teaching-learning are decided by the teacher. There may be some contents which do not require much explanation while some topics may be difficult to grasp. Even experienced teachers need to plan instruction carefully for this purpose.

Methods to be used

The aim of classroom instruction is to bring about desired changes in students' behaviour and this cannot be accomplished by random trying out of all methods of teaching for all types of contents. The most appropriate method for teaching a particular subject matter should be selected by the teacher. Information can be catered in different ways so teachers should use different teaching techniques and devices for teaching facts, concepts, principles and generalizations. Presentation of content requires adequate planning. Students of different ages, form concepts in different ways. So a teacher should use an instructional procedure that allows learners to make direct observations. While planning for instruction the teacher should employ such methods, rules and generalizations, which will enable the students to know and understand the subject matter well. Whether the content is age appropriate, whether relevant teaching-learning tools are used, whether the presentation is

enjoyable to the students are some of the concerns that a teacher should consider while selecting a suitable method.

Levels of instruction

Teachers can plan instruction in different ways to teach the same subject matter in different learning conditions and at different levels by various customisations. There are three levels of instruction; namely - memory level, understanding level and reflection level. In the first level students are expected to remember and produce the learnt materials as taught, so students memorise and retain the content. Generally nominal concepts, mathematical tables, spellings, symbols, etc., are taught by arranging instruction at memory level. Comprehending is the second level where the teacher presents the content meaningfully to the students. If the teachers want that the learners should be able to apply the learnt content later in different situations, then content should be explained with examples and linked with earlier experiences or previous knowledge of the learners. Instruction should be planned in such a way that students can understand and incorporate the content at mastery level and apply the knowledge in different situations. This level of instruction is called the understanding level. Reflective level is the highest stage of Instruction. The aim of reflective level instructions is to develop problem solving ability among learners. Students learn to analyse facts, categorise facts and formulate appropriate generalizations through deep thinking and is engaged in innovative and creative activities.

Organising of learning experiences

Teachers have to identify which facts are more accurate and relevant, which concepts are familiar to the students' previous knowledge and which new ones need to be explained. Teachers also have to find out which methodology will enable the students understand the content better, this requires planning as well as organisation of learning experiences. The scientific process of sequencing and presenting content is rooted in the principles of psychology. Learning can be organised on the basis of some considerations; the most important one is previous knowledge of the learner as on the basis of prior learning depends the ease of understanding of the present and future concepts. So all teaching-learning should precede form simple to complex concepts. The link between the concept and sub concepts should be properly explored to make the learner understand the structure underlying the concepts. For example flower is a broader concept and the calyx, corolla, androecium, and gynoecium etc. are the sub-concepts. If a student clearly understands the fundamental structure any one of these concepts, he can potentially understand other related concepts.

Student's needs and interests – In planning instruction one important task is diagnosing the student's needs and abilities. Systematic techniques should be employed to gather information about the student's interest and capabilities. Students are the most important factor in the instructional process and without understanding of the students' needs and interests the teacher cannot develop instructional and behavioural objectives and formulate desirable outcomes. The teacher should try to balance the students' needs and interests with objectives of curriculum. A good balance between students' needs, interests, abilities in one hand and meaningful learning experiences provided for students in the classroom on the other helps in achieving the pre-specified objectives.

2. Different levels of planning

Even before the commencement of the academic year the teachers are supposed to carry out pre-instructional planning at three stages. Course planning, unit planning and lesson planning are the three important levels of planning required for effective curriculum transaction. The number of units in a particular course is determined in a course plan. Planning of instruction helps the teacher achieve the desired objectives. A scientific and systematic planning of instruction enables the teacher to be fully in command of the system. The teacher needs to utilise imagination, creativity and insight while following the different levels of planning instruction.

It is a known fact that there are no boundaries to knowledge and any topic can be extended beyond its limits. Content is divided into several units and each unit is divided in different subunits in unit plan. One unit is essentially a chunk of content and associated experiences that are perceived to fit together in a logical way. Again each subunit is divided into a number of lesson plans based on the content covered under each sub unit.

Depending on the needs of learner a teacher has to delimit the contents to be taught. This requires proper analyses of the content. Analysis means detailed examination of the elements or structure of something. Content analysis means dividing the content into its constituent parts. The teacher in this process selects topics given in the curriculum, splits these into their constituent parts, arranges all these in a hierarchical sequence and limits the length and breadth of the sub-topics. The syllabus being part of the curriculum, only mentions the topics to be covered and does not prescribe the sequence. The teacher therefore, has to take up the pre-specified objectives one by one, analyse the related content and accordingly find the sequence and arrange accordingly. Throughout the process the teacher follows the needs interests and abilities of the students. Some of the sub-topics may be less emphasised because they are part of their everyday knowledge. A teacher may take

up certain elements or sub-topics because these match well with the mental age of the students. The limits of the topics are decided once the subject matter has been identified.

After deciding the limits and the scope of the topics the teacher has to arrange these topics in some specific order. Sequencing of topics should be based on the psychological maxims of learning like ‘known to unknown’ and ‘simple to complex’. At this stage it has to be ensured that the sequence is absolutely rational from the point of view of the subject matter. Each element should be linked with the other elements vertically and horizontally; altogether forming a part of the main topic. Teachers’ own learning experience, hunch, perception and feeling plays a very important role here.

At this stage, the teacher develops a flow chart of the content. Flowchart helps to present important aspects of the content clearly and effectively and may also help reduce the burden of large amounts of unstructured content. It provides a diagramatic view of the inter-relationships among various sub-topics and elements of the content. A comprehensive picture of the whole content is framed in the mind of the teacher as well as students.

Flow charting the content:

PLANT- Selected Unit or Content or Topic ↓				
Subunit 1 Stem ↓ Learning experience 1	Subunit 2 Root ↓ Learning experience 1	Subunit 3 Flower ↓ Learning experience 1	Subunit 4 Fruit ↓ Learning experience 1	Subunit 5 Leaf ↓ Learning experience 1
Learning experience 2	Learning experience 2	Learning experience 2	Learning experience 2	Learning experience 2
Learning experience 3	Learning experience 3	Learning experience 3	Learning experience 3	Learning experience 3
Learning experience 4	Learning experience 4	Learning experience 4	Learning experience 4	Learning experience 4

Selecting Suitable Presentation Mode

After content analysis the teacher has to decide upon suitable presentation mode of the content. Numerous questions may crop up at this stage regarding – the teaching methods to be used, more suitable teaching strategies, effective teaching-learning materials and so on. There may be many answers to each of such questions and the answers primarily and depend upon a large number of criteria including the nature of pre-specified instructional objectives, subject matter, diverse background of students, learning styles of the students and strategies of teaching. Teachers should recognise the students' ability to learn and should ensure that the presentation mode selected by him should enable the students to process the presented information meaningfully and satisfactorily. Moreover teacher's own experiences and his/her personal style of teaching plays an important role in a particular mode of presentation.

A brief discussion on lesson plan is given here. Different types of activities and experiences are organised in lesson plans to fulfil the objectives of that specific part of the subunit. There should be daily lesson plans to be used in the span of a period of 40 to 45 minutes. Generally there are four sections in a lesson plan. Information regarding subject, class, topic, previous knowledge and general objectives of the lesson are mentioned in the first section. Secondly comes the introduction section which establishes a link between the lessons done on the previous day and to be done on that day. Some provisions for the previous day's lesson are also included in this section. Next comes the presentation section, it involves presentation of learning experiences by using different methods and teaching learning materials. The students are motivated to take active part in the presentation phase. The concluding section comprises of summarisation, revision and evaluation. Home assignment is given in this closing phase. Generally these four phases are followed but depending on circumstances customisation is also permitted.

3.3.3 Use of media in curriculum transaction

The selected content has to be transacted by the use of appropriate media. Selecting media to be used in the classroom is a difficult task. At the very beginning teachers should have clear idea of what is to be taught, how it is to be taught, how effectiveness of teaching-learning can be tested, the nature of learners, teachers knowledge and skill to handle technology required to present the selected content. The process of selection and handling media becomes easier if one has appropriate and affirmative answers to most of these questions. The teachers can use both conventional and electronic media, but appropriate selection of media depends on several factors.

Firstly, the instructional objectives to be achieved and the content or subject matter to be taught determine the mode of presentation and media to be used.

Secondly, the use of media is dependent on characteristics of the learners for whom the lesson plan is prepared.

Thirdly, use of media depends on the availability and accessibility of the media in school, college or university level. The cost of the media is also important here. School or college should have the required infrastructural facilities for application of the media. For example, there should be projectors for Power Point presentations and computer lab for computers.

Fourthly, the user friendly and interactivity of the media implies that the learners can interact easily by using this media. This is an important factor that decides the type of media to be used. The media should be able to communicate to the learners effectively.

Fifthly, the selection and use of media is also determined by the ability of the teacher to handle the media. Teachers should be adequately trained to manage the required media in the classroom.

Sixthly, the media should be able to satisfy the pedagogic aspects to cater achievement of learners in cognitive, affective and psychomotor domains.

Using media during instruction is an integral part of the instructional system. To avoid any confusion among students the selected content to be taught through media should be correlated with the content taught through other modes of presentation. The instruction given by the teacher through the selected media has to be integrated with the teaching methods in such a way so that teaching-learning process seems like natural flow and nothing appears artificial in the class. For example, the teacher may use discussion method in the class to teach some parts of a unit and may like to supplement the teaching by showing some video clippings to teach another part of the same unit. In other words media should not be used for the sake of using media rather it should be judiciously used to complement the major instructional method used by the teacher.

3.3.4 Different modes of curriculum transaction in classroom situation

Teachers in classrooms use different modes for transacting the curriculum content. Selection of a particular mode depends on the target group or the students, the content or the subject matter, infrastructural facilities of the institution etc. On the basis of the learning environment being provided, the curriculum transaction can be classified as structured, interactive, self- directed and computer assisted.

Structured - When each and every component of the curriculum is planned and curriculum development takes place as per predetermined planning then it is called a structured process. In structured curriculum transaction and implementation in classroom also follows a specific structure and pattern.

Interactive – This mode of curriculum transaction is followed mostly in group discussion as a major technique of group learning. Group discussion allows frequent and multiple ways of communication among the students in the group. Learning is more influenced by the group rather than the teacher. These interactive techniques used in the classroom may differ from subject to subject and from one level of education to another.

Self- directed - In this mode of curriculum transaction, the course materials consist of a number of small chunks of information called units, each unit having its own learning objectives and the learner is given a study guide that suggests a number of ways and means to achieve the pre-stated objectives of the unit. These units are necessarily self-instructional in nature and the learner uses the suggested text books and supplementary notes as per the study guide. A course unit may contain preset assignments; work on exercises, slides and models that help the learner to proceed smoothly through the course. Course tutors are consulted to discuss any problem encountered in the units. Generally in self-directed methods variations are allowed for different types of learners with a varied pace of learning.

Computer assisted – Computer Assisted Learning (CAL) offers two-way communication instead of one-way communication as in teacher-centred techniques, and in the absence of a teacher it simulates dynamic interaction between the learner and the learning programme. The computer, as an important information device, has not only extended the role of the teacher but has also individualized learning and increased learner freedom. In the process of learning, a computer performs different functions like storing, processing and retrieving information, and thereby helps an individual to be an independent learner. In CAL, the computer helps a learner to find out whether a response, given by him/her is correct or not. If the answer is correct, the learner proceeds to the next step; if not he/she is advised to redo the exercise. Besides this, it can make learning more individualized by taking into account the needs, characteristics, skills, aptitudes, and pace of an individual student.

Different means of curriculum transaction used by teachers in classroom situation are discussed below -

1. Lecture method or verbal exposition

This is a popular and age old practice which is used even today for transacting the

curriculum. In lecture method the teacher introduces the content or topic, explains the subject matter, interact with students, conduct formative evaluation and collect feedback from students. Lectures or talk by teachers is considered to be a very important aspect of curriculum transaction; it is used for giving directions, eliciting information, inviting students' participation etc. In classroom communication teachers play a dominant role through verbal exposition and these remain to be a very important factor even if the teachers use the latest audio-visual equipment to assist them in their instruction. Teacher's lecture is not one way communication but it is also used in classroom discussion, questioning and answering and even in a cooperative learning session, when the teacher is engaged in constant dialogue with the learners to extend their thinking about particular concepts or checking their understanding of the subject matter.

2. Classroom discussions

Another popular mode of transaction of the curriculum is discussion conducted in classroom. At present most of the teachers try to create interactive classroom for active involvement of their students. Discussion is an important strategy that has been employed in various situations across all models of teaching.

There is no hard and fast rule to use discussion and teachers initiate discussion among students to help them achieve the behavioural objectives. The instructional objectives of the teacher are also accomplished to a great extent through discussion. A great deal of conversation, sharing of experiences and argument is required to develop complex ideas among students. Discussion can help to refine concepts and produce new explanations. In this method the students gets a chance to express their thoughts, which may be incomplete or faulty. The teachers also get scope to understand the thinking process of their students and may provide correction and feedback if necessary.

Through discussion the students can improve their thinking and construct their own meaning of academic contents. This process allows students to loud thinking and enables them to strengthen their cognitive structure. This helps the student to increase their ability to thinking and reasoning.

3. Question-answer mode

This method can be used as an important tool for classroom communication as well as curriculum transaction. Questioning and answering is primarily used for evaluating the substantive knowledge and skill of learners. The learners can attain higher levels of cognition i.e. application, analysis, synthesis, evaluation and creation through questioning. The teacher can use probing to understand the deeper levels of understanding, insight and discovery of the learner.

In a classroom questioning can be used to understand the previous knowledge of the learner, to develop the content, to evaluate students understanding etc. Therefore the role of questioning in curriculum transaction is unquestionable and Socrates rightly accepted questioning as the main tool for education. Different questions can also be used to solve different purpose. Factual questions can be asked to assess the level of knowledge acquisition of learners and understanding. Best questions can be asked to assess the level of comprehension of content and higher order questions can be asked to assess the higher order skills of learners.

While questioning the teacher should remember that there is individual difference among learners therefore, he/she should wait for the learner to respond. This reaction time or waiting time may be different for different learners. A disadvantaged child in a classroom may require more time than the average child.

4. Participation of the learners

In most of the classroom situations the teachers play a dominant role and the students play the role of passive listeners. For effective curriculum transaction learners should be taken to higher levels of cognition. This can be done by increasing learners' participation so that teaching learning process can proceed in a collaborative way.

Different Participation structures can be adequately employed for effective curriculum transaction -

Learners' participation can be enhanced through maximum utilisation of classroom participation structures. These structures refer to typical arrangement of speakers and listeners into communication networks. The structures include specific ways of turn taking by students during group lessons regarding asking questions and also responding to the teachers' questions. In traditional classrooms teachers used to talk to the silent students and whenever the teacher use to talk with one student, the rest of the class is expected to notice silently.

In order to increase participation and involvement of the learners the teacher has to shift to those participants structures where learners' participation is more emphasised.

1. Use of active learning methods: The teachers should make more use of active methods like discussion, role play, brainstorming, seminar, debate, projects, practical work, demonstration, survey, excursion etc. These methods ensure a lot of involvement and participation on the part of the learners. For more interaction and participation of the learners the teachers may divide the students into small groups and involve them collaborative learning.

2. Creating greater scope for learners' involvement: Recent researches reveal that when learners are actively involved in any classroom activity then their commitment increases. With increased scope for autonomy and involvement the students identify themselves with the goals to be achieved. Therefore students should be involved in activities like distribution and collection of copies, worksheets and books; taking care of the bulletin board, acting as monitors in the classroom and prefect in the school, peer teaching, collaborative teaching etc.

Here we have discussed different modes of curriculum transaction in a classroom. For successful transaction of the curriculum that teachers should have a clear idea of the overall as well as the specific objectives of teaching learning. Teachers must set realistic and achievable goals and the learners should also be provided a clear understanding of the goals and objectives to be achieved. If there is any ambiguity or lack of clarity regarding the intentions of instruction then successful transaction of the curriculum cannot be attained.

3.3.5 Curriculum Evaluation

Evaluation is the process of collecting data on a programme to determine its value or worth with the aim of deciding whether to adopt, reject or revise the programme. Evaluation of curriculum is a part of the curriculum development programme and is conducted when the developer or the planner and teachers want to know the effectiveness of the programme in achieving the aims and objectives; and they are also interested in improving the curriculum product. The value of a programme or course of study is assessed by curriculum evaluation.

Few definitions of curriculum evaluation are given here. More definitions are stated in the fifth chapter -

Curriculum evaluation is the formal determination of the quality, effectiveness or value of a programme, product, project, process, objective or curriculum. (Worthen and Sanders, 1987).

Curriculum evaluation is a process or cluster of processes that people perform in order to gather data that will enable them to decide whether to accept change or eliminate something - the curriculum in general or an educational textbook in particular (Ornstein and Hunkins, 1998).

The process of Curriculum evaluation determines the merit or worth of Curriculum. This process determines whether the planned courses, programmes, activities and learning opportunities are developed and organised to produce desired results. This evaluation process also tries to find out how this can be improved.

The total process of curriculum development depends on interaction between curriculum planning and curriculum evaluation. Changes can be legitimately made when careful evaluation demonstrates best strengths and weaknesses of a program. It can be said that no particular curricular proposal can claim widespread support unless it is justified by carefully collected data. Therefore curriculum planning and curriculum evaluation are very important stages of curriculum development. In fact the process of curriculum development starts with curriculum planning and ends with curriculum evaluation. These two processes establish link between the total process of curriculum development.

Curriculum evaluation refers to the evaluation of different components of curriculum; namely objectives, content, methods and evaluation procedures for student assessment. All these components are mutually dependent each has to be evaluated in combination with the others. To determine whether the curriculum caters to the needs and the educational purposes of the target group the mode of elution should be chosen judiciously. Each component affects and influences the rest of the Curriculum components so these cannot be scrutinized in isolation. Some major considerations in curriculum evaluation are Pre-testing and post testing; Non reference testing and Criterion referenced testing; Formative evaluation etc. Learner scores on pre-test reveal the status of the student again the set criteria or the expected terminal behaviour. Curriculum evaluation is to be done with reference to a set of criteria called criterion-referenced testing or in relation to a norm like a normal distribution called norm-referenced testing. Comparing with a norm or standard, one can evaluate a curriculum for its attainment of objectives. Evaluation may be conducted at the Formative and Summative stages. Formative evaluation is carried out at two levels at the developmental level called process evaluation and at the implementation level or product evaluation. There are several aspects of Curriculum evaluation which makes the evaluation process a comprehensive activity and on these depend the choice of evaluation mode.

Problems in curriculum evaluation

The curriculum development process suffers from numerous challenges at every stage of development and implementation. Here some obstacles regarding curriculum or programme evaluation are discussed.

Firstly, a common trend of putting greater emphasis on evaluation of those aspects which are easy to measure than those aspects which are important to measure is observed. In an educational setting traditionally emphasis was put on measuring acquisition of factual knowledge and basic subject matter. Presently huge efforts are utilised and most of the tests have been reviewed to assess higher order skills beyond basic subject matter. But still important aspects like critical thinking, problem solving, creative expressions, cultural appreciations etc. are neglected till date. One simple reason behind this is, it is easy to

develop and use measuring devices that are associated with simpler learning. On the contrary it can also be said that people are not encouraged explore to controversial and difficult areas. As a result more emphasis is laid on contents covering all important educational outcomes, which can be easily measured, leaving important concepts unassessed.

Secondly, an unauthentic sense of certainty has come into widespread existence because of uncritical use of standardized instruments. The test makers put honest efforts to create and standardise evaluation instruments. These instruments also mention different cautions and precautions to be maintained during the process of testing and evaluation. Most of the time there is a gap between the test makers and test users regarding their line of thought.

Thirdly, the locally constructed measures are not emphasized. The evaluation tools and techniques can be developed on global and local basis. Many a time global instruments need to be customised to suit the local needs. A programme when constructed on the basis of the needs of local boys and girls; the creative endeavours are encouraged and students learning can be objectively assessed.

Fourthly, lack of communication between teachers and test technicians: Too often teachers are unduly resistant to the complexities of standardized testing inspite of its possible benefits. Tests are mostly selected and administered with little regard to the reality of the classroom. Thus teachers' experimentation and creativity is discouraged. The measurement skill of teachers and educational test contractors has to be improved.

Evaluation is a system of feedback, providing information to planners, developers, teachers, students, parents, policy framers and decision-makers. Curriculum evaluation may be formative as well as summative. Formative evaluation is a process of involving ongoing activities aimed at gathering timely information about the quality of a programme. Summative evaluation is conducted to assess the overall effectiveness of a curriculum so that decisions about dissemination, institutionalization and desired revisions can be made.

Any curricular proposal cannot be widely accepted unless it is supported and justified by proving its own worth. Curriculum transaction and curriculum evaluation are two vital stages of curriculum development.

3.4 Basic considerations in curriculum planning

Identification and analysis of the existing situation has to be done in the process of curriculum planning to determine needs and purposes of the programme. The programme should be formulated as per the aspiration of the nation. There should be a committee consisting of educators, policymakers, economics, philosophers, psychologists, curriculum experts etc. for developing are suitable curriculum. The process of curriculum planning is based on four important criteria.

Firstly, the programme should be prepared jointly by a group of persons able to make significant contribution in the process. The role of cooperation between different subject experts is highly desirable for curriculum planning.

Secondly, general and abstract considerations are important and will give a strong basis for drawing up the essential structure of a relevant programme.

Thirdly curriculum planning is a continuous process and hence the preparation of a programme is not a one shot operation. Every stage of curriculum development requires continuous planning and revision.

Fourthly, curriculum planning has to be comprehensive i.e. all the components of the programme must be defined with requisite precision, so that the programme mainly covers all the areas required to fulfil the objectives of curriculum.

Major Areas of consideration in curriculum planning

A curriculum is more than putting together a set of academically required subjects. In curriculum planning several things need to be considered, such as the learning needs of students; the mutual consent of teachers and administrators; the expectations of the community; and current breakthroughs in academic fields. The developmental, social, economic, environmental and institutional considerations are some of the very important considerations in curriculum planning. Nature of the discipline is yet another factor of consideration and due emphasis on role and function of the teacher is yet another point of concern for curriculum planners. And it goes without saying that no factor can operate in isolation; formulation of an effective curriculum is only possible if all the factors re considered in relation to each other.

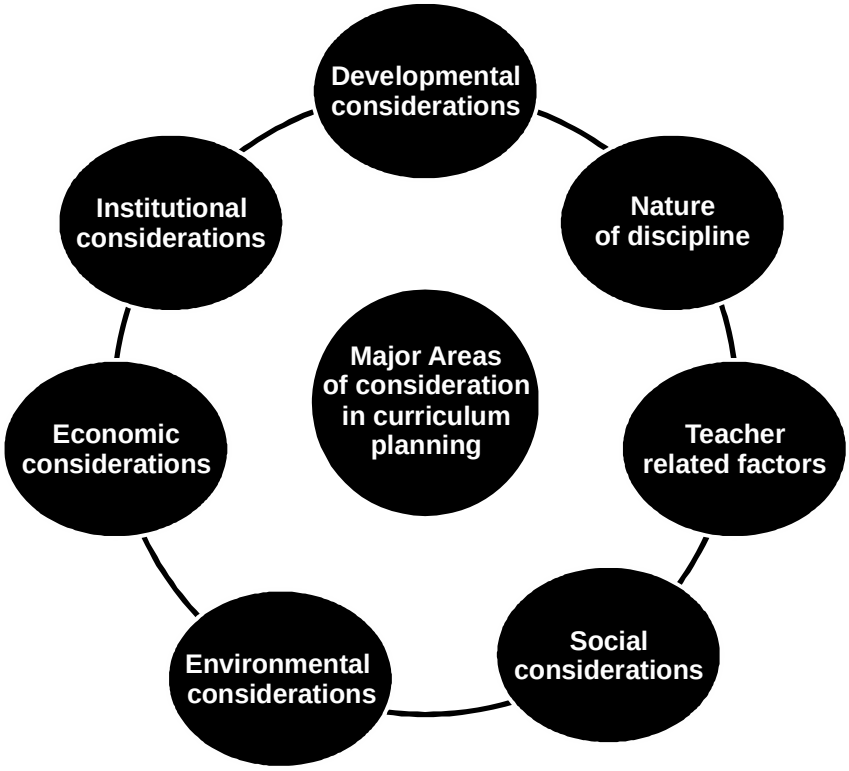


Diagram showing Major Areas of consideration in curriculum planning

1. Developmental considerations

Ideally speaking in any educational process all the developmental considerations of learners are covered in curriculum. Curriculum planning should consider knowledge, experience and skills for Physical development, Emotional development, Social development and Intellectual or cognitive development of the learners. The activities suggested should nurture the development of ideas, skills and ways of thinking having educational values. Textbooks should not be considered as the only source of knowledge and experiences learnt by the individual. They should be able to connect the content and other aspects of the curriculum to their community at large. Moreover curriculum planning should be done in such a way so that the experiences lead the students to various avenues of enquiry that may ultimately help in achieving the objectives under affective domain. Knowledge of the nature of the learner in terms of developmental level, learning style, normative needs and other philosophical and psychological concerns are also important factors to be covered in curriculum planning. The learners are the beneficiaries of Curriculum revision efforts. It is necessary to know their needs and interests so that the curriculum design can respond to their developmental needs that impact on the growth of knowledge, skills, values,

attitudes and habits as well as their expectations in relation to the socio-economic realities in their own environment.

2. Nature of Discipline

The nature of discipline should be considered as an important criterion to determine what knowledge is most worthwhile, which skills must be mastered and which values are relevant. The most important outcome of education is individual development. Some progressive educators emphasize the creative role of education in society by accentuating the development of a creative learner. The objectives and demands of this changing society should be continuously examined and the forces in action should be well understood in order to keep the curriculum reality-oriented and dynamic. The background in which education functions should be continuously studied and a constant effort is required to mobilize the resources of different sciences and social sciences such as psychology, biology, anthropology, sociology and social psychology. The accumulated knowledge about society or culture should be utilized when framing educational policies and formulating the curriculum.

3. Social and cultural considerations

Different social forces influence curriculum development therefore with emphasis on liberal education the curriculum contents should be revisited. To achieve the goal of productive manpower, curriculum must be made relevant to the timely demands of society so that education must enrich society, improve the living conditions of its people and help in its optimum development. A group of people in any given society may be defined by its culture which is manifested by both visible and non visible dimensions. Visible dimensions include food dress, rules and regulations, language, music, dance, means of livelihood, political behaviour as well as family community and institutional norms and practices. While the non visible dimensions of culture and society include philosophy, beliefs, value system, which have far greater influence and impact on the way of life of the people. Shared philosophy, beliefs, behaviour, norms and rules of the society are important considerations under this category.

Culture is an important factor in curriculum planning as the essence of education is to preserve and transmit the cultural heritage of a society to the younger generation of the society. Curriculum is an effective tool for attaining the educational goals of a nation. Education is the hub of all forms of development in any country and no country can develop if her educational system is not strong. Curriculum planning should therefore endeavour to integrate the significant components of society and culture, which is the essence of education in curriculum development. Curriculum planners should ensure that the products of the educational system would be functional members of their society.

Each social institution, including educational system, influences and get influenced by other components of society. Social customs and aims in cultural, political, and economic matters also shape school curriculum. Every institution performs in relation to the system as a whole and to its various parts. Decisions of government agencies, quasi-legal and professional organisations affect the structure, function and goals of formal agencies, informal agencies and non-formal agencies too. And operations of these institutions in turn affect governmental practice. The government implements policies on education and its curriculum for example the new educational policy of 2020, government controls are based on constitutional and statute laws; Quasi-legal agencies include universities and colleges, parent-teacher associations (PTAs), textbook writers, publishers, philanthropic organisations, mass media, etc. and professional organisation include National Council of Teacher Education (NCTE). Curriculum should aim at establishment of intercultural communication among the diverse cultures as a basis for building a world and national community.

4. Economic considerations

Probably the most powerful consideration in curriculum planning is the national economy, because educational institutions are continuously challenged to meet the workforce demands of a changing world. The process of curriculum development comes under sphere of education. Now whether financial responsibilities of education will be borne by the state or centre or both is determined by the existing policy of the country. The economic considerations are basically related to the practicality of a curriculum and this also includes the factors influencing economic condition of learners. It goes without saying that if the basic needs for food health and housing of majority of the people are not met then many children of school age are malnourished and they will remain out of school. The process of a curriculum implementation involves several actions including provision of physical facilities, development of learning materials and recruitment of untrained teachers. These recurring expenses are borne by the government, and also by the community and other institutions. Some expenses may be of non-recurring nature too. The cost of providing certain learning opportunities are weighed and compared with alternative modes of providing educational opportunities have varying cost are done by the planners. The curriculum planner has to keep in his mind four types of cost – namely, initial cost, maintenance cost, supplementary cost and personal cost. For example, if a course on inclusive education is being proposed, it will involve the initial cost of infrastructural facilities like ramps, lifts etc. the cost of maintaining the lift to keep it in working order, the cost of teaching-learning materials like books on Braille, audiometer etc., and the cost of appointing a suitable teacher having aptitude, knowledge and skill in inclusive education.

5. Environmental considerations

The environment in which the educational institution is located and the culture shared by people of that locality are two very important considerations for the curriculum planners. Recently the educated society has given much attention to the environmental condition of the educational institution. The environment should facilitate students to attend to experiences that have been selected and organised for them. The supporters of learner centred designs suggest in favour of making the environment meaningful for students. Adequacy of space is very important to allow other individuals to grow or in other words if more space is provided then worthy things can be expected to happen.

The environment for educational institutions should address social needs, security needs, need for belongingness, along with development of inner awareness, appreciation and empathy for others.

The curriculum planners should plan for such an environment that will facilitate students learning and stimulate them for a wide range of activities. Gaining social perspective in curriculum development is by analyzing the impact of technology and the changes it has produced or is producing in society. Expansion of technology has brought vast changes in what modern man is required to do. • There are new conditions which set new tasks for curriculum developers

A tremendous enlargement of the environment to be understood and the culture to be transmitted. There is an unprecedented expansion of knowledge. • An ever increasing demand for increasingly skilled and literate workers. As new occupations have sprung up, demands have been made on the educational institutions to prepare the nation's workers

6. Institutional considerations

Under this aspect the curriculum planners have to consider the relationship between the school and community. Objectives and goal of education including physical education is another important aspect to be considered by the planners.

Under institutional considerations an important aspect is dealing with the physical issues of the environment. Physical arrangement for layout of the institution including floors, doors and windows should be considered in terms of cost, durability and aesthetics. Secured electrical wiring, adequate lighting, comfortable temperature appropriate for educational institutions should also be considered while planning the curriculum.

Size of class should be proportionate to the number of students. Utilisation of space should be done appropriately but at the same time overcrowded classes should be avoided.

7. Teacher related considerations

This is an important issue for curriculum planners as curriculum implementation is mostly done by the teachers. The teachers should be aware of the education philosophy and goals of the programme. Every curriculum will require a certain group of teachers equipped with appropriate knowledge, education and training to transact the curriculum successfully. Competent teachers are an integral part of the teaching-learning system. Teachers' functions include interpretation, explanation, demonstration and guidance in various activities and experiences incorporated in the curriculum. Therefore, a curriculum planner should consider the teacher-related factors as well during curriculum planning. A certain group of teachers equipped with appropriate education, training and experience are required to successfully transact the curriculum. They are the artists who will choice the activities for their students and to help the students in achieving the pre specified objectives. Teachers decide which teaching methods to be utilised, teaching learning materials or equipments to be used etc. So the curriculum planners should decide the parameters or qualities required to serve as teachers.

8. Recognizing future needs of the students

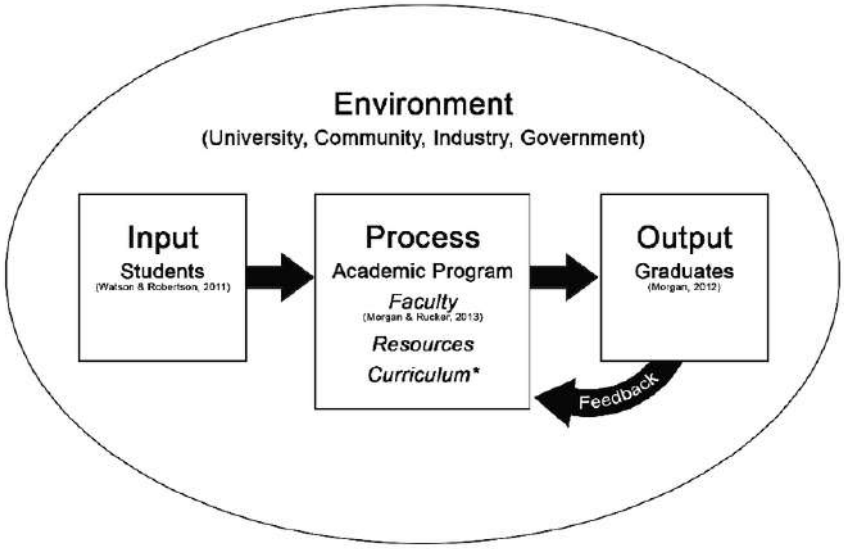
It is necessary that the curriculum planning process may anticipate future needs and expectations of the learner. In order to educate the learners to live in and cope with the demands of a world that will certainly be unlike the present in many significant ways. The modern Curriculum should be able to outline visions about the future.

3.5 Stages for planning of Curriculum development (System approach in curriculum development)

Curriculum development should be done systematically and not in any haphazard manner. Many a time curriculum development process has some hidden agenda like fulfilling some specific social or political objectives or fit a particular instructors' preference. These aren't desirable problems can be avoided by following system approach in curriculum development.

Let us list the definitions of a system

A system is a collection of elements interacting with each other to achieve a common goal. Crunkilton and Finch, 1999.



Systems Model with emphasis on curriculum content.

Source : Adapted from Finch & Crunkilton (1999)

Webster's dictionary defines a system as "a regularly interacting or independent group of items forming a unified whole."

System approach is a systematic process to coordinate all elements of a problem towards specific objectives. The characteristics of a system of may be explained with the help of a simple example –Every component of the digestive system contributes to and supports in functioning of the digestive system as a whole therefore, various components of the digestive system altogether may be called a system. A thematic curriculum framework is - A set of organised experiences such as programmes courses and other school sponsored activities that provide the students with the exposure to abroad predominant theme. Thus system approach plays a significant role in curriculum development.

In the sphere of education, system is a unit as a whole incorporating all its aspects and parts, namely, pupils, teachers, curriculum, content and evaluation of instructional objectives. The teaching-learning process is viewed as communication that takes place between the components of a system. Therefore, in education, the system is composed of a teacher, a student and a programme of instruction, all in a particular pattern of interaction.

There are different models which describe how curriculum can be developed in specific and systematic steps.

For example in the model developed by Ralph Tyler curriculum development is conducted in 4 simple steps - development of objectives, development of activities and experiences, development of organisation and finally evaluation.

Tyler's model of curriculum development was expanded by Doll. In this model the stages followed are - statement of need based on assessment, statement of objective, content list and organisational plan, description of learning experiences, evaluation plan, and lastly plan to solicit support for the curriculum.

A system comprises of different components which if work in union will increase the efficiency of the system. All the components of a system are interrelated and change in one component affects the functioning of all other components of the system directly or indirectly. All the components together contribute to the wholeness of the system. An ideal system consists of five elements. Which are as follows:

1. Input
2. Process
3. Output
4. Feedback
5. Environment

Inputs - The inputs are said to be feed to the system in order to get the output. For example: Input of a computer system that includes-keyboard, mouse, joystick and sun, rain, etc.

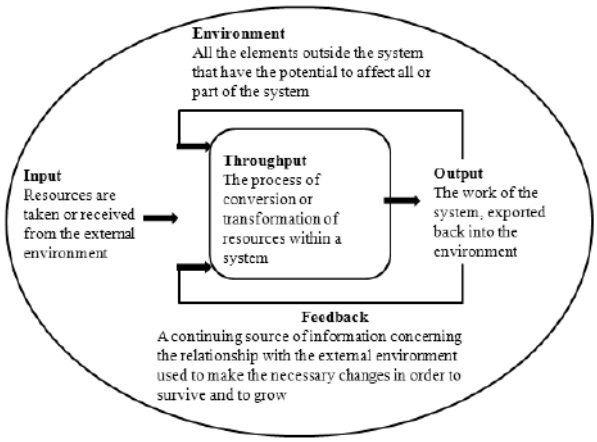
Process(s) - The process is the element of a system that involves the actual transformation of input into output. It is the operational component of a system. For example: CPU, Machineries, engines, fields, ecosystem etc.

Output - Those elements that exist in the system due to the processing of the inputs is known as output. The output of a system may be in the form of cash, information, knowledge, reports, documents etc. For example - Output devices of a computer which includes printers and screens, monitor etc.

Environment – It implies the Boundary and interface. More explicitly environment is the space where the total process is going on.

Feedback – Simply speaking feedback means collecting information regarding the quantity and quality of output.

Katz and Kahn Open System Model showing the Elements of System approach



Source: Katz and Kahn (1978).

System approach implies a simplified but communicable representation of a real world setting or situation. This is an organised and systematic way of accomplishing a goal or task. Furthermore this approach should be practical, realistic, efficient and inclusive. Education planners define the system approach as a tool which aims at finding the most efficient and economically cost effective methods for addressing educational problems significantly.

A system has three Major characteristics

1. A system is developed to perform certain function.
2. Different components of a system have got different functions to perform. A system can run only if all components contribute to the function of the system.
3. All the components of a system are interrelated hence they are interdependent too.

System approach is designed in several stages

1. Planning phase : This is the period for need assessment and task analysis. Formulating of specific instructional objectives to be achieved and defining instructional goals is done in this initial stage.
2. Designing phase : In this phase programmes and lessons are designed based on the results of need analysis. During this phase attempt is made to match the needs with identified constraints. Appropriate media to achieve these goals is also selected at this stage.

3. Developing phase : This stage is meant for developing new materials and revision of the existing materials. Defining learner characteristics and requirements, selecting appropriate methods suitable for effective learning to take place etc. are conducted at this stage.
4. Role assignment : Assigning appropriate personal roles for teachers, students and supporting staff, selecting appropriate learning experiences from available alternatives and selecting appropriate materials and tools required are the prescribed tasks at this stage.
5. Implementing phase : In this phase the materials which are developed are implemented in real situation.
6. Evaluating the outcome in terms of original objectives measured in student performance
7. Revising to improve efficiency of the system to improve students' learning.

The word system is used by sociologists, politicians, economists, leaders and managers. This term is also used by layman and all of them refer to the wholeness component of something.

In the sphere of education there are different systems that encircle the teaching learning process. The education system lies in the outer periphery, then comes the school system; the teaching learning process is placed at the centre of core.

System approach is the process of thinking that implies problem identification and problem resolution. In system approach a problem can be defined precisely considering the alternatives available and thereby selecting the most efficient alternative to solve the identified problem and achieve the goal.

There are various stages that are usually followed in system approach of instruction. The stages are briefly described in the following section:

1. Formulation of objectives in terms of terminal behaviour

At this initial stage the specific instruction all objectives are stated in terms of observable and measurable terminal behaviours. Terminal behaviours expected from students after going through the instructional system.

2. Developing an evaluation process

At the end of the evaluation process the performance of the students is tested for which the system designer has to prepare various questions or items representing the expected terminal behaviour for understanding whether all expected terminal

behaviours have been achieved or not. The achievement of performance of students can be tested at the development stage as well as at the end of the process. Formative and summative tools maybe used for this purpose. Outcomes of Formative tests provide feedback during the process and the summative tools at provide feedback at the end of the process.

3. Identifying input specifications

Students' entry behaviour that is their previous knowledge or prerequisite knowledge and skills is specified. Some form of test may be used for this purpose.

4. Specifying the alternatives

This stage a variety of teaching learning methods may be identified that can be used effectively to achieve the desired objectives for terminal behaviours. Selection of alternatives depends on type of objectives, nature of target group etc.

5. Selecting the best alternative

After identification of all possible alternatives naturally the task of selecting the best one comes up. This depends upon nature of the subject, availability of human resources, availability of material resources, size of the class etc.

6. Planning for learning experiences

This is a very important step when the materials needed for providing appropriate learning experiences are prepared. The activities required for imparting the learning experiences should be arranged in order to facilitate effective teaching learning.

7. Pilot testing or try out

At this stage one has to find out whether the system is functional in terms of attainment of the pre-specified objectives. The system should be tested on a small group of students in a control situation. The weakness of a system is identified by this which require improvement through rectification.

8. Revision and implementation:

This is the last and final stage of the system, but one thing should be kept in mind that this is not the end of the system. Modification and revision can be done after every implementation of the system as it is an ongoing process.

Various stages of System approach

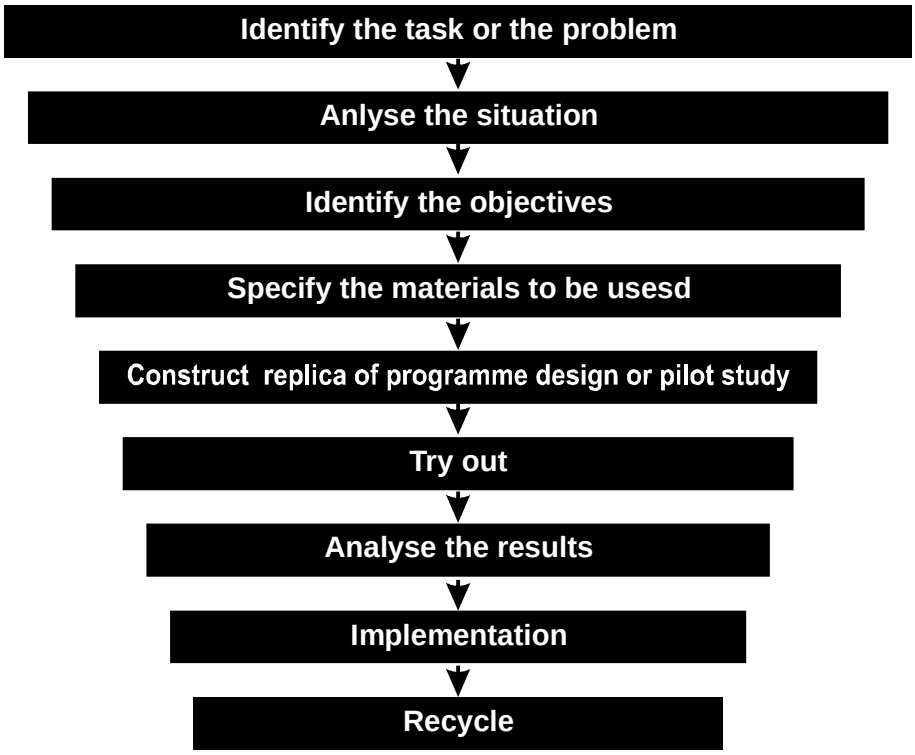


Fig: Stages of system approach

Advantages of systems approach

- ❖ Systems approach helps to identify the suitability of the resource material to achieve the specific goal.
- ❖ It analyses the resource needs, their sources and facilities in relation to quantities, time and other factors effectively.
- ❖ This approach allows an orderly presentation of components demonstrated to be required for systems success in terms of student learning.
- ❖ Rigidity in plan of action can easily be avoided as continuous evaluation affords desired and beneficial changes to be made.

Limitations of systems approach

- ❖ Systems approach requires hard and continuous work on the part of school personnel. Some are not prepared for the extra load.

- ❖ There may be lack of understanding. Teachers and administrators are still not familiar with systems approach. Though it has been successfully implemented in industries, it has still to make headway in education.
- ❖ There is always resistance to any new method or approach, as old ways are difficult to erase.

3.6 Summary

In this unit we studied the basic consideration in curriculum planning. Planning a curriculum involves the interaction of several components, reaching beyond the academic wall to impact the entire community. Without an effective curriculum, students would not be able to understand or meet the challenges of society. A curriculum has an objective to prepare an individual with the knowledge to be successful, confident and responsible citizen. To start with development of a new programme need-analysis is important, Re-evaluating the precision accuracy of the original needs analysis is important because the feedback helps to improve existing practice in developing curriculum. Hence intensive planning of curriculum is considered to be an important part of curriculum development process.

Towards the end of the sub-unit, we described the process of curriculum transaction and evaluation. Curriculum transaction is the effective and desired implementation of the curriculum contents on the basis of the aims and objectives listed in the curriculum. It incorporates effective planning for providing learning experiences for its learners, organisation of planning, administration and implementation of the organised and planned components, and lastly evaluation of the implementations by the teacher or implementer and the experts in the relevant field. Therefore, it can be stated that curriculum transaction is the effective and desired implementation of the contents on the basis of listed objectives in the curriculum and curriculum evaluation is the implementation by experts. In system approach the role of a teacher can be visualised as a system designer as the teacher decide which method is to be used, which materials are to be imported and the extent of media used. Any instructional system the teacher is not merely a participant of the subsystem but he or she can create and improve the system on regular basis after each session of implementation. It is well understood that system approach is a systematic attempt to coordinate all aspects of a problem towards specific objectives. In education and curriculum development, this means planned and organised use of all available learning resources, including audio-visual media, to achieve the desirable learning objectives by the most efficient means possible.

3.7 Self-Assessment Questions

1. Define a system.
2. What are the important features of Curriculum transaction?
3. What do you understand by Curriculum evaluation?
4. Define curriculum planning.
5. What are the major Areas of consideration in curriculum planning?
6. Describe the process of system approach in curriculum development
7. Describe the model developed by Ralph Tyler curriculum development
8. Identify the elements of System approach
9. Describe the characteristics of a system
10. List the limitations of system approach in curriculum development.
11. Describe the stages of system approach in curriculum development
12. Mention the advantages of system approach in curriculum development
13. Describe the Economic considerations in curriculum planning.
14. Justify the need of Social and cultural considerations in curriculum planning.
15. Describe the basic considerations in curriculum planning.
16. Describe the process of curriculum transaction.
17. Discuss the role of media in curriculum transaction.
18. Describe the different modes of curriculum transaction in classroom situation.
19. Write down the problems in curriculum evaluation.

3.8 References

Bilbao, P. P., Lucido, P. I., Iringan, T. C., and R. B. Javier (2008). Curriculum development. Philippines: Lorimar Publishing, Inc.

Finch CR, Crunkilton JR (1999) Curriculum development in vocational and technical education: Planning, content, and implementation. 5th ed. Edn., Allyn and Bacon, Boston.

Ornstein, A. C., & Hunkins, F. P. (1998). Curriculum Foundations, principles, and issues (3rd ed.). Needham Heights, MA Allyn & Bacon.

Taba Hilda. (1962), Curriculum Development: Theory and Practice. New York. Harcourt Brace Jovanovict.

Worthen, B.R. and *Sanders*, J.R. (*1987*) Educational Evaluation Alternative Approaches and Practical Guidelines. Longman Press, New York, 102.

Katz, D., Kahn, R. L. (1978). The Social Psychology of Organizations (2nd ed). New York: Wiley

UNIT 4 ❑ Curriculum Development

Structure

4.1 Objectives

After going through the sub units the students will be able to :

- ❑ Define Curriculum design;
- ❑ identify components of curriculum design;
- ❑ outline the curriculum tips to establish a Broad Curriculum Design;
- ❑ name the Dimensions of Curriculum design;
- ❑ describe briefly the dimensions of Curriculum design;
- ❑ justify the significance of sequence in Curriculum design;
- ❑ mention the different types of Models of Curriculum Development;
- ❑ describe the Prescriptive model of Curriculum Development;

- ❑ explain the descriptive model of Curriculum Development;
- ❑ illustrate the critical model of Curriculum Development;
- ❑ describe the Personal model of Curriculum Development;
- ❑ describe Kilpatrick approach to Curriculum development.

4.2 Introduction

In the previous units, you have learned meaning, nature and scope of curriculum. The factors that influence the process of curriculum development are also discussed. The meaning, concept, objectives and types of co-curricular activities are also described in the first unit. In the second unit the three bases of curriculum namely – philosophical, sociological and psychological are discussed. The three major approaches to curriculum i.e. subject centred, broad fields approaches, humanistic approach along with the processes of curriculum development are also discussed in the second unit. The third unit deals with the basic considerations in curriculum planning. Stages for planning of curriculum development, curriculum transaction and curriculum evaluation are explored in this unit.

This fourth unit provides opportunities to explore current developments in curriculum design and dimensions of curriculum also help to understand the central concepts the process of designing a curriculum. The theories of Curriculum Development are also discussed and this unit throws light on models of curriculum development. Ideally the principle and practice of curriculum design for Education for Sustainable Development curriculum design will consider some important areas – curriculum must take into consideration the National curriculum standards. Curriculum development requires diversification and differentiation with reference to Citizenship, value education and social transformation. Current approaches to curriculum development should be pointed towards integration of objectives, content competencies and common student learning outcomes. Curriculum should also provide opportunities to explore current trends of science, technology, health education and development of coping skills in emergency situations.

4.3 Dimensions of Curriculum development

4.3.1 Components of Curriculum Design

The blue print of all teaching-learning activities are planned by the teacher on the basis of four components, namely - teaching – learning objectives, teaching

content or subject matter, teaching methods and evaluation of learning outcomes. Curriculum is constructed depending upon level of students, need of the society and the nation. Nature of content is very essential for identifying the objectives of teaching – learning. The same content can develop several types of teaching objectives. A specific range of objectives are realized by organizing specific teaching tasks and activities. The four elements of curriculum mentioned above, are essentially interrelated to each other. Brief description of the components is given below

a) Design of goals and objectives

On the basis of philosophical, sociological and psychological bases aims and objectives are decided at central, state, and local levels. Aims and objectives determine "what is to be done". The objectives of teaching and learning are determined by the subject's content structure, levels of students, and type of examination etc. These objectives are specific and written in behavioural terms so that these may be successfully developed among the students in a congenial learning environment. The statements of objectives are supposed to reflect the vision, the mission and the philosophy.

b) Subject matter or content

Curriculum Content or Subject Matter is the channel or the medium through which the objectives are accomplished. An elementary concern of formal education is primarily to transmit the organized knowledge to the new generation of young learners. A sound content requires proper organization of the learning contents. There should be balance, articulation, sequence, integration and continuity among different parts of the content. The content of any subject usually covers a broad area. It is divided into sub-contents or sub-units and those can further be divided into simpler elements. These elements are arranged in a logical sequence in the curriculum. The behavioural objectives are framed on the basis of each of these smallest elements of the content.

c) Design of the methods and organisation

Method means the Instructional strategies; resources and activities are to be used in teaching- learning. The pre-specified objectives of teaching-learning are attained with the help of appropriate teaching strategy. These instructional strategies are methods when put into action using the content produce the desired outcome and behavioural change.

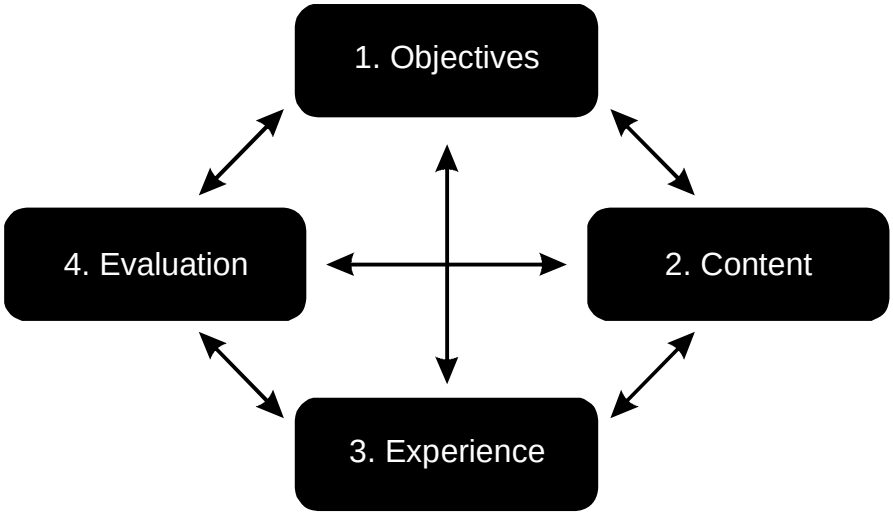
d) Evaluation of curriculum

Through Curriculum evaluation one could estimate whether the objectives and aims have been met or not. If the desired outcome is not achieved then one could

use another strategy which will really work out. Curriculum evaluation determines what methods and instruments will be used to assess the results of the curriculum. It identifies the quality and effectiveness of the programme. The level of students' attainment is evaluated by employing criterion referenced test. Norm referenced test is used when students' attainment is evaluated in respect of the group to which he/she belongs. Formative and summative evaluation measures the process and product of the curriculum respectively.

All elements of a curriculum are distinct but interrelated to each other. These four components are essential ingredients and should be present in a curriculum mandatorily. The aims and goals serve as the anchor of the learning journey, the content or subject matter serve as the core or substance of the educational journey, method or experience serves as experience to the real spectrum of learning and finally the curriculum evaluation serves as the tool to measure how far the learners had reached on their educational journey.

Relationship between the 4 elements of curriculum



Source : Giles, et. al (1942)

4.3.2 Sources for Curriculum Design

For designing a curriculum, the curriculum framers require a vision of education's meaning and goal. The designers must view common curriculum's sources from philosophical, social, and political views of society. One's beliefs and values

influence what one considers worth knowing and teaching. The main sources of curriculum design are: society as a source, science as a source, moral doctrine or External and Divine Sources as a source, knowledge as a source, and the learner as a source. In present context the most important source is the learner. The curriculum should be derived from various information regarding the students i.e. how they learn, form attitude, develop interest and inculcate values. The student is the genuine source where the curriculum comes from. This source influences curriculum designers by stressing student-centered learning and activities. Students are active individuals who participate in their learning.

Science as a Source

Science is a significant source as it provides meaning for the curriculum design. The scientific method is necessary to observe and measure all the elements and variables engaged in the process of curriculum development. Procedural knowledge or knowledge of process can be understood if only the method of scientific inquiry is adopted to deal with reality and arrive at truths

Society as a Source

Curriculum can be designed to serve the broad social interests of society, as well as the local community. School is a miniature of society and most curriculum framers strongly believe that curriculum should be based on an understanding of society. Curriculum developers also believe that a curriculum should enable individuals to make a place for themselves in society. So we can say, the learners are coming from the society in order to prepare themselves for the society and schools could change society if they had the will to do so. Society directs when and where to modify the curriculum and curriculum is a significant agent for that change of society. Society shows where to modify the curriculum. Hence, “Whenever we have in mind the discussion of a new movement in education, it is especially necessary to take the broader or social view” (Dewey, 1900).

Knowledge as a Source

The domain of knowledge itself is considered as one of the prime sources of curriculum. Knowledge is perhaps the only source of curriculum, and that society and what we know about learners really serve as filters in the selection of content (Hunkins, 1980). Knowledge can be both Disciplined and Undisciplined. Disciplined knowledge is unique as content is organised into a particular structure for example geography and physics. Whereas undisciplined knowledge content is taken from different disciplines and clustered around a focus of investigation for example Bio-science and Bio-technology.

The Learner as a Source

Curriculum is derived from what we know about the learner so the individual is of primary importance. Education should motivate the individual to create his or her own ideas. Based on cognitive researches the curriculum planners draw much from the psychological foundations. Therefore, curriculum should be learner centred and experience centred; and the nature of education as is well as method of teaching –learning is determined by how the learner learns, forms attitudes, values, develops and interests. The teacher serves only as a facilitator in the learning process of the individual child.

External and Divine Sources

There may be some external and divine Sources that influence the Curriculum design. Religion may be an important source long with curriculum designer's values and personal morality.

Curriculum design

Curriculum design is a record of organisation of the elements of a curriculum. It states the inter-relationship of the elements, and this also indicates the principles of organisation for effective operation. This also mentions the pre-requisites of the administrative conditions under which it is to operate (Hilda Taba, 1962). In curriculum design the components or elements of curriculum are organised along two vital dimensions horizontal and vertical. In horizontal organisation the fundamental components of curriculum are arranged side by side. For example, selected contents of separate subjects like geography, history, sociology, political science etc. can be arranged into a course dealing with contemporary studies. While in vertical organisation a specific sequence, order and continuity is maintained in arrangement of content. For example, computation of simple interest in mathematics starts in class 6 then it is continued to higher classes with a higher difficulty level. This concept is similar to Bruner's idea of spiral curriculum.

Johnson identified three notions of Curriculum design as -

- An arrangement of selected and ordered learning outcomes intended to be achieved through instruction.

- An arrangement of selected and ordered learning experiences to provide in an instructional situation.

- A scheme for planning and providing learning experiences.

Curriculum Tips - Establishing a Broad Curriculum Design

Curriculum design refers to the placement of the key elements of curriculum and the relationships of these elements in one or another, a type of mapping of the curriculum course of study. Here are a few helpful recommendations for developing a broad curriculum view to be followed y curriculum planners. These recommendations can be effectively used to "Map" or design the curriculum.

1. Be sure you comprehend the rationale for the course in context with the goals of the school.
2. Be sure you understand objectives of the course according to state or school district guidelines.
3. The focus of the course should be clarified; it should be set whether the designs should stress subject matter, learner needs, societal needs, or all three in some particular balance or weightage.
4. Determine if there is a special need audience or programme for the course.
5. Identify the important components content skills, attitudes and values.
6. Examine the components of the curriculum map to see if they -
    a. Meet the objectives of the course,
    b. Address all the key thinking processes,
    c. Match students abilities according to the data obtained from needs assessment,
    d. Stimulate the student interest,
    e. Feasible in terms of school time allotted and school resources, and
    f. Balanced in terms of content, skills and attitudes.
7. Decide on the components so that they can be used as a framework for your unit planning.
8. Show the map to an experienced colleague or supervisor and revise as necessary.

Source : Allen C. Ornstein, Institutionalized learning in America (New Brunswick, NJ: Transaction, 1990)

4.3.3 Dimensions of Curriculum

Curriculum designs provide clear relationships between and among the different elements of the curriculum: objectives, contents, activities and evaluation. These

elements will determine the shape of the curriculum and also determine the kind of learning experiences it will provide.

The six dimensions of Curriculum design are discussed hereunder:

1. Scope : It means the length and breadth of contents. All types of educational experiences to engage students in learning- cognitive, affective and psychomotor learning (some might add the moral or spiritual domain). All the content, topics, learning experiences and organising threads comprising the educational plan come under this dimension.

The terms broad, limited, simple and general are few of the words that can describe the scope. It refers to the coverage of the curriculum. The scope of the curriculum can be divided into chunks called units, subunits, chapters or sub chapters as the case may be. Every chunk is guided by the general curriculum objectives or goals. Teachers and other educators should consider the scope of the curriculum to decide which content to include and the amount of detail of the content to be included in the curriculum. It is desirable that the scope of the curriculum should be kept manageable and should address a limited number of objectives. Now here arises a very important question raised by Herbert Spencer, who asked "What knowledge is of most worth?" This question poses many problems to the curriculum planers as it is really difficult to identify most worthy contents. One last thing should be mentioned here that is the sole objective is to educate the learner as a whole so that contents selected should reflect the same.

2. Sequence : Sequence implies the order or arrangement in which the content should be taught for the best learning (building on past knowledge) throughout the course. Educators must decide the sequence before a course begins to be effective. Vertical relationship among the elements to provides continuous and cumulative learning. When considering sequence curriculum planners are challenged to deal effectively with the curriculum elements so that it fosters cumulative, comprehensive and continuous learning, this is possible by establishing vertical relationship among the content areas. Contents and experiences arranged in hierarchical manner where the bases can either be the logic of the subject matter or the developmental patterns of growth of the cognitive, affective and psychomotor domains.

In organising content into an effective sequence the curriculum planners should take into consideration how the individuals develop and learn. At the same time they should also consider the substantive structure of the content. Hence we can say that sequencing is a very important step in curriculum design and it should take care of individual need and group interests.

Principles of sequence : Four principles for sequence as introduced by Smith, Stanley and Shore are mentioned here -

i. Simple to complex learning - Contents and experiences are organised from simple to complex, concrete to abstract, easy to difficult. Researches reveal that students learn most when started with easy and concrete concepts rather than difficult and abstract concepts.

ii. Prerequisite learning - There are fundamental things to be learned ahead. Students can learn better any content if they do have the prerequisite for learning that content.

iii. Whole to part learning- This implies overview before the specific content or topics are delivered and it is related Gestalt principle. Whole versus part learning receives support by the cognitive psychologists.

iv. Learning chronologically - The order of events is made as a basis of sequencing the content and experiences. For subjects like history, political science; world events should be organised chronologically for better comprehension.

Few other principles for organising content or sequencing in units are -

- World related sequence (space, time, physical attributes)

- Concept related sequence (class relations, prepositional relations)

- Inquiry related sequence

- Learning related sequence (empirical prerequisites, familiarity)

Again, sequencing of contents or units may be done in different ways-

Concept related sequence indicates how ideas are related together in logical manner.

Inquiry related sequence is based on the process of generating, discovering and verifying knowledge, content and experiences are sequenced logically and methodically.

Learning related sequence implies people learn through experiencing contents and activities.

Utilisation related sequence indicates how people use their knowledge through an activity.

Continuity :

This component deals with vertical repetition and recurring appearances of the content and thus provides continuity in the curriculum. For example if developing writing skill is an important objective then it becomes necessary to see that it is occurring repeatedly so that the child gets enough opportunity to practice and develop the specific skill of writing. At this point mention should be made of Bruner's "spiral curriculum" where the content is organised according to the interrelationship between the structures of the basic ideas of a major discipline. The concept of spiral curriculum emphasizes on vertical and horizontal integration of knowledge. Therefore the curriculum planners will try to establish link between topics within a discipline or field of study.

Integration refers to linking all types of knowledge and experiences contained within the curriculum plan. "Everything is integrated and interconnected. Life is a series of emerging themes" (Ornstein and Hunkins, 2014), therefore organisation is drawn from the world themes and from real life concerns. Subject matter content or disciplined content lines are erased and isolation is eliminated. It emphasizes on horizontal relationships. Everything is integrated and interconnected. Life is a series of emerging themes. This is the essence of integration in the curriculum design. People cannot disconnect themselves from their inquiries and the curriculum cannot exist as a separate bit. Therefore the curriculum planners should emphasize on integration between various content, topics and themes involving all domains of knowledge and skills. By integration the students develop unified view of knowledge and deeper meaning of the subject matter. The opportunities of learning should be arranged and sequenced in such a way that integration occurs within the learner. Lack of integration of knowledge in education is increasing due to knowledge explosion. At present integrated curriculum has become an urgent need as students goes on adding information to their existing knowledge without actual integration.

Articulation :

It refers to the vertical and horizontal interrelatedness. For example, Teacher design algebra course so that it relates algebra concepts to key concepts presented in geometry course.

This can be done either vertically or horizontally resulting in vertical articulation or horizontal articulation. Vertical articulation implies sequencing content from one level to another. It also ensures students receive necessary preparation for coursework. Horizontal articulation is also known as correlation. It blends contents in one part of the educational programme with contents similar in logic or subject matter. At

present horizontal articulation is more emphasized. Articulation is difficult to achieve as to develop interrelationships between 6th grade English and 6th grade social studies are practically difficult. Many a times it happens that contents in the curriculum are added without paying any attention to connect the subject areas.

Balance :

In curriculum designing when educators strive to give appropriate weight to each aspect of design. Equitable assignment of content, time, experiences and other elements to establish balance is needed in curriculum design. Curriculum design committee should be present to involve teachers, parents, administrators and even students. Students' vision, mission, goals and objectives should be reviewed and used as bases for curriculum design. The needs and interests of the learners in particular and the society in general should be considered. The curriculum design should take into account cognitive, affective, psychomotor skills, concepts and outcomes. Perhaps it is very difficult to bring total balance in the curriculum. It is quite common that curriculum planners and educators tend to put too much emphasis on a single subject or group of subjects at the expense of others.

Olivia (1997) has listed a set of points to consider, that can provide a base for attaining balance in the curriculum. According to her balance has to be sought between

1. The child centred and subject centred curriculum.
2. The need of the individual and of society
3. The needs of common education and specialised education.
4. Breadth and depth of Curriculum content.
5. Traditional content and innovative content.
6. The needs of the unique range of pupils regarding their learning styles.
7. Different teaching methods and educational experiences.
8. Work and play
9. The community and school as educational forces.

The probability of attaining balance within the various components of the curriculum may increase if the above mentioned suggestions are followed.

4.4 Theories / Models of Curriculum Development / Designing

The process of Curriculum development is an ongoing dynamic and interactive phenomenon and can begin with any curriculum element. Curriculum approaches or models are central to the curriculum process. These approaches are essential in determining the content and implementation of the curriculum programmes. Curriculum model refers to an educational system that combines theory with practice. A curriculum model has a theory and knowledge base that reflects a philosophical orientation and is supported, in varying degrees, by child development research and educational evaluation.

Prescriptive, Descriptive and Critical Theories/Models

The descriptive and prescriptive models are alternative ways of explaining the two broad and widely accepted models of curriculum development, namely, the Product and Process models. Prescriptive model stands for product model and process model almost similar to descriptive model. Types of Curriculum Models Curriculum models fall into two types, models for the curriculum which prescribe what teachers should do (prescriptive) and models of the curriculum which describe what teachers actually do (descriptive).

4.4.1 Prescriptive Theory / Models of Curriculum Development

Prescriptive curriculum models are models which prescribe what teachers should do. Over the years two forms of prescriptive models have emerged - the traditional prescriptive and the contemporary prescriptive models. The most well-known example of Traditional Prescriptive Models is Ralph Tyler's Objectives or Rational Planning Model. A prescriptive theory is one that says how people or things should function, as opposed to how they actually do. Prescriptive Theory of Curriculum Development prescribes how things ought to be. The purpose of prescriptive theory is to establish norms for action which was coined by Hirst (in Tibble,1966). In Prescriptive Theory of curriculum planning process should be defined by first thinking about the outcomes that are to be obtained by students. Having identified the outcomes, the curriculum planners, work "backwards" to, determine content, teaching and learning activities, assessment and evaluationThe terms prescriptive and descriptive are derived from the models of language teaching, especially teaching of grammar. In curriculum designing, prescriptive curriculum means to prescribe what curriculum designers should do, how to create a curriculum. This model is more concerned with ends rather than means to developing a curriculum. One of the classical examples of

prescriptive curriculum is Ralph Tyler's Objective based model. It asks four basic questions:

1. What educational purpose (objectives) the curriculum should seek to attain?
2. What educational experiences are likely to ensure attaining the purposes?
3. How experiences can be organised effectively?
4. How can we determine whether purposes have been attained?

In order to set objectives, it is essential to write them in observable behavioural terms. As for example –

Acceptable objective	Unacceptable objective
To describe, to define	To know
To explain, to elaborate	To understand*

(*These are just examples, all objectives can be stated similarly).

Recently, the classical objective based model has been modified more meaningfully on the basis of 'Broad outcomes and specific Curriculum objectives'

Advantages of Prescriptive approach are

- Prescriptive models for the curriculum prescribe what teachers should do therefore this group of models provide a set of advice for the teachers and curriculum implementers beforehand.
- The advocates of this approach start with a simple message, they prescribe curriculum planning process should start with defining the students outcomes that are to be obtained by students then the curriculum planners work backwards to achieve those outcomes.

4.4.2 Descriptive Theories / Model of Curriculum Development

The authors of Descriptive Models also criticised the prescriptive curriculum models for being simply objective or out-come based model. The reason behind disagreement is that curriculum planning process is a complex human activity and so it should not be considered as a matter of following some fixed and pre-specified steps. Stenhouse, was one of the critics of the objective or prescriptive model. He put forward a 'research- based' model plan for curriculum development. For him, the curriculum process represented an agenda for classroom-based research by teachers. Models grounded in the complexity of practice were then proposed. This category of models is known as 'Descriptive' curriculum models. They represent what is genuinely happening actual setting. An example of the descriptive model is the

'Situational' Model developed by an Australian, Malcolm Skilbeck. This model considers the complete 'situation' or context in which the curriculum is located. The significant external and internal issues that may impinge on the curriculum developmental process are also under the purview of curriculum developers. Malcolm Skilbeck, as a champion of descriptive model of curriculum designing thinks that the situation or context in which the curriculum is developed and will work should be thoroughly and systematically analysed to find out the function and effect of every unit on the curriculum.

Descriptive models are more concerned with what curriculum designers do, what the curriculum covers. The outcomes and curricular objectives are determined by what is known as Situational Analysis. This is a pragmatic approach which caters more to the societal needs rather than academic needs. Situational analysis is done both on peripheral or external and core or internal factors. As for example, some external factors are goals of the nation, societal expectation and change, Employers' and community values, nature of the discipline, support system, flow of resources etc. On the other hand, typical internal factors are, Students', Teachers' and institutional culture, existing resources, problems and shortcomings etc.

Curriculum Maps

Curriculum mapping is the process of indexing or diagramming a curriculum to identify and address academic gaps, redundancies, and misalignments for purposes of improving the overall coherence of a course of study and, by extension, its effectiveness (a curriculum includes everything that teachers teach to students, instructional materials and techniques they use). Before the advent of computers, curriculum designers used to do paper work for curriculum mapping. At present, spreadsheets, software programmes, online services are used to understand the extent to which the teachers are able to fulfil students' expectations and how the expectations change with time. This is also a descriptive approach to curriculum change as to curriculum development.

Advantages of Descriptive approach are

- Descriptive approach to curriculum is a pragmatic approach which caters more to the societal needs rather than academic needs and societal needs cannot be adequately fulfilled without satisfying academic needs.
- These curriculum models basically represent what is genuinely happening actual setting.

4.4.3 Critical Theory / Model of Curriculum Development

Paulo Freire (1985), a Brazilian educator and philosopher, wrote in his book 'Pedagogy of the Oppressed' about what he called Critical Pedagogy. This theory is basically derived from post-Marxian theorists and the theory deals with careful reflection of the suppressed socio economically backward people and how curriculum can be framed to bring them out. Critical approach to curriculum assumes that

- Education is value laden process;
- Learners actively create knowledge, participate in learning by taking a critical look at what power and impact on those who are without it;
- This way the learners recognize causal and circumstantial relationship that causes social injustice;
- Gaining power with words transfer into personal power making a social change;
- Promote critical thinking, dialogue and discussion making activities that support democratic ideals and move towards socially critical consciousness.

Paulo Freire believes that,

- Teachers lead the class while following leads from the students.
- Form of knowledge gained is fixed and depends on interaction among students, text and teachers. Knowledge is treated rather than taken in.
- Education is political. Both language and power are connected.
- Curriculum is not set in advance. It emerges from action an interaction of the participants. It addresses social and community issues of importance.
- Learning is assessed through portfolio, self assessment, and by means of social and political changes and levels of consciousness reached. External performance levels do not apply.

Advantages of critical approach are,

- It does not ignore the difficulties learners face in learning head on,
- It is motivating, does not separate learners' life and learning.
- Bridges class room and real world.
- Helps in social justice and empowerment.

There are some disadvantages too,

- It is time consuming.
- Teachers need special facilitative skills in teaching reading and writing.
- The whole idea and practice are unfamiliar and difficult.
- Learners' potential has been ignored.
- It is formulated keeping in mind the primary or elementary education and may be unsuitable for academic higher studies.

4.4.4 Personal Curriculum Theory

This theory is derived from the work of Pinar and Grumet (1976), it is based on reconceptualists and also a critique on traditionalist. Personal Curriculum, as it appears in the Michigan State notification to a number of schools intending to implement Michigan Merit Curriculum, is defined as "the intent of Personal curriculum is to individualize the rigor and relevance of the educational experience and provide a tool to help all students succeed.." Its prime features are,

· Seat time waiver – A student is allowed to be in the class room as long as she wishes. Fixed sitting time is waived.

- On line learning – Facilities for on line learning are provided and allowed.
- Dual Enrolment – Flexible enrolment policy is adopted and students can enrol simultaneously in two courses of her choice.
- Testing out – Testing time is flexible. A student can opt to be tested at a suitable stage of the course and quit.
- Career and Technical Education – What is commonly known as vocational education, is provided if the learner so desires.
- Personal Curriculum – The learner is free to choose the educational and non-academic experiences to be included in her course of study.

Students are encouraged to –

- Undertake competency based learning:
- Follow integration principle in content and approach in studies:
- Be awarded due credits for out of school learning by the teachers: and
- Get adapted to the school curriculum flexibility.

The other features of Personal Curriculum include variation in its application like,

- To go beyond academic credit requirements focusing on enrichment of learning.

- To modify Mathematics learning requirements so that learners are allowed to learn Mathematics at various levels.
- To provide Individualized Education Programme (IEP) to modify individual requirements for students with special needs.
- To modify credit requirements for transfer students.

Michigan State has experimentally implemented Personal Curriculum to a number of selected schools willing to accept the plan. Obviously, the whole project is complex and needs careful planning.

4.5 Models of curriculum development: Tyler, Taba, Kilpatric

Introduction

In curriculum development model serve as a guideline to action. Almost in every educational area models are used to represent different concepts. The educational field has models on instruction, administration, evaluation, supervision etc. In curriculum studies models are found in curriculum development as well as curriculum evaluation.

Print (1987) explains a model as a simplified representation of reality which is often depicted in diagrammatic form. In the process of curriculum development models are designed to provide a basis for decisions regarding selection, structuring and sequencing of the learning experiences.

Several models can be developed based on various approaches of curriculum development. Most models can be classified as either technical / scientific models or non-technical / non-scientific models. Those educators who emphasize on subject matter approaches adopt the scientific or technical approach to curriculum development. Advocates of learner-centered and problem centered designs have formulated non-technical or non-scientific curriculum designs.

Technical-Scientific Models

Curriculum developers designed this approach by using the scientific model which requires observing and monitoring of components subject matters, objectives, learning experiences and evaluation. In this approach curriculum development is a useful blueprint for structuring the learning environment. According to this point of view, “Curriculum development is basically a plan for nurturing the environment to

coordinate in an orderly manner the elements of time, space, materials, equipment and personnel." (Feyereisn, et. al. 1970.) The curriculum can be understood from a macro or broad point of view with its prime objective of educating the individual. It enables the educationists to work with a specific plan in mind, which may help to achieve optimal student learning, through a scientific organization of its components into a complex unit. These are the three models under the Technical-Scientific Approach.

- Hilda Taba Model
- Goodlad Model
- Hunkins's Developmental Model

Hilda Taba Model is discussed in detail in the later part of this unit; a brief outline of the other two models is given here -

Goodlad Model

In this model educational aims are formulated by analysing the values of the existing culture. Then accordingly the educational objectives and learning objectives are stated. Based on these the behavioural objectives are determined following which the learning experiences and opportunities are provided. Goodlad's model is considered as technical-scientific as the various components of this model are inter-connected. Feedback is generated after analyzing the student's performances and relating them to the values and culture of the society, and accordingly the entire model may be revised if necessary (John L. Goodlad and Maurice N. Richter, 1966; in Ornstein and Hunkins, 1988).

Hunkin's Developmental Model

This model helps the curriculum planners to reconsider their decision making about curricular actions. If the curriculum planner finds that no content exists for a particular student at the stage of content selection, they can revisit the curriculum development process from the very beginning and rethink the curriculum to recreate and state the learning objectives.

Hunkin's Developmental Model has seven major stages; namely - curriculum conceptualization and legitimization, diagnosis, content selection, experience selection, implementation, evaluation and maintenance.

There are several other technical or scientific models each having the essential aspects for curriculum development though each is not all-embracing and complete.

Non-technical /Non-scientific Models

Non-technical or Non-scientific Models do not mean they are non-systematic or non-rational, but this approach focuses on the perception of needs and preferences of the learners. In this approach learners are also involved in the curriculum planning process. Since this model focuses on the individual need of the learner, subject matter and society, it is considered as subjective and particularly individualistic.

There are three models under non-scientific curriculum designs

- Open Classroom Model
- Wienstien and Fantini Model
- Roger's Model of Interpersonal Relations

Open Classroom Model / Kilpatrick model

William Kilpatrick is one of the proponents of the Open Classroom model, it is based on the Activity Curriculum. Though the believers of this model do not believe in planning any activity for the children in advance; as this may suppress and hold back the child's developmental trajectory. This movement was initiated at the time when learning was teacher dominated the whole educational scenario and learners were mere passive recipients of knowledge. The activity model allows children to move around freely in the classroom and learn by doing. In Open Classroom model learners can make choices according to their own needs, interests and aptitudes. In Open classroom model, teachers' control and rigid curriculum is replaced by child's capability and sovereignty.

Weinstein and Fantini Model

This model is called non-scientific or non-technical as this model is based on concern of the students. In this model the process of curriculum development is initiated with identification of the learner group. Teaching-learning process is based on the interests and characteristics of the group. The proponents of this model believe that teachers generate new content and techniques by keeping the learner at the centre to the whole process. The existing curriculum and instructional methods are assessed to modify the curriculum to meet the learner needs. Learners' feelings, students' identity, experiences of a growing person, and students' knowledge of the social content play an important role in determining the sources of content. This model emphasizes enhancement of self-image of the learner and instils in them a confidence and belief in themselves (Orstein and Hunkins, 1988). This model attempts to develop a feeling of self-worth in the learners after interaction with content and teachers.

Roger's Model of Interpersonal Relations

Carl Rogers (1979) is one of the proponents of this model. Rogers has developed a model for changing human behaviour which can be used for curriculum development. In this model human experiences are considered more important than content or learning activities. He believes that by expressing themselves honestly and exploring each other's feelings in a group, learners can solve their problems. Rogers claims that the climate of openness in a group generates trust and permits individuals to know themselves and each other comprehensively.

The main points of concern of these two approaches are outlines here -

Therefore it can be stated that the technical-scientific models rely more heavily on the view of experts and demands of subject matter, while considering learner's needs. Hence we can say that technical-scientific models primarily focus on subject matter whereas non-technical non-scientific models, which focus on learner needs and subject matter and society. Both the groups are looking at the curriculum from different frameworks. Educators who emphasize learners and problems formulate non-technical or non-scientific curriculum designs.

Technical Approach

1. This approach is considered to be logical efficient and effective in delivering education.
2. Curriculum is viewed as a plan or blueprint.
3. Curriculum development is a definable process and helps in analysis of of means and ends.
4. The objectives of these curriculum approaches are usually preordained.
5. The models under these approaches are criticized as too linear.

Non technical approach

1. Non technical approach is subjective, personal, aesthetic and it focuses on the learner.
2. The main focus of these approaches is the students.
3. Non technical approaches consider the learners as the participants and view learning as a holistic process.
4. These approaches question the universality and objectivity; as well as the assumptions of the technical approach.
5. These approaches put more emphasis on the personal, subjective and aesthetic nature of the curriculum.

Curriculum Designs or models may again be classified under four broad categories

1. Traditional curriculum model
2. The Student-Centered model
3. The Critical model
4. The Structural model

1. Traditional curriculum model or Subject-Centered Curriculum

This traditional model focuses on the content of the curriculum. The subject centered design corresponds mostly to the textbook written or study materials prepared for the specific subject. Some common examples of this model are Subject Design, Discipline Design, Correlation Design, Broad field design/interdisciplinary etc.

2. The Student-Centered or child-centred model

Rouseau, Pestallozi, John Dewey and Froebel are the proponents of Child-centered design/model. It is based on the needs and interests of the child. The learner is considered as an active individual but as one who engages with his/her environment. Experience-centered design, Humanistic design are some of the models or designs under child-centred model. The integration of thinking, feeling and doing of the whole person is emphasised for developing the positive self-concept and interpersonal skills. This model states that the cognitive, affective and psychomotor domains need to be interconnected and must be addressed in the curriculum.

3. The Critical model or approach to curriculum

Paolo Freire (1985) was a pioneer of critical approach to curriculum. This approach assumes that education is a value-laden process. Freire's theories and curricula promote critical thinking, dialogue, and discussion making activities that support democratic ideals and move towards socially critical consciousness. In developing critical curriculum, teachers must first learn about important issues in their student's lives through conversation, and lots of listening. Learners actively create their own knowledge as they participate in learning by taking a *critical look* at who has power and what impact the powerful person has on the lives of others. The form of knowledge gained is fixed and depends on interaction among students, texts and teachers. Knowledge is created rather than taken in as readily available.

4. The Structural model

This approach assumes that every discipline has a fundamental structure, which is reflected by the organisation of its content and the interrelationships among its various

components. The curriculum should reflect the structure of the specific discipline. Understanding of the structure will enable the students to develop new ideas, thoughts and insights; then they can express these in their own language. In this approach the structure is most important hence the curriculum in a particular subject can be formulated in advance for various grades. Gaining mastery on subject matter is most important. Knowledge about learners need, interest and attitude is of little importance.

After giving an outline of the four broad categories of Curriculum Designs or models, in the following section three very significant models of curriculum development is discussed -

4.5.1 Tyler's model of curriculum development

Ralph Tyler (1902-1994) published more than 700 articles and 16 books. Tyler stated that the curriculum should be dynamic and it is such a programme which is constantly evaluated and revised. Before Tyler, curriculum was thought to be a static set programme and preoccupied with student testing. For the first time he offered the innovative idea that teachers and administrators should spend as much time evaluating their plans as they do while accessing their students. Ralph Tyler's Objectives or Rational Planning Model is called the Objective Model because it starts with the objectives. This model sets out what curriculum workers should do.

Tyler proposed that curriculum planners should identify general objectives by gathering data from three main sources, which are the learners, subject matter and the contemporary life outside the school. After identification of the objectives the planners need to refine them by filtering through two screens that is the philosophical screen and the psychological screen.

In Tyler's model of curriculum development four basic questions are raised.

1. What is the purpose of education? In other words, what educational purposes should the school seek to attain? This question indicates determination of objectives. The learners should be studied and observed important source of educational objectives. The philosophy and contemporary life outside the school can be used in selecting objectives. The psychology of learning and learning experiences of children are considered as important sources for selection of objectives. In determining objectives the progressives emphasize the importance of studying and understanding the child to find out his own objectives and interests. If the child encounters any problem, that should also be known to the curriculum planners while selecting the objectives. Subject specialist and teachers especially chapters may also be considered as important sources for selecting objectives.

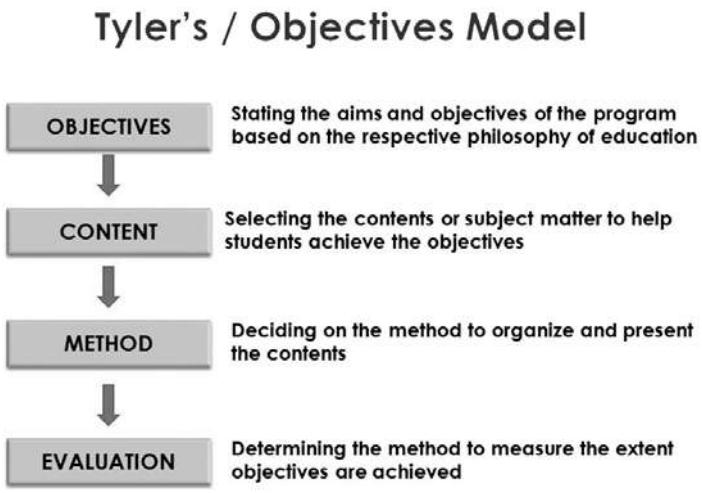
2. Question that arise after selecting objectives are - How can learning experiences be selected? Which experiences are likely to be useful in attaining these objectives? or What educational experiences will attain the purposes? This question determines the instructional strategies and content required to fulfil the predetermined objectives. The term learning experience should be clearly defined to understand the general principles of selecting learning experiences. And this all together can be an important source for selection of objectives.

   Tyler, like his mentor John Dewey, also believed that students learn through exploration and teachers should encourage children to engage actively in discovering what the world is like.

3. How can these experiences be effectively organised for effective instruction? This question signifies the organisation of learning experiences suitable for the learner as well as the pre-set objectives. In Tyler's model the central idea is to organise learning activities effectively. Learning experiences need to be concrete so that the students' readings can be meaningfully connected. Learning experiences should be organised on the basis of three basic criteria, namely - continuity, sequence and integration. Hence meaning of organisation, criteria for effective organisation, the elements that need to be organised, principles of organisation and the process of planning a unit of organisation; all these can contribute for organisation of effective learning experiences.

4. How can one determine that the purposes are met? or how can the effectiveness of learning experiences be evaluated? This question directs to assessment and evaluation of the curriculum programme that has already been developed. The process of assessment is not simple in Tyler's model and it begins with determination of objectives of the educational program. This process of evaluation is essentially the process of determining the extent to which the educational objectives are actually realised by the programme of curriculum and instruction. Evaluation procedures, results of evaluation, values and uses of evaluation procedures and the need for evaluation; altogether can form a sound basis for evaluating learning experiences.

Tyler's Model



Importance of Tyler model :

- The basic principles of Tyler's curriculum model and instruction have been a standard reference for anyone working with curriculum development.
- His book shows how educators can critically approach curriculum planning, studying progress and retooling when needed.
- The readers will develop a firm understanding of how to formulate educational objectives, how to analyse and modify their plans to meet the students purpose or objectives.
- Tyler also explains that curriculum planning is a continuous cyclical process and instrument of education that needs to be tuned finely.
- Tyler emphasized on thoughtful evaluation that has kept basic principles of curriculum and instruction relevant and entrusted companion for more than 60 years.
- Tyler's recommendations act as direct, sound and effective tools for educator's, who can create a curriculum that integrates National level objectives with needs of individual students.

Strengths of the model: This is one of the best known models of curriculum development.

Some major strengths of the model are mentioned here -

1. It involves the active participation of the learners.
2. The objectives are clearly defined in the purposes and these purposes are translated into educational objectives.
3. This model indicates a simple linear approach to development of behavioural objectives.
4. Special attention is paid for planning of each phase.
5. Another positive aspect of this model is its deductive nature, so it proceeds from general to the specific.

Criticisms of Tyler model:

The Tyler's model is criticized in the following issues -

1. The objectives are narrowly interpreted.
2. The process of construction of behavioural objectives is difficult and time consuming.
3. Curriculum is restricted to a constricted range of student skills and knowledge.
4. Higher level objectives like critical thinking, problem solving and value acquiring processes cannot be clearly mentioned in behavioural objectives.
5. Learning experiences are so individual that teacher is not in a position to select the most effective learning experiences.
6. The teacher may attempt to control the learning experience by manipulating the environment which results in stimulating situations sufficient to evoke the desired learning outcomes.

4.5.2 Hilda Taba Model

She was an architect, a curriculum theorist, a curriculum reformer and a teacher educator. Taba was a student of John Dewey. She authored the book named - Curriculum Development: Theory and Practice (1962), a very important document in the field of curriculum studies.

Curriculum development can be defined as the process of planning, implementing and evaluating curriculum that ultimately results in a curriculum plan.

This theory is based on higher order inductive thinking. Hilda Taba believed that the skills used in inductive thinking need to be taught and practiced by students.

Taba's Philosophical ideas on curriculum development:

- ❖ Taba believed that social processes including the socialization of human beings are not linear and they cannot be modelled through linear planning.
- ❖ She thought learning and development of personality cannot be considered as one-way process of establishing educational aims and deriving specific objectives from an ideal of education proclaimed by some authority.
- ❖ The construction of curriculum is not a short term effort but a long process that require continuous revision and reconstruction.
- ❖ New curriculum or programme can be developed more effectively if it is based on the principles of democratic guidance and distribution of work. Emphasis should be on competence not administration.

Some features of Taba's model:

- ❖ Taba's model is based on inductive approach.
- ❖ The teachers are aware of the students' needs therefore they should be the one to develop the curriculum. Hence teacher's approach or perspective is the basis of Taba model.
- ❖ Approach is basically the Grassroot approach.
- ❖ The basic idea of this approach emphasizes that the needs of the students should be in the forefront of the curriculum.

Taba believed that the curriculum should be designed by the teachers rather than handed down by the higher authority. She also felt, it is the teachers who should begin the process by creating specific teaching-learning units for their students in their own schools. Approach to curriculum development is inductive. In inductive approach the curriculum workers start with the specifics and construct a general design of curriculum as opposed to the traditional deductive approach by Tyler, who advocated a deductive approach to curriculum development that is starting with the general design and then working down to the specifics.

There are seven stages in Hilda Taba's model of curriculum development. Taba perceived the stages of curriculum development in the following order as shown in the table.

TABA'S MODEL OF CURRICULUM DEVELOPMENT (Taba 1962)

Step 1 : Diagnosis of needs
↓
Step 2 : Formulation of objectives
↓
Step 3 : Selection of content
↓
Step 4 : Organisation of content
↓
Step 5 : Selection of learning experiences
↓
Step 6 : Organisation of learning experiences
↓
Step 7 : Determination of what to evaluate and ways and means of doing it.

Stage 1 : Diagnosis of needs

This implies diagnosis of the learners' needs and expectations of the larger society. The learners' need can be diagnosed through diagnosis of achievement, diagnosis of students as learners and diagnosis of curriculum problems. The diagnosis process should be conducted systematically, it should start with problem identification then the identified problem is analysed. After this the formulation of hypothesis and gathering of data will be followed by experimenting with action.

Stage 2 : Formulation of learning objectives:

Learning objectives will be based on the objectives of education, which are as follows -

- ❖ To add to knowledge they possess or their existing knowledge;
- ❖ to enable the students perform skills which otherwise they would not perform;
- ❖ to develop certain understanding, insights and appreciations;
- ❖ to understand and analyse the culture of a particular society, which the education programme is supposed to serve;
- ❖ to develop a healthy and balanced personality of the students;

These educational objectives are of much importance as they transmit culture, reconstruct society and help in fullest development of the individual. Certain principles are to be followed in formulation of objectives. These are - objectives should be useful, clear and concrete. Objectives should have a broad scope and realistically achievable.

Stage 3 : Selection of learning content:

Content should be selected rationally. By nature the content should be significant, valid and consistent with social realities. Appropriateness to the needs and interests of the students should be verified. There should be clear distinctions between different levels of contents.

Stage 4 : Organisation of learning content

The contents should be organised based on the principles of sequencing. A teacher cannot just select content, but must organise it in some type of sequence, taking into consideration the maturity of learners, their academic achievement, and their interests. Content must be presented to students and students must be engaged with the content. At this point, the teacher selects instructional methods that will involve the students with the content.

Stage 5 : Selection of learning experiences

The principles of learning are applied at this stage. What are the different teaching methods that have been used? While using lecture method the teacher should be active to use questioning and discussions. In this phase it is decided whether the students have enough opportunities to learn from one another and whether the students are using these opportunities to solve their real problems or using only while working in projects.

Stage 6 : Organisation of learning experiences

After selecting the learning experiences the teacher needs to organise the selected ones to present it before the students more effectively.

Stage 7 : Determination of what to evaluate and the ways and means of doing it.

In this phase planning is done for evaluation. The curriculum implementers or the teachers try to evaluate whether the aims and objectives are actually achieved by students. Attempts should be made to assess the quality of learning and it should also be ensured that curriculum organisation provide experiences which offer maximum opportunities for all types of learners to attain their goals independently.

Taba believed, to evolve a theory of curriculum development, one needs to understand the demands and requirements of a culture and society both for the present and the future, as curriculum is a way of preparing the young to participate in one’s culture.

Applications of Taba's model

This model is currently used in most curriculum designs. Taba's Grassroot model emphasizes that a broad base of involvement is necessary for curriculum decision-making. For identifying the needs of the students, developing objectives and selecting instruction method this model is widely used. Learning experiences are organised and evaluated by using this model.

Strengths :

1. The teachers enjoy great autonomy as the role of teacher is not limited to implementation of the curriculum but she acts as the developer of the curriculum too.
2. Base model mentions that the teachers are aware of the students names therefore there can plan for students learning in a better way.
3. The objectives are considered to be very important in this model as they determine what to include, exclude and emphasise in the curriculum.

Some criticisms of Taba model :

1. This model applies the concept of participatory democracy as a highly technical and specialised process, therefore it lacks simplicity.
2. The connection between the content, activities, teaching methods and evaluation are always not understandable to the teachers.
3. Another special requirement of this model is keeping the resources up-to-date.
4. The new teachers require training for using this method and they also need support as the plan is often reviewed.
5. The model has employed the concept of participatory democracy to a highly technical, complex and specialized process, and this cannot guarantee an effective curriculum.
6. This model believes that teachers have the time and expertise to engage in such extensive curricular activities.

The Taba-Tyler rationales

Both Taba and Tyler follow the technical/ scientific approach. When comparing between these two models of curriculum development it is difficult to ascertain who borrowed from whom and when but we have to admit the basic difference of the two curriculum design approaches, which has a critical meaning not only for researchers of modern times but also for those developing curriculum for current school praxis.

The sequence of development as propounded by Piaget's learning theories form the basis of curriculum principles propounded by Tyler and Taba, and curriculum principles remains the same for all individuals. Tyler (1962) propounds three methods of organizing learning experience which were based on Piaget's theory of cognitive development:

Continuity: Skills and concepts in a curriculum should have vertical recurrence, which enable the learner to practice those concepts.

Sequence: Understanding of concepts should be in a sequence such that each successive experience builds on the preceding one.

Integration: Curricular experiences should be horizontally interrelated and should be unified in relation to other elements. Concepts in a particular subject should not be in isolation to concepts in other subjects.

Taba reviews Piaget's four stages of cognitive development and anaIyses their implications for intelligence and mental development. Complex concepts and subject matter should be transformed into mental operations appropriate to the learner's development stage. Taba also takes into consideration Piaget's cognitive process of assimilation, accommodation and equilibration. Taba'a curricular experiences are compatible with existing experiences; the concept should be organized so as to move from concrete principles (accommodation) and classifying new relationships/ equilibration.

Points in favour of Tyler's approach

- ❖ This model is Deductive in approach.
- ❖ Argues from the administrator's perspective or approach.
- ❖ Believes that administration should design the curriculum and the Teachers should implement it.
- ❖ Places main stress on objectives, evaluation and control.
- ❖ This approach may be perfect for market oriented education but inadequate for the development of responsible and creative individuals who need to meet the challenges of constantly changing circumstances of the society.

Points in favour of Taba's approach

- ❖ This model is Inductive in approach.
- ❖ Reflects the teachers approach, she believes that teachers are aware of the students needs hence they are the one who should develop the curriculum and implement in practice.

- ❖ Her rationale does not start with the objectives as she believes that the demand for education in a particular society should be studied first.
- ❖ In Taba model attention is paid to the selection of the content and its organisation with an aim to provide students with an opportunity to learn with comprehension.

4.3.3 Kilpatrick approach to Curriculum development

William H. Kilpatrick (1871 – 1965) was the much acclaimed progressive educational philosopher, teacher and interpreter of John Dewey's work and at the same time a bitterly criticised person by a section of American educators. Commonly he is famous for the formulation and giving useful shape to his Project Method and Project based curriculum. According to Kilpatrick, curricula are purposeful activities which are child centred. Purpose of curriculum is child's development and growth. He was the pioneer to the idea of personalised curriculum as in his project method teacher and the student plan of the activities to be undertaken by the latter. Another reason for Kilpatrick's rising influence in American education was his effective teaching and charismatic public-speaking ability.

Post World War II, critics attacked several aspects of the ideas and practices of Progressive education. They saw a curriculum that lacked firmness and students were academically unprepared to compete with in a global economy. Kilpatrick's consistent Progressive message was that schools needed to be more child-centered, democratic, and socially oriented. It is important to remember that the Project Method was not a rigid method but actually a philosophy. Specific criticism aimed at Kilpatrick emerged in the school reform literature of the 1980s and 1990s.

Kilpatrick's spectacular rise in educational circles began with the publication in 1918 of his article "The Project Method". In the article Kilpatrick provided a practical approach to implementing John Dewey's educational philosophy. He banked upon Dewey's earlier work, Interest and Effort, he attempted to demonstrate how students could engage in purposeful activity at the intellectual, physical, and affective levels. "The Project Method" was an immediate bestseller among educators and launched Kilpatrick's national public career.

The inclusion of projects matched the child-centered approach advocated by Progressive educators at this time. The emphases that projects placed on individual learning, on reflective activity, and on the development of the whole child struck an echoing chord with teachers of the period. The project method was nothing but an idea of approaching a child-centered learning experience.

Kilpatrick believed, education was about the social development of the child rather than their cognitive development through the mastery of content. The emphasis was on learning to think and not focusing on what to think.

The curriculum should originate from comprehensive real-life situations and not compartmentalized subject matter. This idea calls for a need for an integrated curriculum that stressed maximum student participation. These beliefs led Kilpatrick to create a unique form of teaching.

Teachers have to perform very significant role in Kilpatrick's form of education. Firstly teachers need to decide what they are trying to do. Next, they need to develop a plan for achieving these objectives. The development of observable goals is clearly the behavioural aspect of this method. Execution involves the implementation of the plan. Lastly, the teacher has to judge and assess the success of the plan. Again, assessing the students and curriculum is a behavioural aspect of the Project Method.

Kilpatrick firmly believed that students should be leaders in the development of their learning as nothing would motivate them more. This also led to the development of decision-making skills. Therefore the progressivist aspect of this method suggested constant revision of the curriculum based on student need and interest and the curriculum was to be developed jointly with the students.

After initial popularity and use for twenty years, this philosophy was criticised due to the difficulty in implementation in large-scale systems. Recently constructivists have used the theories of Piaget and Vygotsky to develop a problem solving system, which emphasizes an adaptive curriculum with students as problem solvers. This instructional process of student-directed learning has been promoted as a new idea, which may be a tentative way to solve the problem of students' motivation and achievement in the modern world. Kilpatrick's Project Method had put forward similar ideas long back.

The ultimate goal for Kilpatrick and present-day constructivist educators is the learners, who can think critically, judge situations and face problems independently in a democratic society. Educational success in the 21st century requires the ability to find answers by the students on their own and move beyond the traditional teacher directed system that emphasised only on assimilation of material. Imaginative thinking and creativity is required in real world situations and Kilpatrick's ideas are highly relevant in this context. The successes and failures of Kilpatrick's work in the twenties and thirties are still beneficial in examining today's curriculum development processes.

The above discussion proves that Kilpatrick's work was much ahead of his time who was virtually instrumental to the development of many modern ideas in contemporary education like personalized curriculum, individualised instruction etc.

4.6 Summary

In this subunit we have discussed the definitions of Curriculum design. Various components of curriculum design have been elaborated with an outline the curriculum tips to establish a Broad Curriculum Design. The Dimensions of Curriculum design are described briefly. This subsection also described the different types of theories of Curriculum Development. Various types of curriculum development models – namely the Prescriptive theories, the descriptive theories, the critical theories and the Personal theories of Curriculum Development are discussed in detail. Different models of curriculum development are described in detail. Tyler, Taba and Kilpatrick's approach to Curriculum development are elaborately discussed along implementation of the models of curriculum development.

4.7 Self-Assessment Questions

1. Define Curriculum design.
2. Identify important areas for curriculum design.
3. Name the Dimensions of Curriculum design.
4. Mention the different types of Models of Curriculum Development
5. Describe elaborately the dimensions of Curriculum design.
6. Discuss the significance of sequence in Curriculum design.
7. Write down the curriculum tips to establish a Broad Curriculum Design.
8. Describe the Prescriptive model of Curriculum Development
9. Explain the descriptive model of Curriculum Development
10. Illustrate the critical model of Curriculum Development
11. Describe the Personal model of Curriculum Development
12. Discuss the teachers' role in Kilpatrick's form of education
13. Describe Kilpatrick approach to Curriculum development
14. Discuss the students' role in Kilpatrick's approach to Curriculum development

4.8 References

Allan C *Ornstein*; Francis P *Hunkins*. (*2014).* Curriculum : foundations, principles, and issues . Harlow: pearson

Dewey, John (1900). The school and the society, Chicago: University of Chicago Press.

Feyereisn, K.A., Fiorino, John, and Nowak, A. (1970): Supervision and Curriculum Renewal: A System approach, New York: Appleton-Century Crofts.

Francis P. Hunkins (1988). *Curriculum*—foundations, Principles, and Issues Prentice Hall, 348 pages.

Francis P. Hunkins (1980). Curriculum Development: Program Improvement. C.E. Merrill Publishing Company 393 pages.

Goodlad, Maurice N. Richter (*1966*).The development of a conceptual system for dealing with problems of *curriculum* and instruction. ERIC Document Reproduction Service.

Hilda Taba (1962).The theory of curriculum development: New York : Harcourt, Brace & World.

Oliva, P. (1997) The curriculum: Theoretical dimensions. New York: Longman.

Paulo Freire. (1985). The Politics of Education: Culture, Power, and Liberation. Greenwood Publishing Group.

Print, M. 1989. Curriculum Development and Design. Sydney: Allen and Unwin.

Rogers C. (1979). On Becoming - Client-centered psychotherapy. Howard Kirschenbaum. Delacorte Press, 444 pages.

Tibble, J. W. (*1966*), The *Study* of Education. London, Routledge & K. Paul; New York.

William Pinar, Madeleine R. Grumet (1976) Toward a Poor Curriculum -Kendall/ Hunt Publishing Company.

UNIT 5 ❑ Curriculum Evaluation

Structure

5.1 Objectives

After going through the sub units the students will be able to:

- ❑ Define curriculum evaluation;
- ❑ identify important areas for curriculum evaluation;
- ❑ discuss the challenges faced in different levels of curriculum evaluation;
- ❑ mention the objectives of curriculum evaluation;
- ❑ describe briefly the steps in conducting a curriculum evaluation;
- ❑ identify important sources of curriculum evaluation;
- ❑ explain the role of students as an important source of curriculum evaluation.
- ❑ describe the role of subject experts and teachers as an important source of curriculum evaluation.

- ❑ justify the significance of curriculum evaluation at micro & macro level;
- ❑ describe the process curriculum evaluation;
- ❑ mention the Tools of curriculum evaluation.

5.2 Introduction

We have discussed the different dimensions of curriculum development in the preceding unit. You also studied the influences of different theories and models that have immense impact on the development of curriculum. In this unit we will discuss the concept of curriculum evaluation its nature purpose source and methods. A framework of curriculum is based on the assumptions about the learner and society. Aims and objectives, content and subject matter selection, scope and sequence, modes of transaction, methodology, learning environment and evaluation are some of the major concerns of curriculum development. In the previous unit we have discussed the different dimensions of curriculum development. Three vital aspects are considered in organizing curriculum. They are Articulation, Balance and Continuity. We learnt articulation is interdisciplinary, interrelationship among subjects must be maintained during design of the curriculum. Balance among structure, scope and sequence, content, life experience, time, text book, teaching aids etc. should be achieved through Cognitive, affective and psychomotor domain of objectives. Continuous flow of knowledge and learning experiences should also be ensured in this process. There should be well defined relationships among different components. The influences of different theories are also studied. In this unit we will discuss the concept of curriculum evaluation its nature, purpose, source and method. We shall also discuss curriculum evaluation at Micro and Macro level.

5.3 Curriculum Evaluation : Concept, Objectives, Micro Macro Level

5.3.1 Concept of Curriculum and Evaluation

The term “Evaluation” generally applies to the process of making a value judgment. In education, the term “evaluation” is used in reference to operations associated with curricula, programmes, interventions, methods of teaching and organizational factors. Curriculum evaluation is a process of delineating, obtaining and providing information for taking decisions about curriculum development and implementation. Curriculum evaluation is a necessary and important aspect of any national education system. It provides the basis for curriculum policy decisions, for

feedback on continuous curriculum adjustments and processes of curriculum implementation. Curriculum evaluation aims to examine the impact of implemented curriculum on student learning and achievement so that the official curriculum can be revised if necessary and teaching and learning processes can be reviewed before classroom application. It also aims to find out how much of the intended Curriculum has been transacted in a classroom and how much students are involved in learning activities. The process of curriculum evaluation can provide several ways to improve the teaching-learning systems. Student assessment is an important aspect of curriculum evaluation which helps to facilitate the understanding of the impact and outcome of education programmes. A fundamental measure of the success of any curriculum is the quality of student learning. Knowing the extent to which students have achieved the outcomes specified in the curriculum is fundamental to both improving teaching and evaluating the curriculum. The ultimate goal of curriculum evaluation is to ensure that the curriculum is effective in promoting improved quality of student learning. Student assessment therefore connotes assessment of student learning. Assessment of student learning has always been a powerful influence on how and what teachers teach and is thus an important source of feedback on the appropriateness implementation of curriculum content. The curriculum evaluation is the collection and provision of evidence to find out the feasibility, efficiency, effectiveness and educational value of curricula.

The stages of curriculum evaluation process are stated in the figure below –

STEPS OF CURRICULUM EVALUATION

1.	Identifying Primary audience (sponsors, managers, administrators, school heads)
2.	Identifying critical issues (expected desired and intended outcomes)
3.	Identifying data sources (students, teachers, parents, curriculum planners)
4.	Identifying techniques (standardised test, checklist, observation) of data collection
5.	Identifying established standard and criteria (standards set by professional organisation)
6.	Identifying techniques of data analysis (descriptive and inferential analysis and qualitative and quantitative analysis)
7.	Preparing Evaluation report (written, oral, descriptive, graphic)
8.	Preparing modes of presentation (product display through use of multimedia)

Curriculum evaluation basically translates government education policy into educational practice. The achievement of the goals and aims of educational programmes depends on the status of curriculum contents and practices in the contexts of global, national and local concerns. Curriculum evaluation provides indicators for monitoring and assesses specific strengths and weaknesses of a curriculum and its implementation. All significant information for strategic changes and policy decisions are identified and important inputs to improve learning and teaching are provided.

The term "Curriculum" comprises all the learning which is planned and guided by the school whether it is carried on in groups or individually inside or outside of the school. In the words it is the totality of experiences that pupils receive through various activities in the classroom, library, laboratory, workshop and playground. Curriculum is the tool in the hands of the teachers to develop the desired quantities is in the learner. Curriculum evaluation is the technique to check whether the curriculum objectives are fulfilled.

Curriculum and Evaluation: Putting together

Curriculum evaluation is a component of Curriculum development. It looks into evaluation reforms or innovations that happen in classrooms, School, district and/or the education system as a whole. The process of Curriculum evaluation helps to establish the merit or worth of a curriculum. Curriculum evaluation provides information necessary for teachers, school managers; curriculum exerts for policy recommendations that will enhance achieved learning outcomes. Curriculum evaluation identifies the strengths and weaknesses of an existing curriculum that will be the basis of the intended plan, design or implementation. When evaluation is done in the middle of the curriculum development, it will tell if the designed or implemented curriculum can produce or is producing the desired results. Based on some standards, curriculum evaluation will guide whether the results have equalled or exceeded the previously set standards, thus can be labelled as success.

The process of collecting data on a specific course or programme by utilising scientific tools and techniques to determine its value or worth is known as evaluation. The curriculum developer or the planner conducts evaluation of Curriculum to adopt, reject and revise the programme. The teachers are interested to know the effectiveness of their classroom teaching. Other stakeholders and the public want to know whether the curriculum implemented has been able to achieve its aims and objectives. Any aspect of an activity or endeavour can be evaluated for better performance in future and this brings good result and quality performance if curriculum is evaluated objectively. Curriculum evaluation or assessment is a continuous process and not a

one shot deal. The purpose of curriculum evaluation is to improve and not to prove. Curriculum evaluation is the process that resolves the issues mentioned above.

Diversity of opinion among curriculum experts is found in respect of nature and purpose of evaluation. Some of them view curriculum evaluation as a means for quality control in education. The process starts with the act of stating the objectives of the course and is followed by the definition of these objectives in behavioural terms. Then the new materials are developed such to satisfy the purposes and the objectives that curriculum developers have already conceptualised. To some expert the primary objective is to provide relevant information to the decision makers so as to enable them to arrive at decisions. This implies that there is more to evaluate in the curriculum programme than its stated objectives. This diversity of opinion among curriculum exerts are also reflected in the definition put forward by them.

Towards a definition of Curriculum evaluation

Going through the given below definitions one can easily realise the diversity of opinion among curriculum framers and experts of this area in respect of nature and purpose of evaluation. Curriculum evaluation is an ongoing and dynamic process hence experts viewing different aspects or stages of the process may come up with a definition that seem to be apparently different for the other.

Gay, L. (1985) evaluation is to identify the weaknesses and strengths as well as problems encountered in the implementation to improve the curriculum development process.

According to Olivia, P.(1988) it is a process of delineating, obtaining and providing useful information for judging alternatives for purposes of modifying or eliminating the curriculum.

MC Neil, J (1997) mentioned, evaluation answers two questions, firstly, do planned learning opportunities, programmes, courses and activities as developed and organised actually produce desirable results? & how can a curriculum best be improved?

Ornstein and Hunkins (1998) stated “Curriculum evaluation is the process done in order to gather data that enables one to decide whether to accept, change, eliminate the whole curriculum of a textbook.”

Bilbao, P. P., Lucido, P. I., Iringan, T. C., & Javier, R. B. (2008). Curriculum development. Philippines: Lorimar Publishing, Inc.

From the above definitions it can be stated that it is a continuous process starting from what is intended to what is implemented and achieved. The terms intended, implemented and achieved connotes different meaning altogether (Bilbao, 2008). Intended curriculum refers to the plan, objectives, goals and purposes. Implemented curriculum refers to the various learning experiences provided to the students to achieve the desired goals, endlessly achieved curriculum implies the learning outcomes measured by learning performances.

Curriculum evaluation may be an internal activity and process conducted by the various units within the education system for their own respective purposes. These units may include National Ministries of Education, Regional Education Authorities, Institutional Supervision and Reporting Systems, Departments of Education, Schools and Communities.

Curriculum evaluation may also be external or commissioned review processes. These may be undertaken regularly by special committees or task forces on the curriculum, or there may be research-based studies on the status and effectiveness of various aspects of the curriculum and its implementation. These processes might examine, for example, the effectiveness of curriculum content, existing pedagogies and instructional approaches, teacher education and textbooks and teaching-learning materials. Another very important task for curriculum evaluation is linking the curriculum to the needs of the society for which it is prepared.

5.3.1 Objectives of Curriculum evaluation

1. To provide necessary information to teachers, school managers, curriculum specialist and significant others regarding policy recommendations that will enhance achieved learning outcomes.
2. The basic idea of Curriculum evaluation is to identify the strengths and weaknesses of an existing curriculum that will be considered as the basis of the intended plan design or implementation
3. By this process the obsolete areas, ideas and practices are removed and existing curriculum is updated based on the recent advancements in the field of knowledge. To meet the new challenges and concerns; the outdated, obsolete and redundant material are eliminated from the curriculum.
4. When evaluation is done during curriculum development the objective is to determine whether the design of the curriculum being developed can produce the desired results.
5. One important objective of Curriculum development is to make the curriculum more efficient in achieving the determined objectives. Need assessment and continuous monitoring is done to enhance the effectiveness of a curriculum.

6. To identify the gap if any between the requirements of the consecutive grades and to analyse the suitability of objectives of the present grade and if required filling these gaps with appropriate learning experiences.
7. Terminal assessment and decision making are two other important objectives of Curriculum evaluation. Terminal assessment is conducted towards the end of the curriculum development process and the strength of a programme is ascertained by this process.

The fundamental purpose of curriculum evaluation is to ensure that the curriculum is effective and valuable in promoting improved quality of student learning. Student assessment is therefore considered as an important indicator for assessing student learning. Assessment of student learning has always been a powerful influence on how and what teachers teach and is thus an important source of feedback on the appropriateness of implementation of curriculum content.

Curriculum evaluation fulfils the diverse objectives of diagnosis, certification and accountability. This process requires different kinds of assessment instruments and strategies selected to achieve specific purposes. Assessment of student learning could be summative or formative, and there are various types of tests to address different needs such as standardized tests, performance-based tests, ability tests, aptitude tests, personality tests, interest inventories and intelligence tests.

The process of curriculum evaluation can easily be understood by asking the following six questions which are nothing but the six determining factors in curriculum evaluation:

What is to be evaluated?

Who is to be evaluated?

What is the purpose of evaluation?

Who will conduct evaluation?

Where to conduct evaluation?

What to be done after evaluation?

5.3.2 Steps in Conducting a Curriculum Evaluation

Curriculum evaluation process comprises of some simple steps easy to follow. Begin thinking of how curriculum evaluators will proceed in finding out if there is a need to modify, enhance or continue with the implementation of the curriculum. After all, the main purpose of evaluation is to improve the existing condition, so that it would benefit the students by improving their education.

1. Identifying Primary Audiences

Identifying Curriculum Programme Sponsors, managers and administrators, School heads or institutional head, direct participants i.e. the teachers and the students, content specialist; and other stake holders etc. as the primary audience is the first step.

2. Identifying critical issues

In the second stage the Outcomes which may be of three types i.e. expected, desired and intended should be determined along with the process of implementation and required resources or inputs.

3. Identifying data source

Identification of data source is followed. People (teachers, students, parents, curriculum developers) may act as important source of information, along with these existing documents, available records and evaluation studies also may provide significant data.

4. Identifying techniques for collecting data

Standardized test, informal or teacher made test, sample of students work, interview, participant observations, checklist, anecdotal record and cumulative record cards may be used effectively for collection of data. There are numerous Sources of collecting data for Evaluation. The important sources of curriculum evaluation are primarily the Students, Teachers, Subject experts and Parents. Policy makers, Community, Drop out students, Administrators, School Boards of Education, Examination Boards, Employers and entrepreneurs etc. re also important sources from which data may be collected. Data collected from these sources is considered for introducing changes in content. Evaluation process may reveal that content is not congruent with objectives then some new content may be introduced and mismatched the objectives can be eliminated. Evaluation process can also improve teaching by making use of appropriate methodology. The teacher needs to refine his/her teaching strategies to suit the needs of the students. Again this process can assess the need and scope for introducing new courses as science, technology and information expanding everyday. Evaluation process should always provide the scope of introducing contemporary courses that can help the future students of universities find jobs that are in demand today at present.

5. Identifying established standards and criteria

After deciding on the techniques for collecting data, in the following stage of curriculum evaluation process the standards previously set by any professional oragnization or agency should be identified to determine the standard of the programme.

6. Identifying techniques in data analysis

Now the data collected need to be analysed. Content analysis, process analysis, statistics, comparison, evaluation process etc. may be done for analysis of data. Curriculum evaluation process may make use of one variable analyses and correlational analyses as mostly used data analysis technique. Based on the results achieved decision is taken regarding more use of qualitative and advanced statistical methods.

7. Preparing evaluation report

Evaluation report should be well documented and duly contain all the components identified for evaluation. The important components are goals and objectives, prerequisites like entry level knowledge, contents, processes, outputs, assessment procedures, references etc. All the techniques for obtaining evaluation information should be mentioned while reporting. Information regarding improving teaching learning strategies and the introduction of new courses, etc. should be stated duly.

The evaluation report should contain the progress of the programme, final scenario and summary in descriptive or graphic mode. The nature of the report should be evaluative and judgmental. List of recommendations should be well documented for further improvement.

This is the age of new-wave evaluation, therefore field testing should not play the only role in evaluation but there is a great variety of factors that need to be considered. Student assessment is an important aspect of curriculum evaluation which helps to facilitate the understanding of the impact and outcome of education programmes. A fundamental measure of the success of any curriculum is the quality of student learning. Knowing the extent to which students have achieved the outcomes specified in the curriculum is fundamental to both improving the teaching-learning process and evaluation of the curriculum.

5.3.3 Curriculum Evaluation at Micro & Macro Level

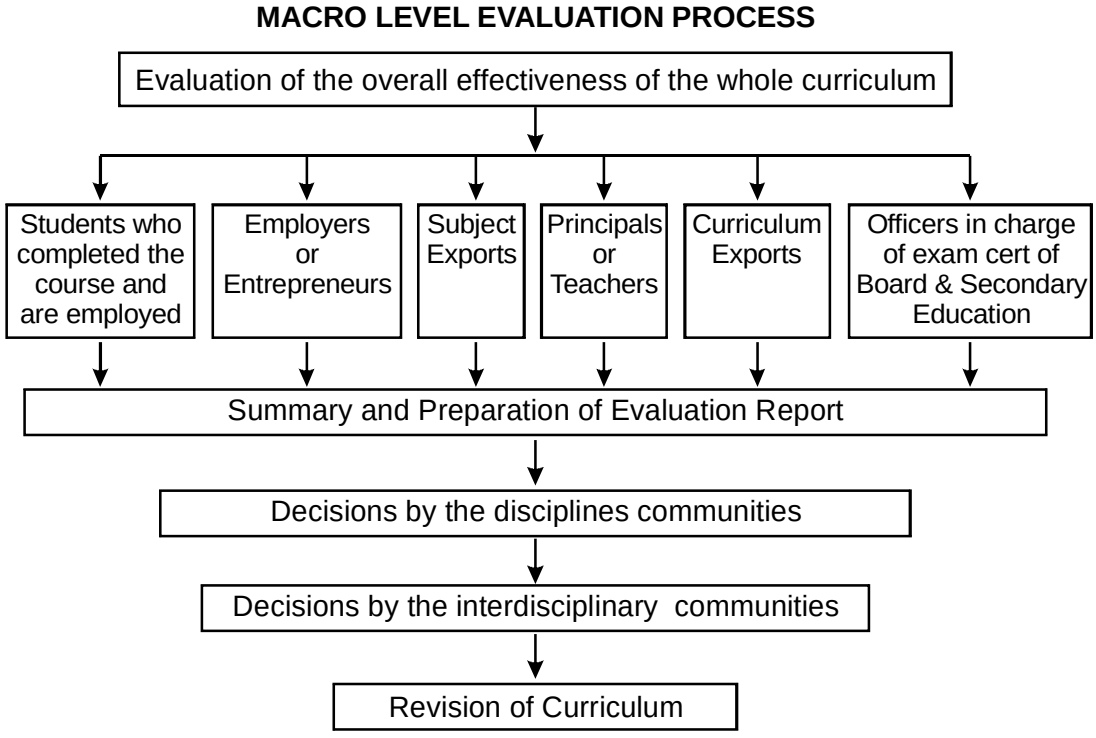
Curriculum evaluation is very long process that starts even before planning of curriculum and continues even after evaluation. It is a necessary and important aspect of any national education system. It provides the basis for curriculum policy decisions, feedback on continuous curriculum adjustments and processes of curriculum implementation. Curriculum evaluation is primarily concerned with effectiveness and efficiency of translating government education policy into educational practice. Determining the importance of curriculum contents and practices in the global, national and local contexts

along with the achievement of the goals and aims of educational programmes are some important areas of curriculum evaluation process. The range of this curriculum evaluation process sometimes starts at the macro level then proceeds to micro level i.e. from national level to local level or vice versa i.e. from local level to national level.

Curriculum Evaluation at Macro level

At the macro level the all curriculum professionals of curriculum development are guided into an analysis through three major activities. Firstly, to determine the structure of a curriculum framework, this includes the typical components of curriculum frameworks to be used as a structural analysis tool. Secondly to formulate what students should know and be able to do, it helps the participant to revise and choose several alternatives to define the expected achievements of students. Thirdly, to integrate different available approaches of curriculum development by reviewing the existing strategies having different focus and depth.

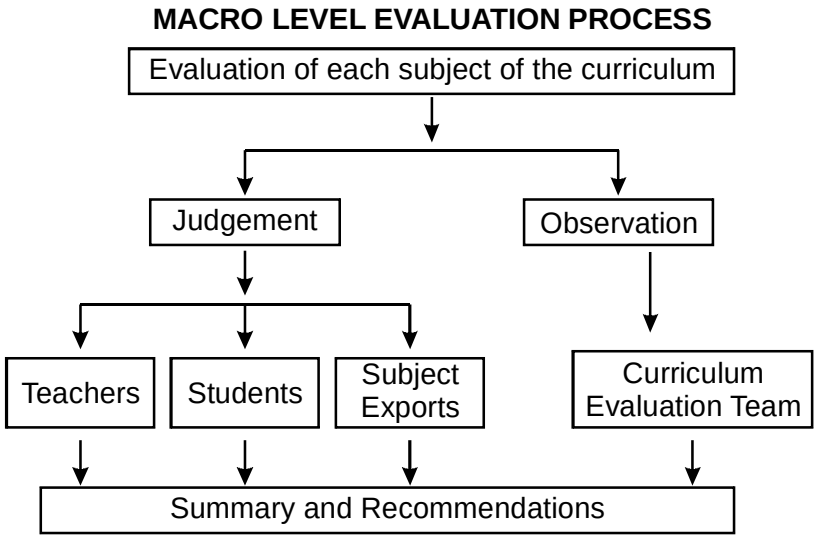
Schematic Diagram Showing Macro Level Evaluation Process



Some characteristics of Curriculum evaluation at Macro level:

1. At macro level the entire curriculum is organised starting from theory to the contents of each subject.
2. Macro level refers to as the 'function of Curriculum design'.
3. The range of curriculum evaluation at this level is huge. Curriculum change, curriculum development, curriculum supplementing, curriculum adaptation, curriculum planning, curriculum experimentation, curriculum design, curriculum expansion, content sequencing, materials evaluation, material writing etc. all these are strategies of macro level curriculum evaluation.
4. At the macro level curriculum evaluation is based on social, political and educational philosophy of the nation and society.
5. The scope of curriculum evaluation at the macro level consists of socio-cultural system, educational system, educational policies and curriculum policies. It also includes activities outside the classroom, co-curricular activities and community involvement activities.

Schematic Diagram Showing Micro Level Evaluation Process



Some characteristics of Curriculum evaluation at Micro level

1. This implies arranging the content of a specific discipline of subject.
2. Micro level refers to as the 'function of Curriculum organisation'.

3. This level indicates change, development, adaptation, planning, experimen-tation, sequencing and evaluation of Curriculum at the school or institutional level.
4. Curriculum evaluation at the micro level concentrates on fulfilment of objectives related to student's needs, self-sufficiency, significance, interest, utility feasibility etc.
5. Curriculum evaluation at the micro level is very much specific and it refers to the learning expectations of the school or any educational institution regarding the prescribed subject or content areas.

5.3.4 Some issues and challenges faced in different levels of Curriculum Evaluation

The ultimate indicator for an effective school is the measure of academic growth of its students. Without sufficient data, schools cannot fine-tune programs or respond to students' individual needs quickly enough to meet local, state, or national guidelines. This is a major problem with the states and the government at the centre to authorise those schools that attain a high proficiency rate of student achievement.

1. Lack of congruence between instructional practices; namely - learning objectives, contents and instructional methods as well as assessment at macro and micro levels.
2. To develop alignment between different levels of Curriculum evaluation, adequacy in teacher training and professional development is difficult to attain.
3. Identifying appropriate methods to be used for facilitating student learning at different levels is hard to find.
4. For monitoring and improving the quality of education effective use of curriculum assessment is important. This becomes further difficult when synchronisation between different levels has to be achieved.
5. Most of the time the curriculum evaluation and monitoring system at different levels lacks consistency, resulting in ineffective evaluation.

Curriculum evaluation may be an internal activity and process conducted by the various units within the education system for their own respective purposes. These units may include National Ministries of Education, Regional Education Authorities, Institutional Supervision and Reporting Systems, Departments of Education, schools and communities.

Curriculum evaluation may also be external or commissioned review processes. These may be undertaken regularly by special committees or task forces on research-

based studies of the state or the nation. All these organizations and departments examine effectiveness of various aspects of the curriculum and its implementation.

Presently, new developments in technology are allowing schools to use Internet-enabled assessment tools that can effectively adjust in difficulty to the individual students' ability. As electronic tests can be customized on demand, each student can be engaged and more accurate and instantaneous electronic results are acquired. This allows teachers to see quickly whether students are succeeding or falling behind. Curriculum and instruction can then be modified to address the results. Again tests can be tailored to meet national, state, district and if required local mandates.

All these above mentioned processes might examine, for example, the authenticity of the sources of curriculum, the effectiveness of curriculum content, existing pedagogies and instructional approaches, teacher training and textbooks and instructional materials. Keeping in view the purpose of the curriculum under consideration importance of each of these aspects is assessed singly as well as wholly.

5.3.5 Importance of curriculum evaluation

Curriculum development is an ongoing and dynamic process which keeps on changing as the demand from education keeps on changing depending on societal needs. In this process, Curriculum evaluation is a method for determining the worth and effectiveness of any newly implemented curriculum which can help and decision makers take objective decision on curriculum. There are several stakeholders with interest in the results of curriculum evaluation that include subject experts, curriculum experts, parents, teachers, the community, administrators, and curriculum publishers. The most important reason behind curriculum evaluation is to improve student learning and quality of education. Let us discuss the importance of curriculum evaluation.

1. Introducing changes in subject matter or content: If curriculum experts discover that content is incompatible with objectives and new content may be introduced then curriculum evaluations become important. Curriculum experts can eliminate those contents that do not match the objectives.
2. Improving teaching: If the course has been evaluated by the students as 'confusing' or 'inadequate', it is possible the methodology was not completely correct. It is completely up to the teacher then to refine his/her teaching strategies to suit the needs of the students. For instance, the lecture method in some areas can be replaced by group discussions or seminars or vice-versa.
3. To study and analyse curriculum under implementation: The policy framers and curriculum makers may require immediate feedback on implementation of a

curriculum in order to make changes or amendments for effective realisation of all the pre-specified objectives.

4. To update an existing curriculum: some contents in the curriculum may become backdated with time. For excluding this obsolete ideas and practices from the curriculum evaluation of the curriculum become necessary.
5. To develop a new curriculum: whenever a new curriculum has to be developed the existing curriculum has to be evaluated objectively, so that decisions regarding new emerging requirements can be considered. As expand science, technology and information is taking place everyday, there is always the scope of introducing contemporary courses that can help the future students of universities find jobs that are in demand today. Development of a new curriculum can be taken up only after evaluating the curriculum.
6. To assess the effectiveness of a curriculum: The curriculum has both short-term and long-term objectives. When it becomes necessary to evaluate both the type of objectives curriculum evaluation is conducted.
7. To assess the effectiveness of student learning: The essential goal of curriculum evaluation is to ensure that the curriculum is effective in promoting improved quality of student learning. Student assessment therefore connotes assessment of student learning. Assessment of student learning has always been a powerful determiner on how and what teachers teach and is thus an important source of feedback on the appropriateness implementation of curriculum content.
8. To provide Feedback: The outcome of the process of curriculum Evaluation provides feedback to students and educational programmes in order to bring about an improvement in the system. Feedback may be collected from any stakeholder concerned with the process of curriculum development.

Therefore, we may say that Curriculum evaluation is a necessary and important aspect of any national education system. It provides the basis for curriculum policy decisions, for feedback on continuous curriculum adjustments and processes of curriculum implementation.

5.4 Sources of curriculum evaluation

There are several sources from where meaningful information can be collected regarding evaluation of curriculum. The curriculum evaluator can collect information from the students, peer groups, teachers, educational experts, subject experts, curriculum experts, policy making community, employers and entrepreneurs, professional evaluators and even dropout sample.

1. The student or the learners

Curriculum can be evaluated by students, either those who have completed the course or those who are still studying. The learners of a particular course are the primary and most important source of information regarding how relevant that intended curriculum is and how well it is being implemented. The list of the output specifications can be given to the learners who are undergoing a particular course and detailed information can be gathered in two ways. Firstly by finding out whether the learners have really achieved the intended output specifications. Secondly by finding out the perceptions of the learners 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 a curriculum. This valuable data can be collected even from the students have passed out.

2. Different subject experts and teachers

Teachers are the artists who implement the curriculum in classroom. Teachers can help in curriculum mapping which is the process of content alignment in accordance with curriculum goals. Teachers are an important source of curriculum implementation as they are considered to be most important in curriculum transaction obviously after the students. The subject experts from the discipline can also help in this regard.

3. Curriculum framers or experts

The curriculum framers are in a position to provide information on the modern techniques that can be used for developing a curriculum. At present the curriculum development procedure has been updated and the output specifications are made clear in the modern and meaningful curriculum. Does the curriculum itself mentions what the student will be able to do at the end of the course, the conditions under which the learners will be observed, the minimum criteria to be fulfilled and the level of acceptance of errors etc. are determined by the curriculum experts. Therefore it can be said that the contribution of the curriculum experts has become inevitable in curriculum evaluation and they act as a very good source of data for curriculum evaluation.

4. Policymakers

Central board of education, State board of education, National and state council of educational research and training are some of the important institutions which play a very important role in decision making regarding curriculum development. Policymakers occupy responsible positions in these apex bodies by virtue of their position they are better informed about the current and important changes in government policies regarding economy,

industry, agriculture, technology, science and education. All these areas have direct or indirect impact on curriculum. Inclusion or exclusion of topics in textbooks or making specific changes may be necessary due to change in government policies. The policy makers can be considered as an important source for curriculum evaluation in this regard.

5. Community or society

The National and the local community can be considered as an important ground for delivering information regarding curriculum development. The products i.e. the educated or trained persons of a particular course are absorbed in the local community hence this can be another important source of information for curriculum evaluation. The curriculum should take into consideration the requirements of a local committee to make it relevant and need-based. The concept of community is dynamic so revision should be based on the needs and requirements of the community. This will help the curriculum to serve the community better and produce better balanced, socialized and responsible citizens.

6. Stagnation status and dropouts

The students who have dropped out of a particular course can be considered as a valuable source of information for curriculum evaluation. Data collected from these students can throw light on those curricular factors that might have been responsible for their withdrawal from the course. If necessary a diagnostic test can be administered on these dropouts to get valuable information regarding the misconceptions generated by the present curriculum. This can help in providing feedback that may help in improving the curriculum. Even some form of remedial curriculum can be designed from these feedbacks collected from dropout children.

7. Employees and entrepreneurs

Employers' opinion can be considered as a very important source of curriculum evaluation, as they have to absorb the products or outputs of the educational system. They can reflect the strengths and weaknesses of the curriculum. Persons who are self employed and working in unorganised service sector can provide valuable information regarding advantages and limitations of a particular curriculum. This information can help the curriculum framers to develop the curriculum in a socially relevant and useful manner.

All these sources have got important implication in curriculum evaluation. Therefore for developing a comprehensive and effective curriculum, information should be gathered from each of these sources in order to improve the quality of the programme under consideration.

5.5 Methods of curriculum evaluation

Curriculum is all of the planned experiences provided by the school to assist pupils in attaining the designated learning outcomes to the best of their abilities. curriculum is defined as all the planned learning opportunities offered to learners by the educational institution and the experiences learners encounter when the curriculum is implemented. This includes those activities that educators have devised for learners which are represented in the form of a written document. These activities need to be assessed through the process of evaluation. The term 'evaluation' generally applies to the process of making a value judgment. In education, the term 'evaluation' is used in reference to operations associated with curricula, programmes, interventions, methods of teaching and organizational factors. Evaluation is the process of collecting data on a programme to determine its value or worth with the aim of deciding whether to adopt, reject, or revise the programme. Curriculum evaluation aims to examine the impact of implemented curriculum on student (learning) achievement so that the official curriculum can be revised if necessary and to review teaching and learning processes in the classroom. Definition given by Worthen and Sanders (1987) can be mentioned here, they stated that curriculum evaluation means "the formal determination of the quality, effectiveness, or value of a programme, product, project, process, objective, or curriculum."

Curriculum evaluation establishes

- Specific purposes for assessing student learning
- Specific strengths and weaknesses of a curriculum and its implementation;
- Critical information for strategic changes and policy decisions;
- Inputs needed for improved learning and teaching;
- Indicators for monitoring.
- Assesses the distinction or value of some aspect or the whole of a curriculum.
- A comprehensive assessment plan.
- Assessment tools and scoring procedures that are valid and reliable.

Curriculum Programmes are evaluated to answer questions and concerns of various stakeholders or parties. General people want to know whether the curriculum implemented has achieved its aims and objectives; teachers want to know whether what they are doing in the classroom is effective; and the developer or planner wants to know how to improve the curriculum product. The scope of curriculum evaluation includes curriculum design, learning environment, instruction process, resources and materials; used in the process of imparting education. To find out about the adequacy along with the facility of

resources required for teaching such as teaching aids, laboratories, library books and instruments can be essentially done by the process of curriculum evaluation.

Curriculum evaluation process helps identify procedures for using assessment information to determine long-range and annual improvement goals. This is a method for determining the worth and effectiveness of any newly implemented curriculum or improving the existing one. Parents, teachers, the community and administrators are the several stakeholders who are interested in the results of curriculum evaluation. Curriculum evaluation can be done by an external agency as well as by insiders, those who are involved in the planning and development of the curriculum. A combination of both the groups may also work for curriculum evaluation. Objective and comprehensive evaluation can be ensured if it is done by a combined group of outsiders and insiders. Teachers, learners and curriculum framers are considered as insiders. While outsiders or External evaluators are usually brought in from outside the situation in which the curriculum is being developed.

The methods of Curriculum evaluation may follow strict rules or be flexible depending on the pre-specified objectives. It may vary from a highly structured questionnaire based evaluation to a supple evaluation method based on unstructured interview. The method of collecting information can be either direct or indirect depending on the objectives of evaluation.

Curriculum evaluation is based on information and data gathered from a comprehensive assessment system that is designed for accountability and committed to that all learners will achieve high grades leading to significant and sustainable improvements in teaching and student learning. When we require more qualitative descriptions of the implementation of curriculum then unstructured for structured observations can be used. But when we require quantitative data regarding various components, aspects dimensions of curriculum being designed a well constructed checklist can also be used. Similarly many other techniques can be used depending on the purpose of evaluation and the stage of evaluation.

Evaluation may be done at the developmental stage or the implementation stage of the curriculum. When curriculum evaluation is done at the planning stage it is mostly confined to job analysis or task analysis, this is followed by content analysis which required the support of formative evaluation. These exercises are usually not practiced in schools as a result the curriculum suffers from several drawbacks. Pilot testing should be an essential step in curriculum evaluation.

Defining data reporting procedures and verifying assessment tools as fair for all students and are consistent steps of Curriculum evaluation processes. Identification of

procedures for multiple assessment measures are necessary for making good decisions and drawing appropriate conclusions about student learning. Therefore curriculum evaluation also define procedures for regular and clear communication about assessment results to the various internal and external publics. A well prepared curriculum should be able to accommodate an evaluation cycle even at the planning stage. In other words every phase of curriculum development should have inbuilt evaluation cycle which will strengthen the process to move further and provide necessary support to the stake holders in using data to make instructional decisions.

In the next section let us discuss how evaluation of curriculum is done at different stages of curriculum development.

5.5.1 Evaluation and at the time of curriculum development

Curriculum evaluation is a fundamental phase of curriculum development. The process is conducted by the evaluation team within the framework of the model. Through evaluation it is discovered whether a curriculum is fulfilling its purpose and whether students are actually learning. One of the major tasks of curriculum development is to prepare an exhaustive list of specific objectives to be achieved through curriculum. Once the list is prepared it has to undergo evaluation cycle. The list of objectives may be referred to a group of practicing teachers for their specific comments, they may add or delete objectives if define necessary. Along with the serving teachers the list of objectives can also be sent to prospective employers, a group of prospective students, planners and administrators for their opinion. List of objectives can further be modified based on the feedback given.

One important fundamental concern of curriculum evaluation is relating the status of curriculum contents and practices in the contexts of global, national and local demands. The achievement of the goals and aims of educational programmes is another important concern of curriculum development process.

Another major task of evaluation exercise required during the development of a curriculum is the selection of 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 learning routes and difficulties. A field try out with a small sample is ideal in getting adequate evaluation information from a sample. This can be used for further improvement of the course materials. Data collected from the inbuilt evaluation exercises of learning material can also be used in modifying the learning material. Here curriculum material refers to all learning materials that include textbooks, self-learning text, audio and video programmes, teacher's manual, assignment questions, project work etc. Similarly the evaluation procedures can be adopted during curriculum development for the modification based on data collected through the try-out phase.

Curriculum evaluation provides the basis for curriculum policy decisions, for feedback on continuous curriculum adjustments and processes of curriculum implementation therefore it is a necessary and important aspect of any national education system. Curriculum evaluation is very significant for translating government education policy into educational practice.

5.5.2 Evaluation and at the time of curriculum implementation

After the curriculum has been tested and the 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 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 each of the stages of the course development. 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.
b) To control the quality of the product i.e. the educated person at the end of the course.

Important information to be collected at this stage includes

All aspects of curriculum according to the curriculum planning need to be studies 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 content of the curriculum, students entry behaviour or the characteristics necessary to begin the teaching learning process, teachers characteristics necessary for implementing the curriculum, the basic assumptions regarding how teaching and learning should take place so that active participation of every student can be ensured, additional teaching learning materials required to implement the curriculum, organisation of the curriculum with respect to time requirements and the order in which the activities and materials are to be processed, methods of implementation of curriculum and evaluation of students performance can be used to assess the discrepancies or gaps in the implementation of different aspects of curriculum.

i) Effectiveness of the curriculum : The crucial question in determining the effectiveness of curriculum is to determine the extent to which the students attain the standards or achieve the objectives as decided already in the phase of curriculum

planning. Thus the effectiveness of curriculum reveals whether curriculum is able to achieve the preset objectives as determined by the social system.

But practically speaking all students cannot achieve all the objectives of the content of subject matter. Therefore it is important to find out whether the minimum expected number of students achieves the minimum specified number of objectives according to the criteria. The criteria of judging the effectiveness of a programme should provide feedback from the employers and also the students who have passed through the same curriculum. Another thing that needs to be mentioned here is that effectiveness offer programme may also be relative i.e. whether the new curriculum is more effective than the previous one can be most appropriately determined only by a series study.

ii) Acceptability of the programme : In addition to assessing the effectiveness of the curriculum it is important to assess its acceptability. Acceptability here means whether the people involved in implementing the curriculum for example teachers, administrators etc. like the programme or not. The perceptions of students, teachers, supervisors, administrators of the school and other educational institutions should be referred to get an insight into the acceptability of the programme.

iii) Efficiency of the programme : Efficiency of curriculum implies whether the curriculum is able to achieve the pre-specified objectives used in the most economic way in terms of cost, time, labour or energy. An effective curriculum ensures that the predetermined objectives are achieved irrespective of the amount of time for money spent. Effective and efficient curriculum will ensure that objectives are achieved with minimum resources efforts and finance. Efficiency indicates the ratio between output and the input of energy and resources. It is very easy to calculate efficiency of any machine as it gives result in absolute quantities. But determining programme efficiency is not that easy in case of any social system like education. Valid assessment of an educational programme is indeed extremely difficult. Controlled experiments can be of great help here but again it is not easy to control the significant variables. Nevertheless, it is important to assess the programme efficiency by comparing to other programmes in the light of achieved results or effects. Whether a programme is efficient enough can be judged by finding out if the outcome of the programme is justified to the expenditure incurred for all the total resources. Again the programme should be more efficient than the previous existing programme without any wastage of student time, teacher time or material resource. No equipment or personnel should remain under-utilized and there should be adequate scope for a programme to improve by enhancing its efficiency.

5.5.3 Tools for effective Curriculum Evaluation

The instruments commonly used in curriculum evaluation are Questionnaires and Checklists, interviews, observations, tests, survey and online feedback.

Questionnaires and Checklists

Questionnaire and checklist are useful data collection tools. Questionnaires and checklists can collect data anonymously so lots of information from people can be collected in a non-threatening way. These tools are relatively inexpensive to administer. Since data collected is quantitative, it is easy to compare and analyse and can be administered to many people. It is also easy to design as there are many sample questionnaires already in existence. Massive amount of data can be obtained; however, the information obtained may be to some extent non-accurate as it depends on truthfulness of subjects who respond to the questions.

Interviews

The person asking the questions is called the interviewer while the person giving answers to the questions is called the interviewee. Interviews are used when one wants to understand someone's individual opinion and experiences, or learn more about their answers to questionnaires. There are two general types of interviews depending on the extent to which the responses required are unstructured or structured. In an unstructured interview, the interviewer does not follow a rigid script and there is a great deal of flexibility in the responses. The advantage of the unstructured interview is that it allows the evaluator to gather a variety of information, especially in relation to the interviewee's knowledge, beliefs or feelings toward a particular situation. In a structured interview, the questions asked usually require very specific responses. Evaluators should ensure that each question is relevant for its intended purpose. In the end, the data must be translated into a form that can be analysed and this has to be done carefully to preserve accuracy and to maintain the sense of the data. The advantage of interviews is that it can get a full range and depth of information; however, interview can take much time, can be hard to analyze and compare, can be costly and interviewer can bias client's responses.

Observations

Observation may act as an important technique to gather accurate information about how a programme actually operates. Observation may be participant or non-participant. So information may be collected from groups who are direct beneficiaries of the curriculum and also those who are formulating the programme for implementation.

Survey

For conducting curriculum evaluation effectively through survey, Questionnaires and Checklists can be used carefully to review the proposed or ongoing curriculum programme in order to determine whether the stated learning objectives adequately prepare students with the knowledge and skill required to be successful in the programme field.

Online feedback and other Documents

Nowadays online feedback has become very important source for collecting feedback of curriculum from different stakeholders. Feedback forms should be judiciously prepared and mailed. One may collect huge information regarding the curriculum programme within a very short time. Again when we want review and feedback of how a programme operates without interrupting the programme; we can review the memos, minutes, etc to get comprehensive information about the implementation of the programme.

The assessment and feedback thus provided is important for the programme approval process conducted by the Department. Any recommendations for change should be made before final approval is granted.

Traditionally, the state governments also follow the NCF in revising their respective school curriculum through the participation of the State Councils of Educational Research and Training (SCERT), which draw up the State Curriculum Frameworks (SCF). Significantly, the NEP also states that elements such as knowledge from ancient India "will be incorporated in an accurate and scientific manner throughout the school curriculum wherever relevant" and that "Indian Knowledge Systems, including tribal knowledge and indigenous and traditional ways of learning, will be covered and included in mathematics, astronomy, philosophy, yoga, architecture, medicine, agriculture, engineering, linguistics, literature, sports, games, as well as in governance, polity, conservation". The 12-member National Steering Committee will be headed by former ISRO chief K Kasturirangan, who also headed the drafting committee of the National Education Policy (NEP) 2020. The document, known as the National Curriculum Framework (NCF), was last prepared in 2005 under the UPA government, and before that, it was revised in 1975, 1988 and 2000. This committee is set for drafting the broad guidelines for making revisions in the curriculum. (The Indian Express, New Delhi, September 22, 2021)

5.6 Summary

In this unit we have discussed various definitions of curriculum evaluation as well as important areas that comes under this process. Identification of important sources for curriculum evaluation, different objectives of curriculum evaluation the steps of conducting

curriculum evaluation, numerous challenges faced in the process of curriculum evaluation and discuss in detail in this unit. Role of students' subject experts and teachers in curriculum evaluation has been discussed here. Curriculum evaluation is conducted both at the micro and macro level. This section takes into consideration both the levels of curriculum evaluation with diagrammatic representation of the processes. The process of curriculum evaluation with special focus on each and every stage is elaborated here. Curriculum evaluation required various types of tools this section has also describe in detail the different tools used in the process.

5.7 Self-Assessment Questions

1. Define curriculum evaluation.
2. Identify important areas for curriculum evaluation.
3. Identify important sources of curriculum evaluation.
4. Outline the challenges faced in different levels of curriculum evaluation
5. Mention the objectives of curriculum evaluation
6. Mention the Tools of curriculum evaluation
7. Describe briefly the steps in conducting a curriculum evaluation
8. Justify the significance of curriculum evaluation at micro & macro level
9. Discuss the significance of curriculum evaluation.
10. Outline the role of students as an important source of curriculum evaluation.
11. Describe the role of subject experts and teachers as an important source of curriculum evaluation.
12. How do employees and entrepreneurs serve as important source of curriculum evaluation?
13. Describe the process curriculum evaluation
14. Outline the process of Evaluation during curriculum implementation
15. Describe the process of Evaluation during curriculum implementation.
16. Describe briefly the Tools for effective Curriculum Evaluation.
17. Describe the process of online feedback.
18. Write short notes on questionnaire as a tool for effective Curriculum Evaluation.

5.8 References

Curriculum planning Block1 ES-331 Curriculum & Instruction http://egyankosh.ac.in/bitstream/123456789/46850/1/Unit-4.pdf

Gay, L. R., & Gay, L. R. (1985). *Educational evaluation and measurement: Competencies for analysis and application*. Columbus: C.E. Merrill Pub. Co.

González, J., Wagenaar, R. (eds.): Tuning Educational Structures in Europe. University of Deusto, *Bilbao* (*2003*) 10. Edwards, M., Sánchez-Ruiz, L.M., Sánchez-Díaz, C.: Achieving competence-based *curriculum* 82 M. Ciesielkiewicz et al.

MC Neil, J (1997). Curriculum: A Comprehensive Introduction. Boston:Little, Brown.

Oliva, Peter F. Developing the Curriculum. Longman, 2001.

Ornstein, Allan C., and Francis P. Hunkins. Curriculum: Foundations, Principles, and Issues. 2009. 7. Scriven, M. Evaluation Thesaurus. Newbury Park, Calif./ : Sage Publications, c1991.;4th ed., 1991.

Ornstein and Hunkins (1998) Ornstein, A. and Hunkins, F. Curriculum: Foundations, principle and issues. (1998). Boston, MA: Allyn & Bacon.

Olivia, P.(1988). Developing the Curriculum. Scott, Foresman/Little, Brown College Division.

Olivia, P. F. (1997). Developing the curriculum (4th Ed.). New York, NY: Longman.

Worthen, Blaine R., and James R. Sanders (1987). Educational Evaluation: Alternative Approaches and Practical Guidelines. Longman, 1987.

UNIT 6 ❑ Recent Trends in Curriculum

Structure

6.1 Objectives

After going through the sub units the students will be able to:

- Explain the different approaches of curriculum development;
- Explain the background for National Curriculum Frameworks in India;
- Understand the aims and objectives of National Curriculum Framework 2000;
- Describe the major contents of the National Curriculum Framework 2005;
- Evaluate the recommendations of National Curriculum Framework 2005;
- Explain the rationale of CBCS;
- Mention the Characteristics of Choice Based Credit System;
- Describe the Methods of examination and assessment in CBCS;
- Describe the Methods of computation of SGPA and CGPA;
- Justify the significance of Role of teachers in CBCS;

6.2 Introduction

In the previous units we have discussed meaning, nature and scope of curriculum. Determinants and factors influencing curriculum has also been discussed. the relevance and significance of curricular and co-curricular activities have been elaborated. In the second unit we have already discussed the bases of curriculum namely philosophical sociological and psychological. major approaches to curriculum subject centred, broad fields approach and humanistic approach have been introduced and explained. the process of curriculum development has also been highlighted. Curriculum transaction and curriculum evaluation, as a continuous process has been considered in the third unit. basic considerations in curriculum planning and stages for planning of curriculum development (system approach in curriculum development) is also explained. The Dimensions of curriculum have been discussed in the fourth unit, components and sources of curriculum design along with the theories of curriculum development is discussed here. In the fifth unit we discussed concept and objectives of curriculum evaluation. This unit also take into consideration the sources and methods of curriculum evaluation at both marco and micro level.

In this unit, we will discuss different approaches of curriculum development, describe the grassroot approach and administrative approach of curriculum development. The background for National Curriculum Frameworks in India will be discussed elaboratively. The basic guidelines, aims and objectives and the major contents of the National Curriculum Framework 2000 will be described in this section. the recommendations of National Curriculum Framework 2005 along with the major challenges of implementation of National Curriculum Framework 2005 will be discussed here. The last topic of this unit is choice based credit system. Meaning of the term CBCS, objectives, rationale, process of evaluation under CBCS etc. are discussed in this subunit. This unit establishes the fact that curriculum development is an ongoing process and revision takes place in a regular fashion. The pace of change is varying from ancient to modernity because of the technological innovation, social innovation and cultural diffusion. Explosion of knowledge, aspiration and social needs and demands always works as the factors of change for curriculum development.

6.3 Curriculum Development Approaches/ Approaches to Curriculum

Education is not just teaching the prescribed content or syllabus but opening the mind of the learner to multiple possibilities, learning life skills and preparation

for being entrepreneurial, in every walk of life is the need of the hour. The future is individual learning and customized consumption which require a dynamic change in teacher-student relationship. Textbooks and all teaching learning materials should be more aligned to the application of knowledge rather than assessment of retention. Flexible learning methods with focus on imparting life skills, student centric learning methods and use of technology are the new considerations of modern education. Curriculum across the world should undergo time to time revisions to cope with the newly emerged socio-economic demand of any country. 21st century curriculum is about giving the learners the skills they need to succeed in this new emerging world, and helping them grow the confidence to practice those skills. With so much readily available information, 21st century education need to focus more on sharing and using information in smart ways.

The Process of Curriculum Development in general could mean the preparation of an entirely new curriculum or curriculum construction, can also revise or upgrade the existing curriculum i.e. curriculum improvement. Curriculum development has been holding a key position in education because it relates to determining the direction, content, and educational processes that ultimately determine the quality of an educational institution. That's why efficiency, position, role and purpose of every institution of education, both formal and non formal education depends on the process of curriculum development. In this section different approach to curriculum development has been discussed. The traditional approaches to curriculum change may be classified under three specific categories:

1. The Administrative approach
2. The Grassroots approach
3. he Deductive approach of Curriculum

6.3.1 The Administrative approach:

This is the oldest and most widely used approach of curriculum development. Curriculum development ideas come from the administrators of education who uses and determines administrative procedures. Furthermore, administrators formed Task Team consisting of education experts, curriculum experts, discipline experts from universities, and senior teachers, which is held responsible for formulating the actual curriculum. The operational concepts are outlined and the basic policies are established by the steering team; such as formulating goals for operations, selecting the sequence of materials, selecting and evaluating learning strategies, and formulate guidelines for the implementation of curriculum for teachers. In doing so, the required monitoring, supervision and guidance is conducted by the administrators.

In this approach the head of the institution or superintendent of schools or any other school administrator makes the first move when he realises the need for curriculum development and sets up the machinery to make the required revisions. The head of the institution arranges for faculty meetings in which the need for curriculum revision and improvement is presented. After this a steering committee is appointed consisting of administrative officers and teachers.

Now this committee is responsible for formulating general plans, developing guiding principles and preparing assessment of general objectives. These objectives should cover the entire School system and formulations become the curriculum development manual.

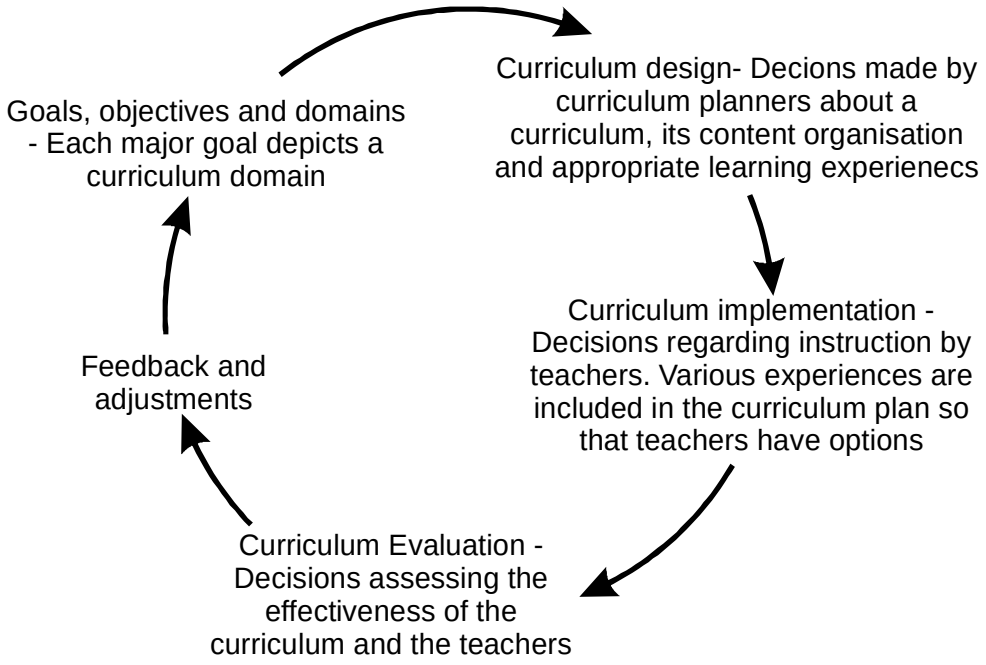
In addition to this, steering committee works out different plans and programs for training of teachers in the revised curriculum. It also determines the number and kind of consultants to be required and the types of activities to be used to familiarise the pictures with the theory and practice of Curriculum building to provide a proper setup regarding forming committee for production. This committee will consist of teachers who will prepare a new course of study following objectives and guiding principles already laid down by the steering committee.

When the courses of study are completed, the courses are reviewed either by the steering committee or any special committee created specifically to serve this purpose. Following this the courses of study are finally tried out and implemented.

Taba was of the opinion that the Tyler model was based on an administrative approach of Curriculum development. Tyler, Saylor, Alexander, and Lewis are the main proponents of this approach to Curriculum, who plan to begin by specifying the major educational goals and specific objectives they wish to be accomplished.

Galen Saylor and his associates (1981) adopt an administrative approach to curriculum development. They describe and analyze curriculum plans in terms of the relations of ends and means, the attention to pertinent facts and data, and the flow of activities or procedures from beginning to end.

Diagram : The administrative approach to curriculum design by Saylor, Alexander, and Lewis



External Forces : These are the guidelines given by the state, legal demands, data based on research findings, guidelines formulated by professional associations etc. These sources are considered as the external variables and act as most important sources for specifying the Goals, objectives and Domains of Curriculum development. Another important source for determining the goals and objectives are the bases of curriculum development, these are society, learners and knowledge.

Goals & Objectives : These are statements that specifically mention the purpose of the curriculum development process in terms of the terminal behaviour of the target group or the students. The two important determiners of goals and objectives are the external forces and the bases of curriculum.

Curriculum Designing : Decisions regarding the curriculum design are made by the responsible curriculum planning groups for a particular educational centre. Various prior decisions by political and social agencies may limit the final designs.

Curriculum Implementation : Decisions as to instructional modes made by responsible teachers which is a significant part of curriculum implementation. The curriculum plan includes alternative modes with suggestions as to resources, media, and organization, thus encouraging flexibility and more freedom for the teachers and students.

Curriculum Evaluation : Decisions as to evaluative procedures for determining learner progress made by the responsible teachers helps in decision making for evaluating the curriculum. Plans are made by the responsible planning group. Evaluative data become bases for decision making in further planning.

Feedback : After evaluation of the curriculum, feedback becomes necessary to do the required adjustments in the curriculum.

6.3.2 The Grassroots Approach

The proponents of this approach claim that the seed for development emerges from the actual site of action, the classroom. The pressure or demand comes from the teachers and the learners who have immediate experience and access to the day-to-day factors influencing the effectiveness of the existing curriculum. In this case, the curriculum can be seen as the consequence of a deliberate collaborative enterprise involving the teachers, the learners, the subject matter, and the situational context or environment. Here, the teachers and learners are recognised as the actual creators of the curriculum and the system of education can be viewed as a democratic set-up. This is a comprehensive and community-wide approach. It embraces not only teachers but also students, parents and all other stakeholders and members of the community.

Some general prepositions of grassroots approach

Teachers should take part in shipping the goals to be attained. Active role of the teacher in defining and solving the problems to be encountered and judging and evaluating the results is desired, along with this teacher's wholesome participation in curriculum change should be ensured. The grassroots procedure begins with the individual school member home and it's school is encouraged to work as a unit in the development of a new curriculum or programme.

This approach to curriculum development was proposed by Hilda Taba in her book Curriculum and Development: Theory and Practice 1962. It is an inductive approach to curriculum development, starting with specifics and building up to a general design. She claimed that there was a definite order in creating a curriculum and she took a grass-roots approach to curriculum development. She believed that the curriculum should be designed by the teachers rather than handed down by

higher authority. Further, she felt that teachers should begin the process by creating teaching-learning units for their students in their schools rather initially in creating a general curriculum design. She also believed that teachers who teach the curriculum should actively participate in the process of development.

She mentioned seven major steps in her model based on Grass root approach in which teachers would have major input.

1. **Diagnosis of need :** The teacher is considered as the curriculum designer. Her task starts with identification of the needs of the learners for whom the curriculum is planned. One significant function of the teacher is to develop the ability of critical thinking among the students.
2. **Formulation of objectives :** At this stage the teacher has already identified the needs of the learners that need to be addressed. Therefore, teacher can list the specific objectives that need to be accomplished.
3. **Selection of content :** On the basis of pre-specified objectives the subject matter or content of the curriculum is chosen. There should be a match between the objectives and content as well as the validity and significance of the subject matter based on chosen needs is also to be determined. The relevance and significance of the content should also be justified.
4. **Organisation of the content :** Selection of the content based on pre-specified objectives is not enough therefore the teacher should also consider the maturity of the learners their academic achievement and interests. Based on these factors the teacher will organise the content in a specific sequence.
5. **Selection of learning experiences :** contents finally selected must be presented to the learners in such a way so that all the learners are engage with the content. The instructional methods that will ensure students participation and involvement with the content is selected by the teacher at this point.
6. **Organisation of learning activities :** The learning activities also need to be organised and sequenced in a specific order like the content. Most of the time sequence of the learning activities is determined by the content. So the teacher needs to relate the need of the particular students to the content to be delivered.
7. **Evaluation :** At this stage curriculum planner should determine the extent of accomplishment of objectives. Suitable evaluation tools and techniques need to be designed to assess the terminal behaviour or learning outcomes of students.

This curriculum Development approach is the opposite of the first model. Curriculum development initiatives and effort will start from the teachers or the

school and not from any external authority. The first model of curriculum development emphasises the management systems used in education, so curriculum is centralized, while grass roots approach suggested a decentralized education system. Development or improvement can be related to a curriculum component, one or several fields of study or the entire field of study and all components of the curriculum. When conditions are allowed, in terms of the ability of teachers, facilities and materials costs, literature, grassroots approach to curriculum development seems to be better. This was based on the consideration that the teacher is the planner, executor, and also she is best to know the needs of her class, therefore she is the most competent person to implement the curriculum for the class.

6.3.3 The Deductive approach of Curriculum

The Oliva Model is a deductive model that offers a faculty a process for the complete development of a curriculum. Oliva recognized the needs of students in particular communities are not always the same as the general needs of students throughout our society. In this approach a faculty can fashion a plan for the curriculum of an area and design ways in which it will be carried out through the period of instruction.

According to Oliva, a model curriculum should be simple, comprehensive and systematic. Following this approach, a faculty can focus on the curricular components to make decisions regarding the programme and also allow teachers to concentrate on the instructional components. Curriculum development model is composed of many components, namely - Philosophical formulation, target, mission and vision of the institution, Analysis of the needs of the community where the school is located, general purpose and special purpose curriculum, Organizing the design and implement curriculum, Describe the curriculum in the form of the formulation of general objectives and specific learning, Define the learning strategy, Preliminary studies on possible strategies or assessment techniques to be used, Implement the learning strategy and Evaluation of learning and curriculum evaluation.

6.4 Curriculum Trends in the 21st Century – NCF 2000 & 2005

6.4.1 Introduction to Curriculum Framework

Curriculum is a dynamic concept as the changes that occur in society brings changes in curriculum too. In the early years of 20th century, the traditional concept of education viewed curriculum in a narrow sense and described curriculum as a

body of subjects or subject matter prepared by the teachers for the students to learn. It was synonymous to the "course of study" and "syllabus" to be taught in school. In a broader sense, it refers to the total learning experiences of individuals not only in schools but in society as well. So, modern curriculum is defined as the total learning experiences of the individual. So listing of school subjects, syllabi, course of study, and list of courses or specific discipline definitely do not make a curriculum; curriculum is something more than this, having some added value.

During the ancient times, people taught their children how to catch fish or hunt animals for food in order to develop knowledge and skills necessary to survive. At that time there was no formal education but they already had a curriculum which other educators call as, '*the saber-tooth curriculum'*. This type of curriculum refers to a kind of curriculum that existed during the ancient times in which the purpose of teaching was to prepare for survival. However, gradually with discoveries and inventions, ancient people's way of life changed for the better. Consequently education became formal and the process of curriculum development evolved as systematic, planned, purposeful and progressive venture.

Curriculum development cannot be complete unless the curriculum is implemented and put into action. Careful attention must be paid to issues of implementation. The curriculum developer must ensure that sufficient resources, political and financial support, and administrative strategies have been developed to successfully implement the curriculum. It is the combined efforts of the learner, the teacher and other stakeholders in ensuring effective execution of the curriculum document. It has been often observed in many countries, that lofty policies are formulated and inadequately implemented, for a variety of reasons.

Here comes the need of an appropriate Curriculum Framework. Pre-specifying learning objectives, determining the bases for the choice of objectives, comparing the learners' needs and interests with the needs of the society, choice of methodology, organization of the content and formulating evaluation strategy; all these decisions are taken in the curriculum framework. NCERT developed NCF in 1975 following the recommendations of Education Policy on 1968. In 1976, the constitution was amended to include education in the concurrent list, and in 1986 India had a National Policy on Education (NPE-1986) which envisions National Curriculum Framework, for the first time as a means of modernising education. NPE-1986 emphasised a relevant, flexible and learner-centred curriculum as a means for developing a national system of education capable of responding to India's geographical and cultural diversity. In 1988, NCERT prepared the National Curriculum Framework for school education based on the recommendations of Educational Policy of 1986. Later, it was felt that curriculum needs to be flexible and relevant to meet the needs of

diverse learners and issues of curriculum load and examinations stress needed attention. Consequently, National Curriculum Framework was reviewed in the year 2000 and then it was revised in 2005, which is known as the National Curriculum Framework 2005.

CONCEPT AND MEANING OF CURRICULUM FRAMEWORK

A curriculum framework is 'a document' or set of documents that sets standards for curriculum and provides the context i.e. available resources, capabilities of teachers and system support; in which subject specialists develop syllabus. It is usually a single document which is supplemented by other materials to guide the implementation of specific parts of the framework. Curriculum framework is a proposal that interprets educational aims, considering both individual and society, to arrive at an understanding of the kinds of learning experiences schools must provide to students so that individual development of the child will lead to social development. Selection of content and learning experience for the curriculum frame work may depend on the nature of knowledge, the learners' characteristics as well as the learning process. A curriculum framework should also take into consideration whether the choice of methodology is in accordance with accepted teaching-learning principles.

Curriculum Framework is one of the most important instruments in ensuring consistency, effectiveness and quality in an educational system; hence it should include the fundamental assumptions and basis of choice for experiences. Ideally curriculum framework should give detailed specification or guidance by providing year-wise breakup of subject or learning area, addressing the requirements of the school system, along with need of individual schools and the classroom as per geographical location. These frameworks may be developed by the central government, state government and rarely by local authorities; but coordination between different levels is always desired. In any country the focus of curriculum remains with the school but it goes without saying that the other levels of education are also covered in this framework. Depending on the area of coverage curriculum frameworks may be international, national and state level.

6.4.2 Fundamental Elements of Curriculum Framework

1. Constitutional provisions regarding education

It is based on the constitutional provisions of the nation if it is a national curriculum framework. Educational Policy Statements describes the Government's goals for education, such as universal literacy and numeracy, the development of skills needed for economic prosperity and the creation of a stable and tolerant society; these goals are expected to be achieved through curriculum framework.

2. Statement of broad learning objectives and outcomes

This is a document that states the broad Learning Objectives and Outcomes to be achieved at each level. It describes what students should know and be able to do when they complete their school education. Outcomes are mentioned in a range of domains, including knowledge, understanding, skills and competencies, values and attitudes.

3. Present context

It describes the social and economic environment in which educational policy is formulated. This document also describes the environment or the contextual background where teaching-learning will take place. The Structure of the Education System, more specifically the school system is described where the curriculum framework is to be applied.

4. Structure of educational system

A complete structure is specified mentioning the number of years of schooling, number of weeks available per year, hours or teaching periods in the school week, structure of curriculum content, learning areas and subjects. It also describes the organization of content within the framework and the extent to which schools and students can make choices.

5. Resources required for implementation

The desired standards to be achieved and resources required are also mentioned in curriculum framework. Resources include Teachers (qualifications, teaching load), Students, Teaching-learning materials (textbooks, computers, other equipments), facilities (classrooms, library, laboratory, furniture, fittings).

6. Structure of curriculum content, learning areas and subjects

It describes the organisation of subjects within the framework and it also offers the options for choice of learning areas, so that the students get some flexibility in choice of subject content.

7. Teaching techniques and strategies

Teaching methodology describes various teaching approaches that might be employed in the implementation of the framework. Flexibility due to individual difference of students is allowed.

8. Assessment strategies undertaken

Assessing the extent to which students achieve the outcomes in each subject. Curriculum framework prescribes types of assessment strategies - such as written or oral performance and practical skills demonstration. Evaluation is done on the basis of pre-specified objectives and students' achievement is duly assessed and reported.

6.4.3 Key Principles of the Curriculum Framework

The Curriculum framework works on the basis of some vital principles. These principles guide schools and other educational institutions in planning and running the whole educational programme. The principles are as follows -

a) Principle of comprehensiveness

Curriculum encompasses the learning environment, teaching methods, the resources provided for learning, the systems of assessment, the school methods and the ways in which students and staffs behave towards one another. All of these provide experiences from which student learn meaningfully, purposefully and joyfully. Particular attention is required to ensure that there is congruence between the various dimensions of curriculum.

b) Principle of balance and integration

There should be a proper balance between segments of the curriculum and the whole curriculum. Students need experience to build patterns of interconnectedness, that will help them realise the value of own lives in the greater society. Education to become effective should enable students to make connections between ideas, people and things, and to relate local, national and global events and phenomena. It encourages students to see various forms of knowledge as related and forming part of a larger whole. Hence there should be balance and integration within the curriculum.

c) Principle of sharing and collaboration

Education is the shared responsibility of students, teachers, parents and the community. Successful implementation of the framework requires a collaborative approach to planning by all concerned stakeholders. Then only students' achievement of the intended outcomes will be possible.

d) Principle of inclusivity

Curriculum framework is intended to include all students in Indian schools. Inclusivity means providing opportunities to all groups of students, irrespective of

educational setting, with access to a wide and empowering range of knowledge, skills and values. Keeping in mind the geographical and social diversity the curriculum framework should attempt to bring all students of the nation together under one umbrella.

e) Principle of flexibility

The curriculum must be flexible and adaptable to the particular needs of different schools and communities. It must also be responsive to social and technological change and meet student's needs arising from that change. Effective use of new technologies as tools for learning process should be encouraged. This kind of flexibility and openness is utmost required for education in the twenty first century.

f) Principle of joyful learning

Curriculum framework in any country should develop each learner's unique potential, which includes child's physical, emotional, aesthetic, spiritual, intellectual, moral and social aspects. Respect and concern for others and their rights, resulting in sensitivity and concern for the well-being of others, respect for others should also be emphasises. With this the focus in any frame work is promotion of students' enjoyment of learning and achieving excellence in learning.

g) Holistic principle

Curriculum should have a holistic outlook. Special attention is paid for development of vital skills as literacy, numeracy and social cooperation, and the need to integrate knowledge, skills and values across all learning areas. Therefore, the framework should provide a complete coverage of knowledge, skills and values, essential for the education of students.

h) Dynamic principle

As the society and the social needs change from time to time there is need for revision of curriculum. No single curriculum is suitable for all the time. The curriculum has to change in accordance with the change in individual growth, scientific process, technological innovation and social advancement.

i) Principle of assessment and evaluation

Traditional examination or measurement of students' performance is replaced by evaluation. The old system was concerned with the results only, presently evaluation is also concerned with the results but with reference to pre-specified aims and objectives. Curriculum framework should balance between the goals and aims and evaluation strategies.

6.4.4 Importance of Curriculum Framework

Curriculum framework defines the learning content clearly. It helps to understand what the student should know and be able to do. Thus is a very significant mechanism to achieve the desired goals of education.

Curriculum development has a broad scope because it is not only about the school, the learners and the teachers. It is also about the development of a society in general.

In this age of knowledge explosion, curriculum development plays a vital role in development of a country. Curriculum framework provides answers or solutions to the world's pressing conditions and problems, such as environment, politics, socio-economics, and other issues on poverty and sustainable development.

A country's economy can improve the people's way of life. Curriculum is the most effective tool for this. In order to fulfil this, curriculum experts or specialists should work hand in hand with the lawmakers, the local government officials, such as governors, mayors, and others; the business communities; and all stakeholders to set the rules and policies for educational reforms in the most desirable manner.

6.4.5 National Curriculum Framework 2000

In 1986 for the first time India had a National Policy on Education, which visualised National Curriculum Framework as a means of modernising education. The Policy proposed a national framework of curriculum as a means of evolving a national system of education. A relevant, flexible and learner-centred curriculum was recommended in this national policy and the NCERT (National Council for Education Research and Training) was entrusted with the responsibility of developing the National Curriculum Framework and reviewing the framework at regular intervals.

NCERT in continuation of its curriculum-related work carried out studies and consultations and had drafted a curriculum framework as a part of its activity. This exercise aimed at making school education comparable and uniform across the country in qualitative terms and also at making it a means of ensuring national integration without compromising on the country's pluralistic character. Based on such experience, the council's work culminated in the 'National Curriculum Framework for School Education, 1988'. However, after the implementation of NCF, courses of studies and text books changed rapidly which resulted in an increase in 'curricular load' and made learning at school a source of stress for young minds and bodies during their formative years of childhood and adolescence. This issue was addressed in 'Learning Without Burden, 1993', the report of the committee under the

chairmanship of Professor Yash Pal. In spite of the recommendations of the NPE, 1986 to identify competencies and values to be nurtured at different stages, school education came up be more and more examination oriented based on information-loaded teaching-learning materials.

In 1988 NCERT prepared the National Curriculum Framework for school education based on the recommendations of NPE 1986. At this time it was felt that curriculum needs to be flexible and relevant to meet the needs of diverse learners and at the same time, issues of curriculum load and examinations stress needed urgent attention. Despite the mandate of the policy, NCF1988 could not be reviewed for twelve long years. It was revised in 2000 and 'National Curriculum Framework for School Education 2000' was formulated.

Major Concerns of NCF 2000

- To enrich the curriculum so that it goes beyond textbooks.
- To shift learning from rote method.
- To integrate examination into classroom learning and make it more flexible.
- To make learning a joyful experience and move away from textbooks to remove stress of children it recommended major changes in the design of syllabus.
- Connecting knowledge to life outside the school.
- To develop a sense of self-reliance and dignity of the individual as the basis of social relationship and would develop a sense of nonviolence and oneness across the society.
- To develop a child centred approach and to promote universal enrolment and retention up to the age of 14.
- To inculcate the feeling of oneness, democracy and unity in the students the curriculum is enabled to strengthen our national identity of the country.

Curricular concerns

Building cohesion by reinforcing distinctions is one of the major curricular concerns. About 18 different concerns are listed and discussed elaborately. The first among these is termed 'Education for a cohesive society'. This is an important section as it outlines the perspectives for handling a variety of educational discriminations – gender, caste, physical, etc. Indian society is characterised by various kinds of biases and imbalances such as rural/urban, rich/poor, and differences on the basis of caste, religion, ideology, gender, etc. Education can play a very significant role in minimising and eliminating these differences by providing equality of access

to quality education and opportunity (NCERT 2000). This equality is to be achieved in two ways, by ensuring that each person receives suitable education and through suitable methods. Secondly, by developing a curriculum that promotes the awareness of inherent equality of all.

It proposed on the one hand to remove all gender discrimination and gender bias in school curriculum, textbooks and the process of transaction. It is stated with equal emphasis that 'it will be the most appropriate thing to recognise and nurture the best features of each gender in the best Indian tradition.' (NCERT 2000) In other words, what the so-called Indian tradition prescribes for women will be nurtured in them through an educational approach that suits most.

The approach outlined for the education of other 'disadvantaged groups' (scheduled castes, scheduled tribes and other socially and economically disadvantaged groups) complements the approach on gender question. Condensed educational programmes are recommended for educating the migrant population.

The section on vocational education is even more explicitly mentioned. NCF 2000 recommends 'vocational education for all': 'The vocational education programme designed to meet the varying needs of the socially disadvantaged groups, such as women, scheduled castes, scheduled tribes, and physically challenged persons, would help them acquire suitable productive skills. It will make their lives more meaningful as they will be economically independent and self-reliant.' (NCERT 2000) This document attempted to promote the idea of having multiple curricular strategies in tune with the requirements of the target groups. Reaching the still unreached will require designing and developing new modules and delivery systems that would suit the needs of specific groups.

Strengthening the concept of national pride

Strengthening national identity and unity is intimately associated with the study of the cultural heritage of India. Therefore, the school curriculum should emphasize the inclusion of specific contents to inculcate national identity, a profound sense of nationalism and patriotism, capacity for tolerating differences arising out of caste, religion, ideology, region, language, sex, etc.

Value Education

Education about values and religions cannot be left entirely to home and to the community. The community in general has little time or inclination to know about religions in the right spirit. This makes it essential for the Indian school curriculum to include inculcation of the basic values like regularity and punctuality, cleanliness,

self-control, industriousness, sense of duty, desire to serve, responsibility, enterprise, creativity, sensitivity to greater equality, fraternity, democratic attitude and sense of obligation to environmental protection and an awareness of all the major religions of the country as one of the central components.

Current Pedagogic Concerns

The teachers will become facilitators and libraries will be put to more and more use. This would result in a shift from the traditional learning atmosphere to climate of values that encourages exploration, problem solving and decision making. The pedagogic perspective outlined in the 2000 document is thus a welcome shift. The document seems to emphasise a rather unstructured construction of knowledge by children by letting the child construct their own knowledge and skill building.

NCERT's views on social science teaching

Most of the novel elements discussed above are sought to be delivered through changes in social science teaching. 'Social studies are the most suited areas of study for integrating almost all the core components indicated earlier.' (NCERT, 2000)

It should be recognised that the question of contextualising curriculum is a complex issue. There can be no escape from the fact that India has a very widely varying learner profile having different cultural, economic, social and geographic contexts. Children have different paces of learning and different interests. This would be true of any classroom. It can be further stated when we set out to draft a curriculum with the twin objective of building a national identity and transforming the society to bring in greater equity and justice, we need to develop a perspective for handling this varied and stratified learner profile. There is no doubt that each child has to be prepared for social mobility so that he or she can hope to change his or her social status by choosing a new career in new socio-cultural settings. Education is considered useful in reinforcing the distinctions and in fostering the 'national identity'. The document indicates a vision which seeks to consolidate the fragmentation of Indian society along the lines of caste, community and other divisive identities and to strengthen the hold of orthodoxies in each of these fragments.

6.4.6 National Curriculum Framework 2005

Background of NCF 2005

'Education can play a very significant role in minimising and eliminating the differences, biases and imbalances such as rural/urban, rich/poor, and differences on the basis of caste, religion, ideology, gender, etc. by providing equality of access to quality education and opportunity'(NCERT, 2000). During the pre and post-

independence period Indian education has undergone many changes due to several socio-political considerations. It is strange to observe that the planned reforms brought into Indian education system have failed to respond to its societal needs. Thus, achieving education for all with quality has emerged as a need and challenge before educational planners and practitioners in India.

Earlier Indian constitution allowed the state governments used to take decisions on all matters pertaining to school education including curriculum and the centre only provided guidance to the states on policy issues. This situation started changing when the National Education Policy of 1968 and the Curriculum Framework designed by NCERT in 1975 were formulated. NCERT developed NCF in 1975 following the recommendations of Education Policy on 1968. Consequently, the constitution was amended to include education in the concurrent list in 1976, and for the first time India had a National Policy on Education in 1986 the country as a whole which envisages National Curriculum Framework as a means of modernising education system.

India has a unique characteristic of unity in diversity, so its curriculum should be capable of responding to India's geographical and cultural diversity while ensuring common core values and a comparable standard of education. National Policy on Education (1986) emphasised a relevant, flexible and learner-centred curriculum as a means of evolving a national system of education. NPE 1986 recommended a common core component in school education throughout the country through a national curriculum. Therefore, NCERT was entrusted with the responsibility of developing the National Curriculum Framework and reviewing the framework at frequent intervals. Accordingly, NCERT prepared the National Curriculum Framework for school education in 1988. In one section of this document entitled 'Equality of Education and Opportunity' it mentioned 'The curriculum should provide for new methodologies for developing compensatory and remedial measures in education to suit the needs of the deprived, the disadvantaged and the disabled so that they could be brought on par with others' (NCERT, 1988, p. 4). Thus the inequality issues were not addressed in the desired way in the proposed curriculum and it will simply assert that all humans are inherently equal. But as we know that how a large number of educationists have been struggling for recognition of the fact that each child may have his/her own pace and pattern of learning. Rate of altogether dropout is one of the consequences of forcing all children to follow a single and similar pattern of learning content and experiences. An emergent need was felt for education to be sensitive to the specific contexts of the learners.

At this time it was felt that curriculum needs to be flexible and relevant to meet the needs of diverse learners and issues of curriculum load, increase in size of

school bag and continuous stress of examinations needed attention. After 1988, the National Curriculum Framework was subsequently reviewed in 2000 and 2005. NCF 2005 is the revised version of NCF 2000. Thus National Curriculum Framework (NCF 2005) is one of the four National Curriculum Frameworks published in 1975, 1988, 2000 and 2005 by the National Council of Educational Research and Training (NCERT) in India.

National Curriculum Framework 2005 was developed by NCERT, which provides guidelines for developing syllabi and textbooks and school curriculum. NPE 1986 assigned a special role to NCERT in preparing and promoting NCFs. In this context, the Yash Pal Committee Report, 'Learning without Burden' (1993), is very important as it observes that learning has become a source of burden and stress on children and their parents.

Considering all these observations and situational demand the Executive Committee of NCERT decided at its meeting of 14th July, 2004, to revise the National Curriculum Framework. The process of development of NCF was initiated in November, 2004. National Steering Committee was set up that comprised 35 members including scholars, principals and teachers, NGO representatives and NCERT faculty and representatives of MHRD, Govt. of India. Renowned scholar and practitioner Prof. Yash Pal chaired the National Steering Committee.

The NCF 2005 document draws its policy basis from earlier government reports on education. The Input Documents include National Curriculum Frameworks (1975, 1988, 2000), Secondary Education Commission (1952-53), Education Commission (1964-66), National Education Policy(1968, 1986) and Programme of Action (1992), Chattopadhyay Commission (1984) and Learning Without Burden (1993). Country wide consultations and interactions with classroom practitioners, scholars of the country, rural teachers, State Governments, Local Self Governments, Voluntary Agencies and Principals of private schools took place. This was followed by unprecedented media debates and advertisements inviting suggestions, which were placed in 28 national and regional dailies. Over 2000 responses were received. After these wide ranging deliberations, 21 National Focus Group Position Papers have been developed under the guidance of NCF-2005. The state of art position papers provided inputs for formulation of NCF-2005 and inputs from multiple sources involving different levels of stakeholders helped in shaping the document. The draft was translated into 22 languages listed in the VIII schedule of Indian constitution, which were send to stake holders at district and local levels and they were consulted. Opinion of the stakeholder helped to shape the draft of the document. Central Advisory Board on Education approved the NCF in September, 2005.

The sole objective of National Curriculum Framework 2005 was to provide a roadmap for quality school education at the national level. The basic philosophy of this approach was to enable every child to think and build a structure of knowledge that will ultimately create a knowledge society.

A wide range of issues regarding aims of education; epistemological assumption about nature and forms of knowledge; and assumptions about learner and learning are thoroughly discussed in this curriculum framework. It places learner at the centre and primarily the experiences of the learners are focused. The framework views that knowledge is evolving in nature through involvement learners as active participants in the process of knowledge construction. NCF (2005) recommends different curricular areas to be taught at different stages of school education. The recommendations of National Policy on Education (1986) have been restated in this curriculum framework of 2005.

Five Guiding Principles of NCF 2005

Few observations about Indian Schools revealed, the contemporary system was not flexible and resistant to change. Learning was an isolated activity that discourages creative thinking. Ability of child to construct knowledge is ignored. Future of the child is more emphasized than present and no freedom to learn and participate was allowed for children. Lack of Equality, Equity and Quality was also observed.

In this backdrop, NCF came to operate with a view to establish role of teacher as an autonomous Facilitator, to use Evaluation as a tool to find strengths rather than weaknesses, to confirm Quality, Quantity and Universalisation and finally to provide Commitment to democratic values and ways. The principles on which the NCF 2005 is formulated are -

1. Connecting knowledge to outside world
2. Shifting focus from rote learning
3. Enriching curriculum beyond text books
4. Making evaluation and monitoring more flexible and integrated to classroom work
5. Building commitment to democratic values of equality, justice, secularism and freedom.

AIMS AND OBJECTIVES OF NCF 2005

Nurturing a Democratic Identity -To uphold values enshrined in the Constitution of India by building commitment to democratic values of equality, justice, secularism and freedom.

a) To reduce of curriculum load by including only age appropriate concepts.

b) To ensure that learning is shifted away from rote methods. The need to move away from "Herbartian" lesson plan was felt and teaching plans and activities should be prepared in such a pattern that challenge children to think and try out what they are learning.

c) To initiate certain systemic changes in the existing educational system.

d) To shift learning from rote method to activity and experience based method that will promote creative and divergent thinking along with insight.

e) To connect knowledge to life outside the school so that learning is no more considered as an isolated activity. Moreover, children should be encouraged to link knowledge with their lives.

f) To integrate examination into regular classroom learning, to make the minds of the young learners free from the fear or phobia of examination. Evaluation and assessment should be more flexible and non-threatening.

g) To bring flexibility in school system as at that time the system of education was rigid and resistant to change.

h) To enrich the curriculum so that it goes beyond textbooks. Learning tasks must be designed to enable children to seek knowledge other than text books and the value of Interaction with environment, peers and older people may be suitably used to enhance learning.

i) To ensure quality education for all by considering the child's present to be more significant than child's future. In contemporary education the future of the child had taken centre stage to mere exclusion of the child's present, which was detrimental to the wellbeing of the child as well as the society and nation.

MAJOR COMPONENTS OF NCF 2005

The document is divided into 5 chapters – perspective, learning and knowledge, curriculum areas, school stages and assessment, School and classroom environment and systematic reforms. Each component is discussed below -

1. Perspective

NCF 2005 provides the historical backdrop as it recalls the educational documents since the inception of India as an independent nation, including the Mudaliar Commission (1952-53), the Kothari Commission (1964-66), the Curriculum Framework (1975) and the NCF1988, along with the NPE1986. Perspective, the first chapter, takes into account the rationale behind the revision of the National Curriculum Framework. It discusses the efforts of all previous documents that worked

for reforming the curriculum. The chapter recognizes the Gandhian vision of education, as a means of raising the national conscience towards the social problems of injustice, violence, inequality & so on. It refers to the report entitled, Learning without Burden (1993), which highlighted the problems of curriculum overload, which made learning a source of stress for children during their formative years. It refers to the National Curriculum Framework for School Education, introduced in 2000.

This curriculum framework revolves around the question of curriculum load on children, the tendency to teach everything arises from our lack of faith in child's creative instincts. So it should be understood that information and knowledge are not similar, new topics and subjects may be included in coherence with the existing syllabus. Encyclopaedic textbooks and traumatic examinations were not beneficial for the child's health.

This framework proposes guiding principles for curriculum development. It recommends connecting knowledge to life outside the school, to ensure that learning shifts away from rote methods. To achieve this, curriculum should be enriched so that it goes beyond textbooks thus making examinations flexible too.

NCF also views the social context of education. Indian societies are characterised by hierarchies of caste, economic status, gender relations that influence access and participation in education. NCF mentioned careful vigilance against pressures to commodify schools and application of market related concepts to schools and school quality. The aims of education were specifically mentioned in NCF. Building commitment to democratic values of equality, justice, freedom, concern for others' well being, secularism and respect for human dignity and rights were the desired objectives of this curriculum framework.

Thus this chapter discusses the educational aims, as derived from the Guiding Principles. Education should aim to build a commitment to democratic values of equality, justice, freedom, concern for others' well being, secularism, respect for human dignity and rights. It should, also, aim at fostering independence of thought and action, sensitivity to others' well being and feelings, learning to learn and unlearn ability to work for developing a social temper and inculcate an aesthetic appreciation.

2. Learning and knowledge

Holistic curriculum was recommended including knowledge and participation. Inherent motivation of children to know, understand and apply may be used for achieving higher cognitive abilities. A variety of interesting ways and means may be used to teach them.

a) Focus on child as an active learner giving primacy to children's experience, their voices and participation. Children's voices, experiences and interests should be given adequate importance in classroom proceedings. Critical pedagogy should be in teaching and stereotype regarding learning ability should be ignored.

b) Adults need to change their perception of children as passive receiver of knowledge. The tender age and soft nature of children should be the prime concern.

c) Children can be active participants in the construction of knowledge and the fact that every child comes to school with a fund of pre-knowledge. Individualized activity based lessons should be used. Constructivism should be allowed to operate in the class, considering Interaction as the most effective tool of learning.

d) Children must be encouraged to relate their learning to their immediate environment i.e. what they are learning in schools to things happening outside. Associate child knowledge with local knowledge and school knowledge with community knowledge. Experiences attained from inside and outside school should be considered. The need for developing a non-threatening and friendly environment was recognised.

e) Emphasizes that gender, class, creed should not be constrain the child's participation in experiences provided in the school.

f) Highlights the value of Integration between all the experiences acquired by children.

g) Learning tasks and experiences must be designed to enable children to seek out knowledge from sites other than textbooks. More challenging activities should be selected so that children may make use of different knowledge resources available around them.

h) Children must be encouraged to ask questions, and answer in their own words rather than by memorizing. Attempt should be made to engage the child in concept generation for deeper learning and longer retention.

i) Neither teacher and nor text books are authority to learning.

j) The value of interaction with environment, peers and older people were highlighted to enhance learning.

k) Need to move away from rigid lesson planning was felt. Moreover planning and designing activities should be kept flexible enabling children to think and try out what they are learning.

l) Learning experiences should be designed to acquire competencies rather than measurable traits.

This chapter highlights that factors like - gender, caste, class, religion and minority status or disability should not constrain participation in the experiences provided in school. It also points out that there is a possibility that learning disabilities may arise from inadequate and insufficient instruction.

3. Curriculum areas, School stages and assessment

With overall view to reduce stress, make education more relevant, meaningful NCF recommends significant changes in Language, Mathematics, Natural Sciences and Social Sciences. Arts education and Physical and Health education were recommended as curricular subjects at elementary and secondary stage and optional subjects at higher secondary stage. The objectives and pedagogy of these subjects are also mentioned here. Significant changes in language, mathematics, natural sciences and social sciences was recommended. An overall attempt to reduce stress and make education more relevant and meaningful was undertaken. Different content areas recommended in this frame work are mentioned here.

a. Language

NCF makes renewed attempt to implement 3-language formula. Emphasis on home language or mother tongue is recommended. Language learning should build sound language pedagogy of the mother tongue. Curriculum should promote multi-lingual proficiency. "English as subject" and "English as medium" both should be considered as a resource for Multilingualism. Focus on language is mentioned as an integral part of every subject. Development of skills like reading, writing, listening and speaking contribute to learner's progress in all curricular areas and must be the basis for curriculum planning. NCF 2005 focuses on language, as an integral part of every subject, as reading, writing, listening and speech contribute to a child's progress in all curricular areas and, therefore, constitute the basic of learning.

b. Mathematics

Succeeding in Mathematics should be seen as the right of every child. A majority of children have a sense of fear and failure of Mathematics and they give up early. Mathematics curriculum is mostly disappointing as the nature is non-participating to majority of the students. Again it hardly offers challenges to the talented minority. Textbooks are full with problems, exercises and methods of evaluation which are repetitive and mechanical. NCF recommended, teaching mathematics should focus on child's ability and resources to think and reason; visualize and handle abstractions; formulate and solve problems etc. Developing a positive attitude is the key to learn without fear. Developing computational skill in an interdisciplinary manner may make it more meaningful. Interest may be enhanced by putting less stress on computation and using integrated approaches between different

branches of mathematics. Variety of tools should be made available in teaching mathematics and curriculum should progress from play way to abstract terminology, symbols, procedures and techniques.

c. Sciences

Teaching of science should be recast to enable children to examine and analyze everyday experiences. It may be designed in a way to focus on methods and processes that will nurture thinking process, curiosity and creativity. Environmental Education should become part of every subject to provide wide range of activities involving outdoor project.

The National Curriculum Framework 2005 recommends hands-on, inquiry-based science curriculum. NCF-2005 also addresses the issues of curriculum load, rote memorisation and rigid examination system. It suggests flexible examination system and time schedule, reducing curriculum load and integration of theory and practical work in teaching-learning of science.

NCF-2005 recommends that emphasis should be laid on the active participation of the learner in the construction of their knowledge. In this document the learner is recognised as constructor of knowledge and it is suggested that learners be provided with learning-experiences which enable them to inquire, solve problems and develop their own concepts.

At the primary stage, the child should be engaged in joyful exploration of the world around and harmonising with it. The main objectives at this stage are to arouse curiosity about the natural environment and people around and to engage the child in exploratory and hands on activities.

At the upper primary stage science education should provide a gradual transition from environmental studies of the primary stage to elements of science and technology. Science content at the upper primary stage should not be governed by disciplinary approach. At this stage the child should be engaged in learning the principles of science through day to day experiences, working with hands to simple technological models.

At the secondary stage, students should be engaged in learning science as a composite discipline, in working with hands and tools to design more advanced technological models than at the upper primary stage. At the higher secondary stage, science should be introduced as a separate discipline, with emphasis on experiments, technology and problem solving.

d. Social Sciences

A broad range of content, drawn from the disciplines of history, geography, political science, economics and sociology is included under social sciences. The selection and organisation of material into a meaningful social science curriculum, to develop a critical understanding of society, among students is not an easy task. So in this context the possibilities of including new dimensions and concerns are immense. The relevance and significance of social sciences is expanding as it is indispensable in laying the foundations for an analytical and creative mindset. Social sciences have a specific responsibility to create and widen the popular base for human values, namely freedom, trust, mutual respect, respect for diversity and similar other values. Thus, the purpose of teaching social science will help to provide the child with the mental energy to think independently and deal with the social forces that threaten these values, without losing individuality.

Studying social sciences, helps children to appreciate the values enshrined in the Indian Constitution such as justice, liberty, equality and fraternity and the unity and integrity of the nation and the building of a socialist, secular and democratic society. It enables children to understand the society in which they live to learn how society is structured, managed, and governed, and also about the forces seeking to transform and redirect society in various ways.

By learning to respect differences of opinion, lifestyle, and cultural practices, the learners grow up as active, responsible, and reflective members of society. It will facilitate the students undertake activities that will help them develop social and life skills and make them understand that these skills are important for social interaction. It also allows the children to acquire pleasure in reading, by providing them with enjoyable reading material.

Therefore, NCF 2005 recommends paradigm shift to study social sciences from the perspective of marginalized groups. Gender justice and sensitivity to issues of tribal and socially deprived groups, and minority sensibilities must be imparted in teaching of all social science subjects.

National Curriculum Framework also draws attention on the following four other areas -

e. Art Education

It covers four major spheres; namely music, dance, visual arts and theatre. Interactive approaches and not instruction is focused – because the goal is to promote aesthetic awareness and enable children to express themselves in different forms.

f. Health and Physical Education

Malnutrition and transmissible diseases are the major health problems mostly faced by Indian children, from the pre-primary to the higher secondary school stages. Health depends upon nutrition and planned physical activities and success in school depend on hale and hearty children.

g. Work and Education

Work alone can create a social temper. Work should be infused in all content areas from primary stage upwards to the secondary and higher secondary stages. Agencies offering work opportunities outside the school should be formally recognised. Work related generic competences should be pursued at every level using it as potential pedagogy for knowledge acquisition.

h. Education for Peace

Peace education is viewed as a precondition for national development in view of growing tendency towards intolerance and violence. NCF recommends nurturing non-violent and peaceful behaviour and skills for conflict resolution. It also emphasises respect for human rights, justice, tolerance, cooperation, social responsibility, respect for cultural diversity and commitment to democratic values. This peace aspect should be infused in all subjects and activities of the school and activities including peace clubs, peace educating films, peace workshop, celebrating cultural diversity and gender justice etc. should be conducted.

i. Habitat and Learning

This theme of ‘ Habitat and Learning’ is equivalent to environmental education. Environmental education may be best pursued by infusing the issues and concerns of the environment into the teaching of different disciplines at all levels while ensuring that adequate time is allotted for relevant activities. Schools could work with panchayats, municipalities and city corporations to document biodiversity resources and associated knowledge.

4. School and classroom environment

NCF focuses on nurturing an enabling environment where the teacher is a facilitator and supporter. Classroom environment is characterised by Learner centeredness and autonomy. Through active learner engagement and in company of others understanding-based-learning will be organised. Learners’ performance may be improved by giving primacy to learners’ experiences.

Emphasises learning from other resources like – learning sites, tools, laboratories, media, ICT etc. apart from prescribed text books and minimum infrastructure and material facilities should be available.

NCF revisits the traditional notions of discipline and support for planning a flexible daily schedule. It also discusses the need for providing space to parents and community in the sphere of education.

Children should develop sensitivity towards environment, where they will learn to accept different cultures. Children should be prepared to participate in productive work.

5. Systemic Reforms

Systemic reform implies the system's capacity to reform itself by enhancing its ability to remedy its own weaknesses and to develop new capabilities which is not possible without quality concern. Monitoring quality must be seen as a process of sustaining interaction with individual schools in terms of teaching-learning processes.

a. Academic Planning Reform

It includes reforms in academic planning for monitoring, teacher education and evaluation system. NCF covers needs for academic planning for monitoring quality of education. It reaffirms faith in the Panchayati Raj or local self government and suggests the strengthening of the Panchayati Raj. It also proposes systematic activity and mapping of functions appropriate at relevant levels of local self government. This chapter looks at issues of academic planning and leadership, at the school level, to improve quality. Meaningful academic planning has to be done in a participatory manner by headmasters and teachers.

b. Teacher Education Reform

Teacher education should focus on developing professional identity of the Teacher as well as in-service education and training of teachers. NCF mentioned necessary systemic reforms including teacher education reforms to achieve the goal of education. Teacher Education Reforms should emphasize on preparation of teachers towards the fulfilment of the following aspects, so that the teacher should learn to view learning as 'a search for meaning' out of personal experience, and knowledge generation as a continuously evolving process of reflective learning. They should also be able to view knowledge not as an external reality embedded in textbooks, but as constructed in the shared context of teaching-learning and personal experience. It addresses the need for plurality of material and teacher autonomy or professional independence to use such material.

'Pre-service training programmes need to be more comprehensive and long, incorporating sufficient opportunities for observation of children and integration of pedagogic theory with practice through school internship.'

Teacher education programmes need to be reformulated and strengthened so that the teacher can be an:

- encouraging, supportive and humane facilitator in teaching-learning situations to enable learners to discover their talents, to realise their physical and intellectual potentialities to the fullest, to develop character and desirable social and human values to function as responsible citizens; and

- active member of a group of persons who make conscious efforts for curricular renewal so that it is relevant to changing social needs and the personal needs of learners.

Teacher education programmes should be reformulated in a way that would place thrust on the active involvement of learners in the process of knowledge construction, shared context of learning, teacher as a facilitator of knowledge construction, multidisciplinary nature of knowledge of teacher education, integration theory and practice dimensions, and engagement with issues and concerns of contemporary Indian society from a critical perspective **(NCF, 2005).**

c. Evaluation and Assessment Reform

Examination reforms to reduce psychological stress particularly on children in class X and XII. It recommends that assessment of learner should be made an integral part of school life. It also discusses the necessary systemic reforms including examination reforms to achieve the aims of education. Some highlights of the examination reforms are as follows

- Content based testing should be replaced by problem solving and competency based assessment
- Examinations of shorter duration with flexible time limit
- No public examination till class VIII
- Class X board exam to be made optional in long term
- Typology of questions should be revised so that reasoning and creative abilities may replace rote learning

Few other recommendations of NCF 2005 are as follows -

Vocational Education and Training (VET)

NCF recommended the establishment of separate Vocational Education and Training (VET) centres and institutions in clusters in villages and blocks to sub-divisional/district towns and metropolitan areas in collaboration with the nation wide spectrum of facilities already existing in this sector.

Suggestions for Syllabus Development

Development of syllabi and textbooks should be based on the following considerations. Topics and themes should be relevant to the stages of children's development. There should be continuity between levels and linkage between school knowledge and concern in all subjects and at all levels. The values enshrined in the constitution of India should reflect in the organization of knowledge in all subjects. Work related attitudes and values in every subject and all levels should be integrated and nurtured with aesthetic sensibility. Syllabi should also contain components to develop sensitivity to gender, caste, class, peace, health and need of children with disability. School and college syllabi should be linked without any over lapping. Flexibility and creativity in all areas of knowledge and its construction by children must be encouraged.

Development of Support Material

NCF recommended the use of potential of media and new information technology in all subjects. It emphasized on -

- Teachers' handbooks and manuals.
- Audio/video programmes on NCF-2005 and textbooks
- Exemplar problems in Science and Mathematics
- Science and Mathematics kits
- Sourcebook on learning assessment
- Develop syllabi and textbooks in new areas such as Heritage Craft, Media Studies, Art Education, Health and Physical Education, etc.
- Taken various initiatives in the area of ECCE, Gender, Inclusive Education, Peace, Vocational Education, Guidance and Counseling, ICT, etc.

Critical evaluation of NCF 2005

Before evaluating NCF 2005 it is important to mention that the question of contextualising curriculum is a complex issue and India is a country having a very

widely differing learner profile. Children have different paces of learning and different interests. This is true for any classroom. The children of the north-eastern tribes, the western and northern deserts and of the metropolitan cities are covered under education so they are set in widely different cultural and geographic contexts. Further in each of these cultural contexts we have a very stratified population in terms of economic and social status, thus getting learners who are altogether different from each other.

Whenever a draft of curriculum framework is prepared, there are two specific objectives - building a national identity of commonhood and transforming the society to bring in greater equity and justice we need to develop a perspective for handling this varied and stratified learner profile. There can be no doubt that each child has to be prepared for social mobility so that he or she may get the scope to improve his or her social status by choosing a new career in new socio-cultural settings. Thus the possibility of moving away from the profession of one's 'family and caste' has to be structured into the curriculum. This requires identification of certain skills and perspectives that cut across all professions and cultures and those that enable one to learn new skills and perspectives for new professions. These are the universal constituents of a curriculum.

Again, India is a democratic society where each individual irrespective of his or her socio-economic position is expected to perform certain civic duties relating to governance, to form an understanding of and make a reasoned choice between different policies, assert his/her demands and fight for them. Thus skills and perspectives relating to exercise of power are an essential component of any individual's intellectual tool kit. These not only relate to basic skills of literacy and numeracy but also an ability to learn about new things; leading to development of an ability to critically compare and examine the merits and demerits of anything and an ability to understand the lives and problems of people living in different conditions. These invariably require a study of both local contexts and also contexts from a wider universe. Studying the experiences of others and problems of the others is as important as the study of the local problems and issues.

A thorough study of this document does give the feeling that the NCERT has a clear vision of Indian society which is composed of distinct socio-cultural blocks each with its assigned function and identity, held together by a sense of belonging to the 'Indian nation'. Education is considered useful in reinforcing the distinctions and in fostering the national identity or uniqueness. A distinct conception of nation and nationalism implicitly comes with this understanding.

LIMITATIONS OF NCF 2005

A very important viewpoint of this curriculum framework is that it views human as a significant resource of the country. Human being is considered as, 'a positive asset and a precious national resource which needs to be cherished, nurtured and developed with tenderness and care coupled with dynamism.' At present one important social issue in India is population explosion; NCF 2005 considers this aspect very positively with the realisation that India is rich in resources. With this belief it also emphasises the role of the child as the constructor of his knowledge.

Inspite of such a liberal outlook the National Curriculum Framework 2005 suffers from some weaknesses which creates problems in its implementation. Let us discuss the limitations of this framework in the following sections.

National Curriculum Framework should make necessary recommendations covering all the stages of education and maintaining connections between the stages. But NCF 2005 has not commented on the pre-primary level of education at all. Thus somewhere it seems to be incomplete.

This document rightly observed excessive curriculum load in education and recommends a shift away from content. But it does not work out on implications of 'learning to learn', which is not a matter of emphasising process alone. Without some criteria to decide on the relative worth of what is to be learnt, the problem of curriculum load cannot be solved.

This document seems to be more liberal in its psychological dimension, than in its socio-political, vision. This could have led to a tension, within the document, because of the two different views in human beings in different sections of the document.

Theory of knowledge acts as the foundation for selection of content and learning experiences. Thus any curriculum framework needs a theory of knowledge, which looks at the selection and organization of the learning experiences. But this national curriculum document, however, seems to completely ignore the need for a theory of knowledge.

This document looks back to the age-old practices, when it assumes that exploration, problem solving, decision-making, interactive group learning, seeing and understanding patterns, & so on, are significant processes of learning, but none of these ideas are new and some are as old as education itself.

A curriculum framework with the objective to establish equity cannot consider human beings as a resource, and this document considers equality as its significant

feature and at the same time views human beings as resource. Thus, making this National Framework somewhat self-contradictory.

This national document has replaced a more important value i.e. equality with a less important one i.e. cohesiveness. Even highly undemocratic societies can be cohesive, both in theory and practice. At present education should make every effort to achieve the goal of a democratic and egalitarian society rather than a society which is cohesive and consistent.

Another glaring short coming mentioned in NCF 2005 is lack of accountability. While formulating Curriculum Frameworks at the national level answerability of the system should be incorporated. Every individual concerned should be held accountable for the part for his/her part to get the best output.

The document recommends for physical and cognitive development of the learner but has kept silent on emotional and other kinds of development. Development of different aspects pertaining to the development of affective domain should also be incorporated in National curriculum documents.

Problems of Implementation

The National Curriculum Framework of 2005 is a more cautiously and meticulously worked-out document than the 2000 document, as it looks at including various other subjects such as environment, peace and so on. The document focuses more on the creativity and the overall development of children, rather that filling their brains with information. The main emphasis in this Curriculum Framework is to provide learning without burden. Though it is well written framework and all the aspects of child centred learning is discussed but when we want to see as if it is implemented in schools or not, then we find a great failure on the part of educational leaders but fails to create any structure both human and financial.

There is rarely something to criticize in the policies made by educationists but the drawbacks are surfaced when we think about implementation of the Curriculum Framework. The NCF is a massive document of 124 pages, which is loud on words but suffers from indistinctiveness and ambiguity.

NCF 2005 is emphasizing that for learning without burden we should adopt the child centred approach of learning and must believe in the intelligence of a child. Each and every student is unique, that is why it is necessary to understand their uniqueness and provide knowledge as per their capabilities and interest. And for this we require a constructive approach of teaching and learning. Now the question that comes up naturally is, whether we can adopt constructivism in our teaching and

the learning of students. The finest resolution may be to let them free, to let them think what they want to think and draw out the best possibility of interest in his or her own area. Though it seems very difficult but if we exclude the any specific content or syllabus from the system then it is quite easy to implement. But it is difficult to avoid syllabus from a curriculum frame work as syllabus itself is an important part of curriculum.

In its report, "Learning without Burden," the committee pointed out that learning at school cannot become a joyful experience unless we change our perception of the child as a receiver of knowledge and more beyond the convention of using textbooks as the basis for examination. Therefore, the National Curriculum Framework 2005 gave emphasis to learning from "known to unknown," from "concrete to abstract" and from "local to global." It favoured child as a Natural learner who can learn from different activities and construct the knowledge from his past experiences.

Burden remains

Though NCF 2005 has given emphasis to learning without burden and presents the child as the natural learner who can learn from his own experiences but still in many schools the old techniques and methods of instructional base of teaching have been adopted where the child is still the passive listener. The main emphasis is only given to memorisation of facts and information and the capacity of reproduction during the examination.

The hard reality

The real situation is that in most of the schools in India, students, teachers and administrators are apathetic towards the process of education, fake and deceptive ways are being adopted to complete the process and a large number of educated youth find themselves without suitable jobs. Gradual degeneration of the process is observed and education as an activity seems to be going without any direction. The process of education becomes highly inconsistent when the people, government and those involved in implementing it, consider it to be desirable and at the same time they choose to ignore the real state of affair on ground. Policy makers, politicians, social activists and education experts are seen taking idealist positions when talking about education, most of the time. But this needs to be continued and expanded genuinely in action to bring constructive changes in the existing education system.

Lack of supervisory staff

Supervisory staff plays a significant role in any system to keep it running. There is no denial of the fact that the educational standard in India has taken a hit due to severe crunch of supervisory staff. In this condition it is difficult to fulfil the aim of constructive learning because if there is a shortage of supervisory staff then who will judge the performance of teachers and the outcomes of the learners.

Teachers are overburdened

Ideal teacher-pupil ratio is not maintained in any level of education. Many teaching posts are vacant in educational institutions. Again because of lack of infrastructure and staff in schools the teachers have been given the extra responsibilities which further affect the performance of the teachers. Students are the natural learners and they learn from their surroundings but if their surroundings and environment lacks the infrastructure then neither the student nor the teacher is able to do anything. Undoubtedly teacher is the facilitator, who helps the child to construct his knowledge but if teacher is loaded with extra burden then the teacher is unable to meet the expectations and perform the duties assigned.

Learning based on understanding is not emphasised

NCF 2005 has given emphasis to the constructive learning which is purely based on understanding, but still in school the traditional method of pipe line theory has been given importance. The child or learner is still considered as a passive listener in many schools as no one believes in the natural learning of the child. Understanding of the child is not emphasised thus learning remains at a superficial level only. Thus the long term implication of learning is suffering as what is learnt without comprehending the meaning if forgotten easily after examination.

Rote Learning

Rote learning is mentally seizing our school system in India. It is ironic, that we still follow what the colonial system Britishers had left for India. Researchers across the globe have reached the consensus that the key to addressing these challenges is to bring a transformation in student thinking, classroom dynamics, learning ambience, ICT integration and teacher empowerment. The above information reveals that still our education system needs a change in the ground level because policies are made for constructive or co-operative learning, which is completely based on understanding and develops the mental abilities of the child. But it is far from implementation and rote learning is still in practice.

Corporal Punishment

A Child should be provided such a kind of environment where he or she can learn without any force and fear. The news published in Times of India in August 13, 2012, emphasizes that corporal punishment is required for the desired behaviour of the child which is against the norms of NCF 2005 (Ramya, 2012). Again an educational survey revealed, 30% principals and 40% teachers believed that strict enforcement of discipline is necessary for proper teaching and the teacher’s control over students is a must for discipline. They also said that there can be no discipline without fear of the teacher in

students and those not paying attention to studies should be physically punished (Pandey, 2014). This type of mentality is not expected of educated persons, thus making the implementation of this National framework more difficult.

Co-curricular activities need more attention

There is no denying of the fact that co-curricular areas have direct impact on curricular areas and so are definitely relevant to curriculum and important for building students' self-confidence, self-control, sportsmanship, solidarity, teamwork, competitiveness, health, etc. However, school places no major emphasis for these areas in curriculum. Schools on an average spend very less time, on physical education, sports and other co-scholastic activities like music, art, dance, elocution and dramatics. Much more time of class is spent on learning academic subjects. Thus, a contradiction between the policy of NCF 2005 and the ground reality is coming up.

Dominance of examination

In school educational outcome is considered equivalent to score obtained in examination so there is dominance of number system. Schools don't have any concern with learning rather their main concern is to produce scores which further helps these institutes to get more admissions. Parents also don't bother about real learning of their children, they only have the interest on percentage of marks their children got during examination. This recent trends of the present schools is making the implementation of NCF 2005 more difficult.

Faulty evaluation system

The content and method used for educating the child is elected judiciously for the child's all round development. Teachers are trained to use various activity based strategies for teaching and instruction in classroom. Children learn to perform these activities through active participation. But the ultimate parameter for judging the overall assessment of a child is his or her academic performance so drawing the best of the child remains a dream in education and the purpose of activities become meaningless. Education will become burden if these institutions practice such kind of wrong ideas and do not coordinate between head and hands. We need the Education in which the child's natural instinct of learning is not suppressed and if it is suppressed by us then we all are the culprit of humanity. The futuristic society will not spare us if we don't rethink about it and find the exact measure to curb it.

Difficulty in uniform implementation

In India, every state has got two parallel systems of education, the state-run Govt. schools and so-called private schools offering education of two different standards altogether. The NCF does not even venture to suggest the need for bridging the gap between these two types of schools. Both these types of schools are different in their facilities, infrastructure, teaching-learning, teacher quality, administration and management etc. presenting two totally different education systems under the guidance and supervision of a single National Curriculum Framework. This double standard in school education has made implementation of this Curriculum Framework difficult.

The NCF-2005 begins with a quotation from Tagore's essay 'Civilisation and Progress' in which the poet reminds us that a 'creative spirit' and 'generous joy' are basis of childhood and the concept of equality, within the cultural and socio-economic diversity. These can be distorted if handled by an unthinking adult world. Seeking guidance from the constitutional vision of India as a secular, egalitarian and pluralistic society, founded on the values of social justice and equality, certain broad aims of education have been identified in this document NCF-2005.

Independence of thought and action, sensitivity to others' well-being and feelings, learning to respond to new situations in a flexible and creative manner, predisposition towards participation in democratic process, and the ability to work and contribute to economic processes and social change – all these are the demand of time and NCF has correctly pointed them.

Role of teachers is also given due importance and it also recommended that teaching should serve as a means of strengthening our democratic way of life, it must respond to the need of the first-generation school-goers, whose retention is vital owing to the constitutional amendment that has made elementary education a fundamental right of every child. Viewing learning as a source of burden and stress on children and their parents is an evidence of deep distortion in educational aims and quality. Teachers should be aware of the background of the child.

J. P. Naik has described equality, quality and quantity as the exclusive triangle for Indian education. With respect to social context, NCF 2005 has ensured that irrespective of caste, creed, religion and sex - all are provided with a standard curriculum to inculcate the feeling of oneness, democracy and unity in the students. The curriculum is enabled to strengthen our national identity and to enable the new generation to develop a sense of nonviolence and oneness across the society. For achieving this, learning has to be a joyful experience for the learners. The focus is shifted from textbooks and examination to remove stress of children and prepare

them as self-reliant and dignified individuals forming the basis of ideal social relationship. NCF 2005 has made recommendations to fulfil all these objectives.

6.5 Choice Based Credit System (CBCS)

Enhancement of academic standards and quality of higher education require continuous innovation and improvements in the curriculum, teaching learning process, examination and evaluation system and suitable monitoring. In India the University Grant Commission has formulated various regulations and guidelines from time to time to improve the higher education system and maintain minimum standards and quality across the higher educational institutions. Several reforms have taken place in recent past to improve the whole educational system along with its evaluation. There should be flexibility and freedom in designing the assessment methods that best fits the curriculum and teaching learning methods in higher education.

Evaluation reform was significantly mentioned in the recommendations of Mudaliar commission and Kothari commission. Consequently, in the recommendations of the 11th five year plan and National Knowledge Commission the need to ensure quality in higher education was deeply felt. Frequent revisions of curriculum, introduction of credit system, internal assessment and promotion of research were some of the major recommendations of NKC. Following this India's statutory body for higher education the UGC proposed a semester pattern in curriculum instead of yearly examination.

At present students' performance is reported conventionally by using marking system as well as grading system. Most of the institutions of higher learning across the country use the system of conversion from marks to letter grades. Grading is considered to be a better system than conventional marking, if it is uniform in nature. Uniformity in grading system will facilitate students' mobility across institutions within and across countries and this will enable potential employers to assess the performance of the students before employing them.

Another important innovation in Indian higher education is the introduction of choice based credit system. At present most of the institutions of higher learning has already introduced CBCS. This new system accelerates the teaching learning process and enables vertical and horizontal mobility in learning. Ideally, this system also provides flexibility in designing the curriculum and assigning credits based on the course content and hours of teaching. The students are free to take the course of their choice and learn at their own pace this system provides a 'cafeteria' type approach. They are supposed to choose from the prescribed courses which are referred as core, elective, soft skill courses.

The fundamental idea is to cater the needs of the students so that they remain up to date with the development of higher education in India and abroad. This system aims to redefine the curriculum and help students to keep pace with liberalisation and globalisation in education.

Main objectives of CBCS:

The UGC has underlined the following objectives for Choice based Credit system.

1. To bring reforms in higher education by improving the quality of education and excellence.
2. To match the scholastic needs and aspirations of learners in higher education.
3. To enable inter University transferability of learners.
4. To enhance learning opportunities in terms of courses and institutions available.
5. To improve the educational programs standardized and comparable across the country.
6. To bring more flexibility in course implementation.
7. To enhance learning opportunities of students.

Some significant terminologies in Choice Based Credit System

To understand the concept of CBCS brief description of the following terms are given –

Choice based: This implies that the student can choose a subject or course among multiple courses according to his own preference.

Semester: The duration of each course is of six months. Each semester consists of 15 to 18 weeks of academic work equivalent to 90 actual teaching days.

Academic year: 1 academic year constitutes of two consecutive semesters - one odd and one even.

Credit: A unit by which the course work is measured. It is determined by the number of hours of instructions required per week. Credit is a very important component of CBCS. One credit is equivalent to one hour of teaching (lecture tutorial) or two hours of practical work /field work per week.

Credit point: It is the product of grade point and number of credits for a course.

Semester grade point average: It is a measure of performance of work done in a semester. It is ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

Cumulative grade point average: CGPA is a measure of overall cumulative performance of a student over all semesters. The CGPA is a ratio of total credit points secured by a student in various courses in all semesters and the sum of total credits of all courses in all semesters. Like SGPA it is also expressed upto two decimal places.

Grade point: Grade point is a numerical weight allotted to each letter grade on a 10 point scale.

Letter grade: It is an index of the performance of students in a said course. Grades are denoted by letters O, A+, A, B+, B, C, P and F.

Assessment: This system calls for continuous and comprehensive evaluation in the form of class attendance, internal assessment as well as external evaluation.

Grade card or certificate: Based on the grades a grade certificate shall be issued to all the registered students after every semester. The course details, that is code, title, number of credits, grade secured along with SGPA of each semester and CGPA and at the end of the course will be displayed in the grade card.

Characteristics of Choice Based Credit System:

1. This is a uniform system for all central, state and other recognised universities.
2. There are three main courses, namely – core, elective and foundation.
3. All the three main courses will be evaluated and accessed to provide for an effective and balanced result.
4. In this system non credit courses are also available which are assessed as satisfactory and this is not included in computation of SGPA (semester grade point average) or CGPA (cumulative grade point average).
5. This system is a step from numerical marking to grading.
6. In CBCS the practice of grading minimises the stigma of failure.
7. This system allows mobility as the student can easily study few courses in one institution and continue the rest in another institution. Facility of credit transfer helps the student to complete the course successfully.

Types of courses under CBCS

There are three kinds of courses in a CBCS program namely core, elective and foundation.

1. Core course: The word core signifies any Central theme. Core course is to be

compulsorily studied by a student as a core requirement to complete the programme in a specific discipline of study. There may be a core course in every semester.

2. Elective course: These courses are not mandatory and can be chosen from a pool of papers. The specific paper may be supportive to the discipline of study and it may provide an expanded scope to some other discipline or domain. Elective courses help nurturing students' proficiency or skill. Again an elective course may be generic elective for discipline centric. Generic elective add general proficiency to the students, whereas discipline centric elective may be chosen from an unrelated discipline. Discipline centric elective is also known as open elective.
3. Foundation course: Compulsory foundation and elective foundation both comes under foundation course. Compulsory foundation courses are based upon contents that lead to knowledge enhancement and are mandatory for all disciplines. Elective foundation courses are value based and have a broader aims like man making education.

Methods of examination and assessment

Examination and assessment are integral parts of system of education as this is the most important instrument for identifying and certifying the academic standards accomplished by learners. Hence these tools are considered to be an objective and impartial indicator of a student's performance. Thus, it becomes mandatory duty of a University to ensure that it is carried out in fair manner. In this regard, UGC recommends the following system of checks and balances which would facilitate the Universities effectively and fairly carry out the process of assessment and examination.

- At least 50% of core courses offered in different programmes across the disciplines, the assessment of the theoretical component towards the end of the semester should be undertaken by external examiners from outside the university conducting examination, who may be appointed by the competent authority.
- The question papers will also be set and assessed by external examiners.
- In case of the assessment of practical component of such core courses, the team of examiners should be constituted on 50 – 50 % basis. i.e. half of the examiners in the team should be invited from outside the university conducting examination.
- In case of the assessment of project reports / thesis / dissertation etc. the work should be undertaken by internal as well as external examiners.

The higher education institutions presently follow various methods for assessing suitable courses as approved by their respective statutory bodies. The usual approach is to avoid marks based on performance of students in examinations. Marks obtained in midterm, end semester are converted to letter grades computed on the basis of absolute or relative grading. To calculate SGPA and CGPA the following system has to be followed as implemented by the UGC.

Relative grading and absolute grading are the two methods popularly used for awarding grades in a course. Relative grading assumes where the distribution of marks is based on normal distribution, so grades are awarded on the basis of cut off marks or percentile. In absolute grading the marks are converted to grades based on predetermined class intervals. Colleges, universities and any other institutions of higher learning may use these methods.

The 10 point grading system as introduced by UGC is given below:

Grades and Grade Points	
Letter Grade	**Letter Grade**
O (Outstanding)	10
A+ (Excellent)	9
A (Very Good)	8
B+ (Good)	7
B (Above Average)	6
C (Average)	5
P (Pass)	4
F (Fail)	0
Ab (Absent)	0

Some other scoring criteria needs to be mentioned here -

1. For non-credit courses satisfactory or unsatisfactory shall be indicated instead of letter grades. This will not be considered while computing SGPA and CGPA.
2. The universities can decide upon the percentage of marks required to pass a course. The CGPA required to qualify for a degree will be decided by the statutory bodies of the universities.
3. A Student will reappear in the examination if he or she obtains F.

SGPA and CGPA : Methods of computation -

The method for computing SGPA i.e. Semester Grade Point Average and CGPA i.e. Cumulative Grade Point Average has been recommended by the University grants commission. The process is given below -

The ratio of sum of the product of the number of credits with the grade points scored by a student in all courses in one semester and total credits earned in the specific semester is computed to find SGPA. Then CGPA is computed by finding the ratio of sum of the product of the number of credits with the grade points scored by a student in all semesters and total credits earned by the student altogether in all the semesters.

Illustrations

Course	Credit	Grade letter	Grade point	Credit Point (Credit x Grade)
Course 1	3	A	8	3 × 8 = 24
Course 2	4	B+	7	7 × 4 = 28
Course 3	3	B	6	3 × 8 = 18
Course 4	3	O	10	3 × 10 = 30
Course 5	2	C	5	2 × 5 = 10
Course 6	3	A+	9	3 × 9 = 27
	Total = 18			137

Therefore, SGPA = Total Credit Points (Credit x Grade)/ Total Credits or 137/18 =7.61 (let this be the SGPA for first semester). The following section shows how CGPA is calculated for all the six semesters.

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6
Credit : 18	Credit : 20	Credit : 24	Credit : 22	Credit : 20	Credit : 24
SGPA : 7.61	SGPA : 7.8	SGPA : 5.6	SGPA : 6	SGPA : 6.3	SGPA : 8

Therefore, CGPA = Sum of the product of SGPA and credit/ Total credits earned

or, 18 × 7.61 + 20 × 7.8 + 24 × 6.6 + 22 × 6.0 + 20 × 6.3 + 24 × 8.0 ÷ 128

or, 901.38 ÷ 128

= 7.04

Advantages of CBCS

1. This system is flexible, student centric and effectively matches with today's demand of the student community.
2. This system is in compliance with other grading used in global institutions.
3. The student has an option to choose a specific paper among inter disciplinary or multi-disciplinary courses as per their interest.
4. Based on the students' abilities and potentialities a mentor guides a student to select courses.
5. The quality of teaching increases as a subject to be covered in each course is less.
6. It keeps students busy all the year with the same level of burden thus extreme pressure before annual examination can be avoided.
7. Inculcation of regular study habits in students makes learning easy and disciplined. The outcome is more in-depth study.
8. In this system the students can choose courses at basic or advanced level thus the students are provided with greater flexibility in choice of courses.
9. In Choice Based Credit System the curricular system is designed to promote group work research and community involvement.
10. It provides upward mobility thus the students can clear the backlog in one or many subjects even after moving to the next semester.
11. In this system the learner is given prospects to earn certification through a walk in /walk out approach.
12. In this system the course is designed in such a way that the learners acquired job oriented skills along with academic knowledge.
13. Students are allowed to progress at their own pace. For example one can skip a course to do it later as per his or her convenience.
14. Students who are highly motivated get the chance to gain extra credits.
15. Students moving from old college to new college or university can transfer the credits to the new migrating institution.

Disadvantages of CBCS

This system is tried and tested before implementation but sometimes it lacks accurate estimation of marks.

1. Teachers are challenged to keep pace with many courses at a time.
2. One important limitation is inadequacy of time. In CBCS system classes starts in July but admission continues till August. The students who are admitted late face lots of problem.
3. Every student follows a different course as a result they have different time table. This may create confusion among students.
4. In semester system more infrastructural facilities are required. Physical facilities like adequate number of classrooms are not available to fulfil the curricular demands.
5. Every student is following a different course and time table as a result more teachers are required for effective practice of CBCS.
6. Due to comprehensive and continuous evaluation huge amount data regarding the students' performance are generated which has to be preserved. This requires huge responsibilities on the part of teachers who are already over burdened with their teaching and evaluation.
7. Declaration of results in every six months of teaching is not easy.
8. In this system a huge reform in evaluation has taken place. Internal assessment is conducted every semester. Record keeping becomes a tedious job. This may even hamper the quality of teaching.
9. The course is so tightly scheduled that even after identification of any backwardness in students there is no option to take any remedial classes.
10. Another very significant drawback of the system is important co-curricular activities like NSS and NCC conducted in colleges will be hampered due to scarcity of time. This will also affect conduction of cultural and social activities, which are very important for college students.

Role of teachers in CBCS

The system demands a different role of teachers. Previously teachers were considered as the only source of knowledge. Presently teachers provide information and show their students how to take them. So teachers are facilitators in the learning process. The teachers in this system are required to have some special skills to make this system a success.

1. For successful implementation of the system the teachers should have a sound knowledge of technology. They should be able to handle computer, photocopier, Power Point, projectors effectively.
2. Teachers should know to work in teams to cooperate with colleagues and parents.
3. In this system teachers should not only instruct but also inspire his or her students.
4. Teachers should get opportunity to exercise their academic freedom while performing their professional duties.
5. In service training programmes should be provided periodically so that the teachers can handle this new system effectively.
6. Teachers are assigned supervisory duties or special educational responsibilities like counselling in CBCS system. This will intensify teachers working load.

Some suggestions

1. The teacher pupil ratio should be strictly maintained i.e. 1:30.
2. Orientation of teachers regarding teaching and evaluation should be conducted time to time to get clarity of newly added concepts.
3. The students taking admission under this system do not have any idea before entering this course. It is difficult for them to realise all the differences existing between the annual and semester system. Adequate and necessary counselling of students should be arranged from time to time.
4. Huge percentage of student coming for higher education is first generation learners. Therefore they are not getting any academic support from their parents. This gap should be bridged.
5. The number of students opting for different subjects is not same. The students should be inspired to take up subjects that are less opted for. Balance is required between classroom with few students and classroom with overcrowded students.
6. Teachers and members of board of studies need to communicate very often regarding implementation of CBCS courses. Subject expert should also be consulted.
7. A new dimension of this Choice Based Credit System is that students of science can opt for a course from social science or arts. Therefore, a uniform pattern should be adapted for subjects of all the streams.
8. The process of computation of CGPA and SGPA should also be made clear to the students as well as parents. This system allows students to study in different

educational institutions spread across the country with the facility of easy transfer of credits earned by the students. This system has huge significance in India as the demand for higher education is on increase. But the pros and cons should be evaluated stringently to bring the best out of this system to make it best suitable for the Indian system. The total system should be made simple and clear for the teacher and the student.

6.6 Summary

The unit began with a discussion on the approaches to curriculum change. We arrived at a conclusion that the curriculum development is a dynamic process change is inevitable. We also discussed the pattern and nature of curriculum of 20th century. We have already discussed different approaches of curriculum development, described the grassroot approach and administrative approach of curriculum development. The background for National Curriculum Frameworks in India has been discussed elaboratively. The basic guidelines, aims and objectives and the major contents of the National Curriculum Framework 2000 has been described in this section. the recommendations of National Curriculum Framework 2005 along with the major challenges of implementation of National Curriculum Framework 2005 has also been discussed here. The last topic of this unit is choice based credit system. Meaning of the term CBCS, objectives, rationale, process of evaluation under CBCS etc. are discussed in this subunit. Scores awarded for attendance and internal assessment should be objectively marked, otherwise peoples' confidence in this system will not develop. Number of teaching faculty should be immediately increased as time required for evaluation and record keeping has increased immensely. Education is meant for all round development and if we want the education system to serve this purpose then credit should be added for co-curricular activities too and this should be included in the UGC guideline.

6.7 Self-Assessment Questions

1. What are the different approaches of curriculum development?
2. Define the term 'Curriculum Framework'.
3. Briefly describe the fundamental elements of Curriculum Framework.
4. What are major the aims and objectives of National Curriculum Framework 2000
5. Mention the major contents of the National Curriculum Framework 2000
6. Describe the five guiding principles of NCF 2005.

7. Mention the objectives of NCF 2005.
8. What were the reasons behind reform in curriculum areas according to NCF 2005?
9. Mention the suggestions for revising mathematics curriculum in NCF 2005.
10. Write the objective of teaching sciences as mentioned in NCF 2005.
11. Describe the science curriculum for the primary stage of education.
12. What is the reason behind the recommending Education for peace in NCF 2005?
13. Justify the relation between Habitat and learning as mentioned in this curriculum framework.
14. Mention any two suggestions for examination reforms by NCF 2005.
15. Mention the limitations of NCF 2005.
16. Mention the Characteristics of Choice Based Credit System.
17. Describe the term choice-based.
18. Name the Types of courses under CBCS
19. Describe the different grassroots approach of curriculum development.
20. Explain the different administrative approach of curriculum development.
21. What are the key principles of Curriculum Framework?
22. Evaluate the significance of Curriculum Framework.
23. Narrate the perspective of NCF 2005 on the basis of the outline of first chapter of the document.
24. Discuss the recommendation of NCF 2005 on 'Learning and Knowledge'.
25. Elaborate the concept of NCF 2005 on school and classroom environment.
26. What do you mean by systematic reforms? Describe teacher education reform as mentioned in NCF 2005.
27. Describe and discuss evaluation and assessment reform in NCF 2005?
28. What Mention the Characteristics of Choice Based Credit System re the objectives of CBCS?
29. Explain the rationale of CBCS in India.
30. Outline the concept of Credit point.
31. Describe the evaluation process in CBCS
32. Write notes on the 10 point grading system as introduced by UGC.

xxxiii. Describe the Methods of computation of SGPA and CGPA.

xxxiv. What are the advantages of CBCS?

xxxv. Mention the disadvantages of CBCS.

6.8 References

Bruner, J.S. (196011977): The Process of Education. Harvard University Press.

Eisner, E.W. (1979): The Educational Imagination. New York : Macmillan.

Taba, H. (1962). Curriculum development: theory and practice. New York: Harcourt Brace, Jovanovich.

National Curriculum Framework (2000), National Council of Educational Research and Training. New Delhi.

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

Saylor, J. G., Alexander, W. M., & Lewis, A. J. (1981). Curriculum planning for better teaching and

learning (4th ed.). New York: Holt, Rinehart, & Winston.

Sharpes, D.K.. (1988) : Curriculum Traditions and Practices. London : Routeledge.

Stenhouse, L. (1975) : An Introduction ro Curriculum Research and Development. London : Heinemann.

NCERT (2005) National Curriculum Framework 2005, New Delhi:

National Council for Education Research and Training

Wheeler, D. K. (1967) : Curriculum Process. University of London Press.

http://www.ncert.nic.in/html/pdf/schoolcurriculum/ncfsc/Summary.pdf

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