

M.Ed. SEMESTER-II

CURRICULUM DESIGN AND DEVELOPMENT-MS2PC4

(UNITS 1,2,3)

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UNIT – I: NATURE OF CURRICULUM

Concept of Curriculum

The curriculum is at the heart of education. All school resources, such as the building, equipment, and instructional materials, that contribute to the effective execution of the curriculum. According to Smith (1996, 2001) ‘the idea of curriculum is hardly new-but the way we understand and thorize it has altered over the years - and there remains dispute as to meaning’.

The Latin meaning of the term ‘curriculum’ is a ‘race-course’ used by chariots. Hence, it can be understood as any path or course of study which to be undertaken by an educational institution, to be covered in a specified timeframe. The course of events can take place both inside and outside the school. Hence, while defining curriculum as ‘course of events’, one need to elaborate, ‘which course of events’. The best meaning of curriculum is that **“the total experience provided to the learners in and out of school”**.

Thus, a curriculum is neither a document nor a sequence of experiences. It is a plan of facilitating learning for the learner. This plan starts from where the learner is, enumerates all the aspects and dimensions of learning that are considered necessary, gives reasons why such learning is considered necessary, and what educational aims it would serve. The plan also defines stage-specific objectives, what content to teach, and how to organise it. It also recommends general principles of teaching methods and evaluation and criteria for good teaching–learning material. Such a plan, of course, is almost always set in a document or a set of documents and implemented through organised experiences for

children under teachers' guidance; but perhaps conceptually the plan should remain in focus, while the document remains a contingent reality and the course of experiences as implementation of a plan. (National position paper, NCERT, 2006 Curriculum). In the past, the major aim of education was acquisition of knowledge. Therefore, the curriculum was regarded synonymous with the subject of instruction. The aims and objectives of education of changing from main to time.

The modern concept of curriculum available the secondary education commission of India (1952) curriculum does not mean only the academic subject taught in the school, but it includes the sum total of experiences that gives students receiver in the school in the classrooms, library, labs, workshop, playground and in the numerous informal contacts between teacher and students.

Definitions of Curriculum

Marsh and Stafford (1988) highlight three dimensions of curriculum -

- curriculum includes not only list of contents but also the aims and objectives, learning experiences and evaluation.
- curriculum comprises of planning learning; and
- curriculum and instruction cannot be separated.

Carter V. Good (1959) describes curriculum as “a systematic group of courses or sequences of subjects required for graduation or certification in a major field of study.

According to Wiles and Bondi (1988), “a curriculum can be called as a plan for learning, which contain assumptions about the purpose of education in our society, it also has a definite structure through which the vision of the planners can be translated into learning experiences for the learner. Hence, any curriculum, comprises of two major dimensions: a vision and a structure.

Tanner and Tanner (1980) define, “Curriculum is the reconstruction of knowledge and experience systematically developed under the auspices of the school (or university), to enable the learner to increase his other control of knowledge and experience”. Doll

(1986), defined the curriculum of a school as 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 that school.

According to Cunningham, Curriculum is the tool in the hands of the artist (teacher) to mould this material (the students) according to his ideals (aims & objectives) in his studies (the school).

According to Brown D.F (2006) curriculum include all student school experiences relating to the improvement of skills and strategies in thinking critically and creatively, solving problems, working collaboratively with others, communicating well, writing more effectively, reading more analytically, and conducting research to solve problems.

“Curriculum includes all the learning experiences offered to all the learners under the direction of the school”-C. Ronald

“The school curriculum becomes what it is in any school at any given moment because of social setting, the ideals and commitment of individuals and the skill, understanding and strategy of those concerned with change”- Kimbal Wiles

“Curriculum as the sum total of student activities which the school sponsors for the purpose of achieving its objectives”- Albery, A. and Albery, E

“Curriculum’ as all experiences which a pupil has under the guidance of the school”- The Blond’s Encyclopaedia of Education

Beane et. al.(1986) have grouped- most of these definitions under the following four categories, which clearly indicate the nature of curriculum, which are as follows:

- Curriculum as a product
- Curriculum as a programme
- Curriculum as intended learning outcomes
- Curriculum as planned learner experiences

Curriculum as a Product -

The definition of curriculum as a product is derived from the idea that the school or university prepares a document which would consist of a list of courses and syllabi of those courses. These documents are the result of curriculum planning and development.

Curriculum as a Programme

Here, a curriculum regard as to the courses of study offered by the school. It could also, mean a student's choice of courses within a given program of the school. Such a definition of curriculum is most widely accepted by schools. However, the broader interpretation of this definition relates to the broader purpose of the school i.e. learning and hence here, curriculum is the means of achieving that purpose and it will denote sources of learning other than just the courses the study. It acknowledges the learning that occurs in several school settings like cultural events, sports activities, in the cafeteria, in the bus, in the principal's office, etc. apart from the prescribed course of study that takes place through various activities.

Curriculum as Intended Learning Outcomes (ILOs)

Here, curriculum is defined as 'what is to be learned'. This definition of curriculum clearly demarcates what is to be learned from and how it is to be learned. The question of why something is to be learned is not considered. Curriculum in this context refers to knowledge of content, skills, attitudes, and behaviour that learners are supposed to learn in school or college.

Curriculum as Planned Learning Experiences

The three definitions of curriculum discussed above have in common the idea that curriculum is something which is planned prior to the teaching - learning situations. The fourth category of definitions differs from the above as it refers to curriculum as experiences of the learners which is an outcome of the planned situations. The proponents of this group firmly believe that what happens is not always in accordance with what was planned. Hence the above definitions, in their opinion, constitute only the curriculum

plans, whereas the actual curriculum is the learning that occurs in the students after going through different experiences.

CURRICULUM AS AN OBJECTIVE

While designing a curriculum, the objectives are very important. Without objectives, the teacher has no idea what the lesson's purpose is or what the students' learning requirements are.

The main purposes of learning objective are

- a. To describe the purpose of an activity
- b. To establish the derived result
- c. To identify the methodology
- d. To determine how success will be measured.

Objectives are of three kinds

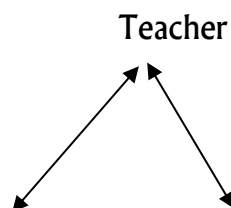
- Learning Objective
- Behavioral Objective
- Affective Objective

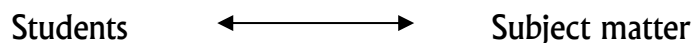
The curriculum must be planned based on these objectives.

Curriculum as a Subject Matter

Curriculum refers to the subject matter or the things studied. This definition is related to the teaching of contents such as concepts, facts, and theories through textbooks are various disciplines like language, mathematics, science, social science, and physical education.

It can be represented as follows





Here the teacher is mainly concerned with the student's interaction and the content.

Curriculum as a plan

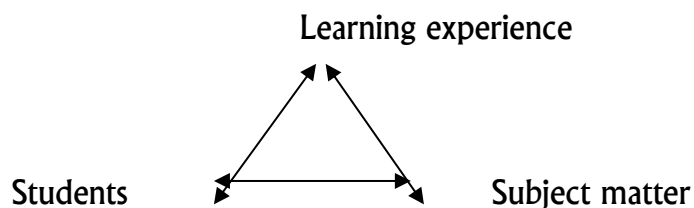
According to J.L. Mebrien and R. Brandt curriculum refers to a written plan. It includes planning of what students will be taught. It may refer to all the courses offered at a given school. According to Indian Department of Education curriculum is a planned interaction of pupils with instructional contents materials and process for evaluating attainment of educational objectives.

According to James Popham and Eva Bakes curriculum is all the planned learning outcomes for which the school is responsible. This definition is not merely of how things must be but how things are in the classroom. Therefore, curriculum is the planned need for guiding and learning in schools.

Curriculum as an experience

Curriculum also refers to the learning experiences of the students inside and outside the classroom for ex. germination of curriculum content, but activity such as sowing the seeds watering, manuring, and observing the sprout are the learning experiences.

Similarly, the learning experience visit to a historical monument relative to the topic can be done. It can be represented as follows.



Here more importance is given to learning experience than the content. curriculum has the objective.

Foundations of Curriculum:

The elements that influence curriculum designers' thoughts are referred to as foundations. The curriculum must include the student's character and requirements, the expectations of society, as well as the process through which the individual absorbs experience. The foundations are the building blocks upon which the curriculum is built. To achieve its stated purpose, a curriculum must be based on its objectives, contents, learning experiences, teaching method, and assessment. Every educational system should be founded on four distinct fields of study. They are (i) Historical, Philosophical, Sociological and Psychological foundations. The curriculum too should be constructed accordingly this foundation.

Historical Foundations of Curriculum

The following are the five most critical pillars of the curriculum:

Historical Foundations

It includes

1. A nation's accomplishments are influenced by the curriculum.
2. The future plans of a nation are guided by curriculum.
3. Curriculum has an effect on the variables that affect a nation's growth.
4. Curriculum is a reform movement. It eliminates outmoded traditions.

History of Curriculum

The curriculum's history plays a critical part in the nation's growth. It takes a long time to develop a curriculum that reflects societal needs as well as previous experiences. The curriculum planner may use the history of the curriculum to determine the following-

- how to create and change the curriculum
- what to teach and what should be the core content of the courses
- what goals they want to accomplish via the curriculum.

History also teaches students how to teach, what best practices they should integrate into their curriculum, and what types of teaching they should avoid.

The curriculum's history also discusses the teachers' method of presentation and explains how to improve their teaching methods. The learner's conduct at various periods

is likewise recorded in the history. It also contains information about the students' psychology, how they learn, and what they desire to learn. Due to the lengthy history of the curriculum creation process from Plato to contemporary curriculum, curriculum has altered its forms and patterns from teacher centre curriculum to learner centre curriculum. The history of the curriculum has also influenced teaching techniques; today, every researcher is developing new teaching methods, which are becoming part of the curriculum's history.

Most developing nations has a long history of independence and a well-developed educational system. They were able to accomplish their goals via education and the deployment of timely curricula. They adapted their programme to fit the constraints of time. Some newly formed nations have also attained that status because of adopting successful models from other industrialized countries and adapting them to their own needs and cultures.

The history of the curriculum guides the future plans

A nation's destiny is guided by its past curriculum. The curriculum is always focused on the country's future needs. History teaches curriculum designers to avoid making the same mistakes as before and to build curricula that are based on future social requirements and international demands.

Curriculum History helps in the eliminations of useless traditions

The history of curriculum shows what should be included and what should be avoided in the curriculum. What types of lessons are useless for the curriculum and what types of content material are beneficial to the teaching and learning process, so the curriculum's history removes all those useless traditions from the modern curriculum and assists the developer in incorporating what is required for the curriculum.

A short history of the curriculum and curriculum development process

Plato was a Greek philosopher and educator who was the first and most influential. Plato emphasises the importance of education in a society's prosperity. As a result, he wants to go to extremes, like taking children away from their moms and rearing them by the government. He wants to discover children's talents and give them with appropriate

training so that they may contribute to society and fulfil their obligations. Plato describes many degrees of education in his republic. According to Plato, a child's education should begin at the age of seven, and the youngster should stay with their mother or elders until then to get moral instruction.

Both girls and boys should be separated after the age of six, with boys playing with boys and girls playing with girls, and both sexes being taught to use different arms. This phase lasts until a person becomes seventeen years old. Throughout these years, they should teach children about music and early education. Young people should be brought to battlegrounds after the age of seventeen to get real-world experience.

When they are between the ages of twenty-five and thirty, they enter the fourth stage, which includes training in mathematical calculation. After another ten years of training, the selected ones are permitted to pursue dialect studies. In the fifth stage, they study dialect for another five years before being ready to become kings and philosophers and enter practical life in the sixth stage.

In terms of education, the 11th century was a bleak time. Few individuals in Western Europe were getting any sort of education, and contributions to the future of education were being made all over the world. Printing with movable type was developed in China in 1045, and it proved to be one of the most influential innovations of this period, influencing curriculum development and bringing significant changes to curriculum and content across the globe. The development of type printing paved the way for future publications, with future educational institutions concentrating on the written word. In 1338, the first paper mill was constructed in France. Paper was a Chinese innovation (about 600 AD) that the Arabs introduced to Europe in the 11th century.

John Dewey, author of *The Child and the Curriculum* and subsequently *Democracy and Education*, was concerned about the connection between society and education. Dewey was an educator, philosopher, and psychologist. His educational concept emphasized experiential learning rather than mechanical memorization. He chastised the previous educational system for keeping pupils occupied. The focus on experience, action, and problem-solving that Dewey's educational theory brought about served to change our thinking about education and schooling.

Maria Montessori opened her first school in 1907. Maria Montessori was credited with developing a classroom without walls, manipulative learning materials, teaching toys, and programmed instruction. Many considered her to be the 20th century's leading advocate for early childhood education.

Anna Freud, Jean Piaget, Alfred Adler, and Erik Erikson studied under Montessori and made their own contributions to education and child psychology. The civil rights movement and technology change the face of the 20th century classroom. In the 1990s, the computers invade the classroom around the world and now it the most important part of the curriculum. In short history is the foundation of the modern curriculum

Philosophical Foundations of Curriculum

As philosophical issues have always influenced society and institutions of learning, a study of the philosophy of education in terms of curriculum development is essential. In essence, a philosophy of education influences, and to a large extent determines, our educational decisions and alternatives. The ultimate goals of education are determined by its philosophical basis. Our choices and actions are given significance by philosophy. Philosophical underpinnings also underpin the social structure and economic institutions. Philosophy examines such basic and deep problems as man's position in the world, society's goals, and man's connection with society, among others.

Western philosophies and Indian philosophies have greatly influenced our school curriculum. All the philosophies attempt at

- Improving the educational process.
- Enhancing the achievement of the learner.
- Producing better and more productive citizens.
- Improving society.

The four major philosophies that have influenced the curriculum development. They are,

- (i) Naturalism
- (ii) Idealism

- (iii) Realism
- (iv) Pragmatism

Naturalism

Naturalism emphasizes that the learner should grow and live naturally. It recommends that knowledge of nature is essential for learning and it is gained from walks through woods and fields. Teacher is a gardener to care the children. Nature is the book. Naturalism emphasizes that curriculum must be child centered, according to the present and future needs of the child. Naturalists have divided curriculum under two stages- (i) earlier stage and (ii) later stage. In the early-stage sensory training is given to the child. The child develops physically and develops the Natural habits. At the latter stage the Naturalists included in curriculum subjects as physical sciences, Language, Mathematics, Social studies, anatomy and other subjects. Moral education should also be a part of the curriculum. Naturalism emphasizes free-play activities, field trips, out-of-school activities and spontaneous expressions in the school curriculum.

Idealism

Idealism suggests that matter is an illusion, and that reality is that which exists mentally. Idealism aims at promoting the intellectual growth of the learners. It emphasizes that the learner should attain mastery over concepts, and principles of the subject-matter. It emphasizes that the learners should know the universal truth and facts. School curriculum should include (i) essential skills (3R's) (ii) essential subject such as mother-tongue, science, history, mathematics and foreign language. Idealism emphasizes moral and spiritual reality as the chief explanation of the world and considers moral values absolute, timeless, and universal.

Teacher is authority in his subject field teacher would act as role models of enduring values. The materials used for instructions, would centre on broad ideas particularly those contained in great works of literature or scriptures, Idealism is not in line with the beliefs of those who equate learning with acquisition of specific facts from various

proponents of realism view the world in terms of objects and matter. They believe human behavior is rational conforms to the laws of nature and is governed by social laws.

Realism

Proponents of realism view the world in terms of objects and matter. They believe that human behaviour is rational when it conforms to the laws of nature and is governed by social laws. Applied to education, these ideas begin to reveal a second possible philosophy of education. The paramount responsibility of the teacher, then, is to impart to learners the knowledge about the world they live in. Realism aims at educating the rational person. Past and present studies are emphasised in realism. It encourages mastery of facts and information that is ageless. The teacher's job is to encourage pupils to think critically. Realists agree that education should represent permanent and lasting values passed down through generations, but only to the degree that they do not obstruct the study of certain subjects.

Realism emphasizes that school curriculum should include

- ✓ Class subjects
- ✓ Literary analysis
- ✓ Constant knowledge

The realities view the subject expert as the source and authority for determining the curriculum.

Pragmatism

In contrast to conventional philosophies such as idealism and realism, pragmatism emphasizes change, processes, and relativity, implying that an idea's worth is determined by its actual effects. Pragmatism aims at promoting a democratic and social living among the learners. Pragmatism gives importance to change, processes and creativity as it suggests that the value of an idea lies in its actual consequences. The actual consequences are related to those aims that focus on practical aspects in teaching and learning. Learning occurs as the person engages in transacting with the

environment. According to the Pragmatism should be so planned that it teaches the learner how to think critically rather than what to think. Teachers are considered to be a guide for problem-solving and an agent of social change.

Pragmatism emphasizes that school curriculum should consider

- ❖ Student's interests
- ❖ Learning of day-to-day human problems and affairs.
- ❖ Group activities and projects
- ❖ Learning of social, economic and political problems.
- ❖ National and international issues

Educators, curriculum makers and teachers must have espoused a philosophy that are demand necessary for planning, implementing, and evaluating the school curriculum. The philosophy that they have embraced will help them define the purpose of the school, the important subject to be taught, the kind of learning students must have and how they can acquire them, the instructional materials, methods and strategies to be used, and how students will be evaluated.

Sociological foundation of Curriculum

There is a mutual and encompassing relationship between society and curriculum because the school exists within the societal context. Though schools are formal institutions that educate the people, there are other units of society that educate or influence the way people think, such as families and friends as well as communities.

Since the society is dynamic, there are many developments which are difficult to cope with and to adjust to. But the schools are made to address and understand the changes not only in one's country but in the world as well. Since the society is dynamic, there are many developments which are difficult to cope with and to adjust to. But the schools are made to address and understand the changes not only in one's country but in the world as well.

Therefore, schools must be relevant by making its curriculum more innovative and interdisciplinary. A curriculum that can address the diversities of global learners, the explosion of knowledge through the internet, and the educational reforms and policies recommended or mandated by the United Nations.

However, it is also imperative that a country must have maintained a curriculum that reflects and preserves its culture and aspirations for national identity. No matter how far people go, it is the country's responsibility to ensure that the school serves its purpose of educating the citizen.

Psychological foundations of Curriculum

The most important basis of curriculum formation is psychological considerations. In modern times so much, research has been conducted in the sphere of education. Psychology provides information about the teaching and learning process. It also seeks answers as to how a curriculum be organized to achieve student's learning at the optimum level, and as to what amount of information that can absorb in learning the various contents of the curriculum.

Learning theories and curriculum

We have classified the major theories of learning into the following groups.

Behaviorism

Behaviorist theories which deal with various aspects the stimulus-response and reinforcement scheme. The behaviorist school, which represents traditional psychology, is rooted in a corresponding philosophical speculation about the nature of learning. It has dominated psychology in the first half of the twentieth century. The mastery of the subject matter is given more emphasis. So, learning is organized in a step-by-step process. The use of drills and repetition are common. For this reason, many educational psychologists viewed it mechanical and routine.

Learning considered a habit formation and teaching is regarded as arranging learning experiences in such a way as to promote describe behavior. Behaviorism maintains that what is learnt in one situation can be transferred to other situations as well.

A curriculum, according to behaviorists, should be based on the following concerns:

1. Remedial measures, acquisition of skills, considerations of basic or advanced learning;
2. Well-defined, short-term and long-term objectives;
3. Appropriate instructional materials and media to suit the learner's abilities;
4. Shaping behavior through prescribed tasks;
5. Diagnosing, assessing and reassessing the learner's needs, objectives, activities, tasks and instruction-with a view to improving the curriculum.

Most of the psychologists explain the phenomenon of human growth and development cognitive, social, psychological and physical terms. They also note that learning is primarily cognitive in nature. Growth and development refer to changes in the structure and function in human characteristics. Most curriculum specialists tend to show greater adherence to cognitive approach is rooted in the tradition of teaching based on subject matter and the cognitive approach leads to logical methods of organizing and interpreting learning. Cognitive theorists focus on how individuals process information, monitor and manage their thinking. It promotes the development of problem solving and thinking skills and popularize the use of reflective thinking, creative thinking, intuitive thinking, discovery learning etc.

Conclusion

Our acts become more objective because of philosophy. Because its principles have combined historical, sociological, and psychological underpinnings as a unified body to fulfil the social, emotional, and moral requirements of students, schools, and instructors, a philosophical basis of curriculum is necessary.

UNIT-II-

CURRICULUM DESIGN AND APPROACHES

Curriculum Design

Curriculum design is the step of planning during which instructors organize the instructional modules in their course. The process of developing a curriculum comprises the creation of activities, readings, lessons, and assessments that complement educational objectives. These include subject-centered design, learner-centered design, and problem-centered design. The term "curriculum design" refers to the systematic organization of curriculum (instructional blocks) within a class or course. In other words, it is a technique used by educators to design their lessons. When teachers develop curriculum, they specify what will be completed, who will accomplish it, and the timetable that will be followed.

Each curriculum is created with a certain educational objective in mind by teachers. While the primary objective is to enhance student learning, there are additional reasons to use curriculum design. For example, developing a middle school curriculum with elementary and high school curricula in mind helps ensure that learning objectives are matched and complement one another from stage to stage. If a middle school curriculum is developed without regard for existing knowledge from elementary school or future study in high school, it can create significant difficulties for pupils.

Components of Curriculum design

The term "curriculum" refers to a broad concept. It is the sum of a learner's experiences gained because of the institution's varied activities, such as those conducted in

a classroom, library, laboratory, workshop, or playground, as well as the numerous interactions between teachers and students. Any educational institution's curriculum is vital. It serves as a road map for both the instructor and the learner, directing them toward the desired results. The teacher develops or designs instructional activities around four components: teaching - learning objectives, teaching material or subject matter, instructional methods, and assessment of learning results. The curriculum is defined by the students' level, the society's needs, and the needs of the country. Thus, the material's composition is crucial. These considerations are crucial for developing teaching - learning objectives. The same information can be adapted to meet a number of teaching purposes. As a result, each piece of material is structurally distinct. Specialized educational tasks and activities are organized to fulfil specific objectives. Thus, curriculum is comprised of four critical components that are intricately linked:

- 1) Curriculum Aims and Objectives
- 2) Curriculum Content or Subject Matter
- 3) Curriculum Experience
- 4) Curriculum Evaluation

1) Curriculum Aims and Objectives:

1. At all levels of government, federal, state, and municipal, goals and objectives are established considering philosophical, sociological, and psychological underpinnings.
2. Objectives and goals can be summed up as "what must be accomplished."
3. When creating teaching and learning objectives, the subject's content organization, student levels, and exam components are all considered.
4. These objectives are specific and behavioural in nature in order to facilitate the formation of learning structures and conditions.
5. It attempts to capture the desired outcomes, including the vision, philosophy, mission statement, and objectives.

2) Curriculum Content or Subject Matter:

1. It specifies the aim and objectives of the programme and attempts to identify what to drive at.
2. Similarly, Curriculum has a framework that serves as a guideline. It contains information on all of the subjects covered in school.
3. It is a component or a means through which the objectives are attained.
4. Formal education's primary objective is to impart organised information in condensed form to a new generation of young learners.
5. Balance, articulation, sequencing, integration, and continuity all contribute to the development of a sound learning content.
6. Generally, the topic of any subject is vast. It is deconstructed into sub-content and then into its constituent pieces.
7. These components are ordered logically.
8. The behavioural objectives are composed using these content parts.
9. It is often referred to as instructional logic.

3)Curriculum Experience:

1. The term "curriculum experience" refers to the instructional methodologies, materials, and activities that will be used during the teaching-learning process.
2. The precise teaching objectives are accomplished through the use of an effective teaching technique.
3. These instructional tactics and approaches will put the content's objectives and intended application into action, resulting in an outcome.
4. These would be the mechanisms through which the written curriculum would be transformed into instruction.
5. The behavioural objectives heighten awareness and provide insight into the unique learning circumstances.
6. The method is used to provide learning opportunities and to effect desired behavioural changes.
7. Additionally, mastery is a product of instructor guidance and student action under the observation of the teacher.

4)Curriculum Evaluation:

1. Curriculum evaluation, as one of the fourth pillars, is a necessary component of an effective curriculum.
2. Curriculum evaluation refers to the procedures and instruments that will be used to examine the curriculum's outcomes.
3. It identifies the program's quality, efficacy, method, and product.
4. The degree of achievement of students is determined through the use of criteria-referenced tests.
5. It demonstrates the efficacy of the teaching technique and other components.
6. The assessment interpretation process gives input on the programme and its components.
7. Curriculum review is also necessary so that one may determine whether the objectives and goals have been met and, if not, whether another technique will work better.
8. Curriculum evaluation provides empirical support for the process of 'curriculum development.'

A curriculum's components are different but interdependent. These four elements should always be included in a curriculum. One may argue that they are necessary components of an effective curriculum. For instance, evaluation is critical in a curriculum in order to determine whether or not the objectives and aims have been met. The curriculum experience will be ineffective if the content is not outlined explicitly. The objectives, goals, and direction serve as the anchor for the educational journey; the content or subject matter serve as the meat of the educational journey; the curriculum experience serves as the hands-on exposure to the real spectrum of learning; and finally, the curriculum evaluation serves as the barometer for how far the learners comprehended throughout the educational journey.

Sources of Curriculum Design

Curriculum design is a collaborative process in which participants at all levels agree on learning objectives, instructional circumstances in which these objectives might be accomplished, and the efficacy of the methods and means used to accomplish these objectives. Alexander (1954, p. 245) described curriculum design as "...the pattern or framework or structural organization that guides the selection, planning, and implementation of educational experiences in the school." Thus, design is the strategy that teachers use to provide learning experiences. As a result, curriculum design becomes an integral component of curriculum preparation.

In 1949, Ralph Tyler summed up curriculum design into four simple steps. For Tyler, the process of curriculum design amounted to a way of resolving four questions, or a rationale:

What educational objectives should the school pursue?

How might learning situations that are likely to be beneficial in achieving these goals be chosen?

How may instructional experiences be organised for maximum effectiveness?

How can the efficacy of educational experiences be determined?

The curriculum is planned at multiple levels. Let us examine how planning differs at each stage in the following part.

Sources of Curriculum Design are

- Science as Source.
- Society as Source.
- Eternal and Devine Sources.
- Knowledge as a Source.
- The Learner as a Source.

Design Dimensions

- Scope
- Integration
- Sequence

- Articulation
- Balance
- Continuity

Scope

- (a) The term "scope" refers to the breadth and depth of content covered.
- (b) This is sometimes referred to as the curriculum's horizontal arrangement.
- (c) Horizontal curricula - Fundamental subjects taught over the course of a year or semester.
- (d) Vertical curriculum — This is a year-by-year curriculum.

Tyler's definition of scope

“All of the educational plan's content, subjects, learning experiences, and organizational threads. The curriculum's coherence that can be reached by learning a collection of key concepts over the course of six or seven years of content. It specifies the amount of material to cover and the level of expectation for learners because of education.

Integration

- ❖ Everything is related and interrelated.
- ❖ For instance, combining or integrating subjects such as mathematics and science.
- ❖ Connections between various types of information and experiences included in the curriculum plan
- ❖ It permits an individual to grasp knowledge in its entirety.

Sequence

- ❖ The term "sequence" refers to the presenting of information in a logical order.
- ❖ Sequences reflects the premise that pupils should be taught beginning with concrete concepts and progressing to abstract concepts as they progress through the grades.

- ❖ Nonetheless, certain teaching experiences do not require prior knowledge of essential information.

The contents and experiences are organised hierarchically. The fundamental might be either logical in terms of the subject matter or developmental in terms of the cognitive, emotional, and psychomotor domains' progress.

- (i) Simple to Complex
- (ii) Prerequisite
- (iii) Chronological learning

Articulation

- ❖ Articulation can be done either vertically or Horizontally
- ❖ Vertical Articulation
- ❖ Horizontal Articulation

Vertical Articulation

Contents are arranged from level to level or grade to grade so that the content in the lower level is connected to the next level.

Horizontal Articulation

This is known as co-relation. It refers to the coexistence of elements.

For instance, social studies in sixth grade is connected to science in sixth grade.

Balance

- ❖ Balance gives appropriate weight to each aspect of the design so that distortions do not occur.
- ❖ Equitable assignments of content, time, experiences and other elements to establish the “Balance in curriculum design”.

Continuity

- Vertical manipulation or repetition of curriculum components

- The reappearance of certain major ideas of skills about which educators believe students should have increased depth and breadth of knowledge over the length of the curriculum.
- This process enables the learners to strengthen the permanency of learning and development of skills.

Gerome Bruner calls this “Spiral curriculum” where the content is organized according to the interrelationship between the structure according to the interrelationship between the structure, where skills are developed and then further developed at a later time by taking students to greater depth and breath.

Example: The topics of math units are likely to be similar from year to year, but the way these topics addressed and the complexity of the concepts vary greatly.

Conclusion

Curriculum design committee should involve teachers, parents, administrators and even students. Schools, vision, mission, goals and objectives should be reviewed and used as bases for curriculum design. The curriculum design should take into account cognitive, affective, psychomotor, concepts and outcomes.

Approaches to the of Curriculum Design

There are three basic types of curriculum design:

- Subject-centered design
- Learner-centered design
- Problem-centered design

Subject-Centered Design

Subject-centered curriculum design revolves around a particular subject matter or discipline. For example, a subject-centered curriculum may focus on math or biology. This type of curriculum design tends to focus on the subject rather than the individual. It is the

most common type of curriculum used in K-12 public schools in states and local districts in the United States.

Subject-centered curriculum design describes what needs to be studied and how it should be studied. Core curriculum is an example of a subject-centered design that can be standardized across schools, states, and the country as a whole. In standardized core curricula, teachers are provided a pre-determined list of things that they need to teach their students, along with specific examples of how these things should be taught. You can also find subject-centered designs in large college classes in which teachers focus on a particular subject or discipline.

The primary drawback of subject-centered curriculum design is that it is not student-centered. In particular, this form of curriculum design is constructed without taking into account the specific learning styles of the students. This can cause problems with student engagement and motivation and may even cause students to fall behind in class.

Learner-Centered Design

In contrast, learner-centered curriculum design takes each individual's needs, interests, and goals into consideration. In other words, it acknowledges that students are not uniform and adjust to those student needs. Learner-centered curriculum design is meant to empower learners and allow them to shape their education through choices.

Instructional plans in a learner-centered curriculum are differentiated, giving students the opportunity to choose assignments, learning experiences or activities. This can motivate students and help them stay engaged in the material that they are learning.

The drawback to this form of curriculum design is that it is labor-intensive. Developing differentiated instruction puts pressure on the teacher to create instruction and/or find materials that are conducive to each student's learning needs. Teachers may not have the time or may lack the experience or skills to create such a plan. Learner-

centered curriculum design also requires that teachers balance student wants and interests with student needs and required outcomes, which is not an easy balance to obtain.

Problem-Centered Design

Like learner-centered curriculum design, problem-centered curriculum design is also a form of student-centered design. Problem-centered curricula focus on teaching students how to look at a problem and come up with a solution to the problem. Students are thus exposed to real-life issues, which helps them develop skills that are transferable to the real world.

Problem-centered curriculum design increases the relevance of the curriculum and allows students to be creative and innovate as they are learning. The drawback to this form of curriculum design is that it does not always take learning styles into consideration.

UNIT -3:

PROCESS OF CURRICULUM DEVELOPMENT

Phases of Curriculum Development Process

There are basically four phases of curriculum development

1. Formulation of Objectives
2. Selection and Organization of appropriate learning-material.
3. Selection of Suitable Learning Experiences
4. Selection of Suitable Material for evaluation of curriculum

Formulation of Objectives-

The objectives of teaching mathematics formulated and determined in behavioural terms. While formulating and determining objectives following points should be kept in mind-

- That the set of objectives formulated should indicate both the desired behavior and the type of situation in which it is to occur.
- An objective should be expressed in terms of desired pupil behaviour rather than of teacher behaviour.
- An objective should be specifically stated so that it is possible to infer some appropriate learning activities.

Selection and Organization of Appropriate Learning-Material

The selection of suitable content depends to a great extent on the extent on those basic considerations that underlie in the formulation of objectives. For e.g.- The objectives recognize four significant aspects of mathematical learning-

- Contents or meanings
- Computational skills
- Problem-solving(reasoning), and
- Mathematical attitudes

Concepts play an important role in the reasoning and also facilitate the learning of computational skills. Great emphasis should be placed upon those basic concepts and skills of mathematical thinking and problem-solving that most people should know in order to function intelligently as members of society.

Selection of Suitable Learning Experiences –

The concept of learning-experience as it emerges from the thinking about the learner and the learning principles accepted as the basis for objectives, can be broadly described as a desired change in the mental makeup of a child and it can be brought about through, “Activities leading to the discovery of connections, relationships and meaning which have significance in the directing or ordering of conduct.” Learning experience, envisaged here, place great importance on the pupil and the learning situation, instead of on the teacher and the content. The proper organisation of learning experiences depends upon a number of factors such as-

- Age, needs and previous experiences of the learner.

- Needs of a particular community
- Abilities of the children
- Facility available in the school
- Readiness, maturity and capabilities of the child.
- Attention and interest of the learner

Each teacher should feel free to adjust the objectives, content and activities to suit his requirements. However, the following criteria should be kept in view while selecting and organizing learning experiences-

- Learning experiences should be appropriate to behaviour changes defined under objectives.
- They should be suitable for the content area.
- They should be practicable.
- They should be adequate and effective.

Much reliance is therefore, put on the judgement of the teachers who framed them.

Selection of Suitable Material for Evaluation of Curriculum-

Evaluation and curriculum are regarded as closely related parts of the same educative process, not as distinct and separate functions. No curriculum can therefore, be said to have been planned without laying down some basic principles of evaluation. Evaluation comes in at the planning stage when objectives are identified.

The needs, interests, attitudes, and abilities of children should be kept in mind while selecting suitable material for the evaluation of the curriculum.

National agencies like the National Council of Educational Organization and the Council of Boards of School Education need to undertake the following tasks:

- Laying down the expected levels of attainment in each curricular area of all the stages of school education.
- Developing conceptual materials and prototypes on child-centered, activity-oriented, and competency-based teaching-learning materials;

- Generating various kinds of tests, which could be meaningfully employed for assessing cognitive and non-cognitive learning outcomes, making them available to the state agencies;
- Organizing training programs for paper setters of different boards.

Models of curriculum development

A model is a format for curriculum design development to meet unique needs, contexts and purposes.

In order to address the goals, curriculum developers design, reconfigure or rearrange one or more key curriculum components

The key curriculum components are

1. Content
2. Assessment
3. Teaching
4. Learning
5. Products and
6. Resources
7. Content
8. Assessment
9. Teaching
10. Learning
11. Products and
12. Resources

Curriculum models focuses on the individual differences of the students.

Technical-Scientific Models

These Presents blueprint that includes goals, objectives and step by step sequencing of content, activities and learning outcomes.

- Use instruments and empirical methods in orderly sequenced procedures and quality control measures to increase the probability of success in its implementation.
- Highly objective, universal and logical

- Reality can be defined and represented in symbolic form.
- Specified and addressed in linear form.
- Rest in belief in rationality, objectivity and certainly.

1. Tyler's Model

This is the first model of curriculum development. There are four steps in this model as discussed below

1) Objectives

According to Tyler, the objectives are teaching aims. The curriculum developer chooses general instructional objectives from the following sources

- i) Subject matter for the world of knowledge
- ii) Learners
- iii) Society of the learners

After choosing the general objectives from the above source the curriculum developer refines the objectives using the following

- School philosophy
- Psychology of learning

Finally, the specific instructional objectives are expressed in terms of learners' behaviours.

2. Learning experiences related to objectives

In this step the learning experiences are selected. Tyler outlined four general categories of learning experience

- i) Development of thinking skills
- ii) Acquisition of information
- iii) Development of social attitudes and
- iv) Development of student interests

3. Organization of educational experiences

The learning experiences are organized serially in a logical sequence from simple to complex, general to specific and experiences build on each other.

4. Evaluation

The process of evaluation is essentially the process of determining to what extent the learning objectives are realized by the programme of curriculum and instruction.

Merits

- Involves the active participation of the learner.
- Objectives are clearly defined.
- Is a simple linear approach to development of behavioral objectives.

Demerits

- narrowly interpreted objectives
- curriculum restricted to range of students' skills and knowledge
- critical thinking, problem solving and value acquiring cannot be achieved by this model.

2. Hilda Taba's Model

According to Hilda Taba there should be a clear definite order to curriculum design and that teachers must be involved in the process. Thus are 7 steps in her model as below.

a) Identification of learners needs

In this step

- Diagnosis of learners' achievements
- Diagnosis of students as learners
- Diagnosis of curriculum problems are done.

It involves

1. Problem identification
2. Problem analysis
3. Formulating hypotheses and
4. Gathering data.

b) Development of objectives

1. Main objectives

The main objectives of education are

- To add to the knowledge, they possess
- To enable they would not perform
- To develop certain understanding insight and appreciation
- To develop a healthy personality

- To analysis a particular culture and society which education programme serves

2. Functions of educational objectives

- Transmits culture
- Reconstructs society
- Develops the individual fully
- Guides our curriculum decision on what to coves, what to emphasize, what content to select and what learning experiences to stream.

3. Principle of formulation of objectives

They are

- Objective should be useful, clear and concrete
- Objective should describe behavior
- Objective should be realistic
- Objective should be broad

c) Choosing contents that match objectives

The objectives selected suggest the content of the curriculum and objective should match.

d) Organizing the content considering learner's experience and background

This is done in some type of sequence taking into consideration the

- Maturity of the learners,
- Their academic achievement and their interests.
-

c) Selecting Instructional methods that promote student's engagement

Instructional methods for transacting the learning content are select so that they promote student's engagement. Instructional methods may be

- Lecture method
- Demonstration method
- Activity based method etc.

f) Organizing learning experiences

They are sequenced logically so that they are based on psychological levels of the students. It also serves as a basic for students to apply what objectives have been

accomplished. Evaluation procedures need to be considered by the students are teacher. This model is inductive in approach, teacher's approach and grass-root approach.

Taba's philosophical ideas on curriculum development

- Socialization of human beings not linear and cannot be modeled through linear planning.
- Reconstruction of curricula and programmer is not short- term efforts but a long process.
- Social institutions are more likely to be effectively rearranged from bottom to top approach.
- The development of curricula is more effective if it is based on the principles of democratic guidance.
- She advocated inductive approach that states with the specific and build up to a general design.

Merits

- Gives a great role to teacher by no just making them implementer of curriculum but developers of curriculum.
- Uses the inductive method.
- Teacher's approach is used.
- Teachers should be aware of the students' needs therefore they are the person to develop the curriculum.
- Seen curriculum as a plan for learning.
- Given importance to objectives.

Demerits

- Given too importance to teachers

3.Saylor and Alexander's Model

Galen Saylor and his associates (1981) adopted 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.

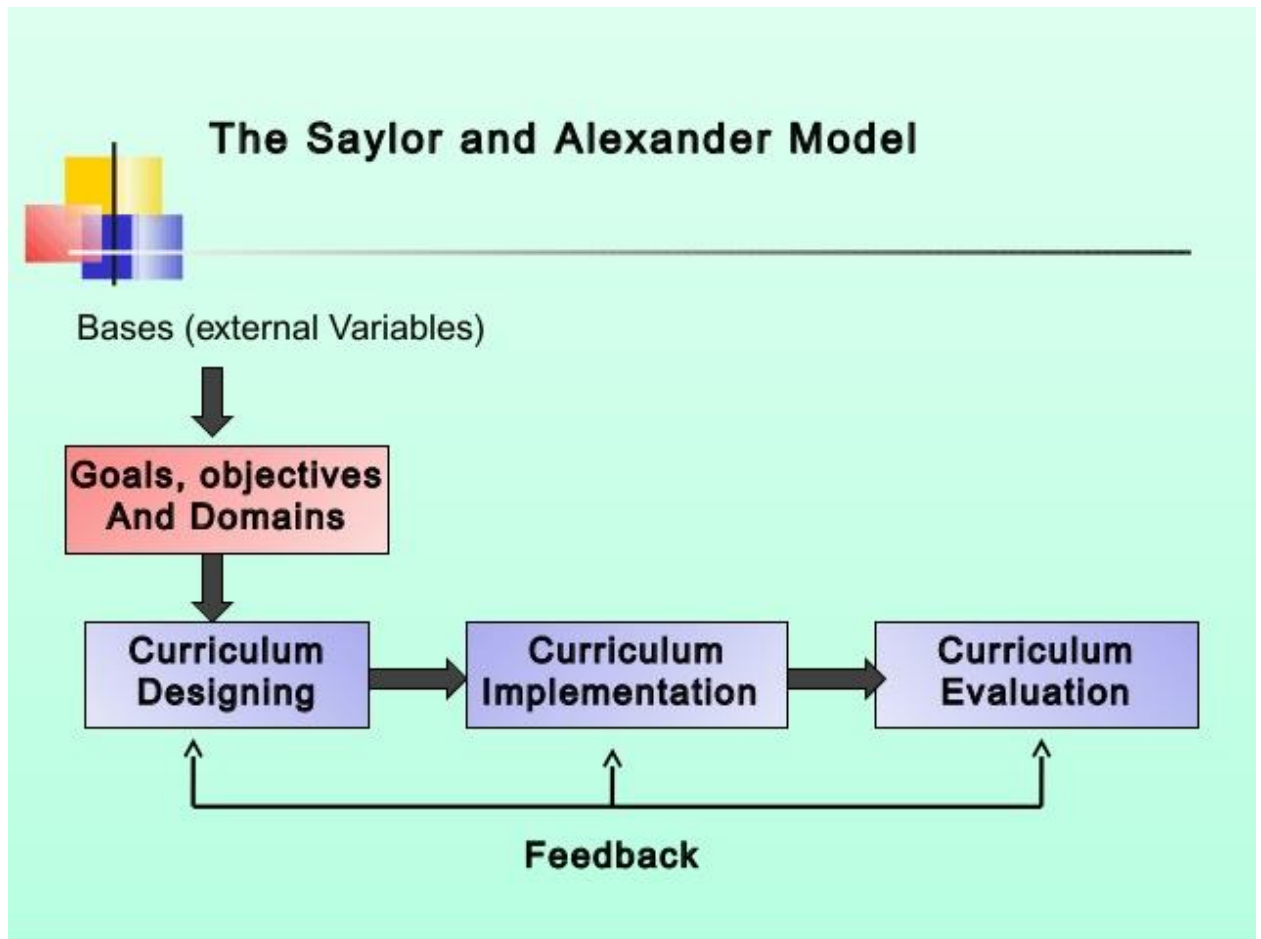


Figure depicts their conceptual model of the curriculum development process. As shown in Figure, the selection of educational goals and objectives is influenced by (1) external forces, including legal requirements, research data, professional associations, and state guidelines, and (2) bases of curriculum, such as society, learners, and knowledge.

Curriculum developers then choose the combinations of curriculum design, implementation strategies, and evaluation procedures that are calculated to maximize the attainment of goals; review feedback from the plan in effect through instruction; and re-plan the elements of the curriculum as indicated by the data. Curriculum design involves decisions made by the responsible curriculum planning group(s) for a particular school center and student population. Having collected and analyzed essential data and identified goals and objectives, curriculum planners create or select a general pattern—a curriculum design—for the learning opportunities to be provided to students. Among their alternatives is a subject design utilizing specific studies in the specified curriculum area, a scope and

sequence plan built around a selection of persistent topics or themes, an analysis of the essential skills necessary for knowledge and competence in the subject area, and a selection of problems (in cooperation with students) related to the area of study. The design plan ultimately anticipates the entire range of learning opportunities for a specified population. Curriculum implementation involves decisions regarding instruction. Various teaching strategies are included in the curriculum plan so that teachers have options. Instruction is thus the implementation of the curriculum plan. There would be no reason for developing curriculum plans if there was no instruction. Curriculum plans, by their very nature, are efforts to guide and direct the nature and character of learning. External forces and opportunities in which students participate. All curriculum planning is worthless unless it influences the things that students do in school.

Saylor argues that curriculum planners must see instruction and teaching as the summation of their efforts. Curriculum evaluation involves the process of evaluating expected learning outcomes and the entire curriculum plan. Saylor and his colleagues recognize both formative and summative evaluation. Formative procedures are the feedback arrangements that enable the curriculum planners to make adjustment and improvements at every stage of the curriculum development process: goals and objectives, curriculum development, and curriculum implementation. The summative evaluation comes at the end of the process and deals with the evaluation of the total curriculum plan. This evaluation becomes feedback for curriculum developers to use in deciding whether to continue, modify, or eliminate the curriculum plan with another student population. The provision for systematic feedback during each step in the curriculum system—and from students in each instructional situation—constitutes a major contribution to Saylor and associates administrative model of curriculum development.

Non-technical Non -scientific Models

This approach considers that the curriculum evolves rather than being planned precisely.

- Subject matter has importance only if student can find meaning in it for himself or herself.

- Subjective, personal, aesthetic, heuristic and transactional.
- Stress on learner rather than output.
- Emphasizing activity-oriented approaches to learning.
- Curriculum should evolve rather than precisely planned.

Kohl and Holt's Model

Herbert Kohl was born on August 22, 1937 is an educator best known for his advocacy of progressive alternative education and as the author of more than thirty books on education. He founded the 1960's Open School movement and is credited with coining the term "open classroom." The Open Classroom Movement in 1970's, was organized by A.S. Neill and Summerhill. The British Infant Schools was organized by Joseph Featherstone, Alternative Schools and Free schools.

John Holt advocates of child centered progressive education. He mentioned about how children fail. Children are subject peoples. School for them is a kind of jail. Do they not, to some extent, escape and frustrate the relentless, insatiable pressure of their elders by withdrawing the most intelligent and creative parts of their minds from the scene? In this not at least a partial explanation of the extraordinary stupidity that otherwise bright children so often show in schools? The stubborn and dogged "I don't get it" with which they meet the instructions and explanations of their teachers-may it not be a statement of resistance as well as one of panic and flight? An open classroom is different. Pupils are free to choose and change their seats. So is the teacher. When disputes arise, they must be adjudicated and finally settled with all parties involved. If two people want the same seat, they must settle it with each other and with the teacher and with other pupils.

There is no formula for resolving all conflicts. It is a matter of learning how to bargain and compromise. But one must make sure that an authoritarian structure controlled by pupils does not replace the one the teacher has refused to impose. This is a difficult and delicate matter. Yet a classroom can become more democratic. People can come to listen to each other and care about each other's thoughts and feelings. It takes patience, and a belief in the potential of the children. Time must be taken, especially in

the beginning of the school year, to work out disputes over seating and other seemingly petty things like hanging up coats, lining up, and going in and out of the school building. When these are done without specific directions and without imposing sanctions against offenders, some disputes are bound to arise. That is the price of developing a democratic classroom where pupils and teacher find ways of functioning together without invoking arbitrary or absolute authority.

ROGER'S MODEL

Carl Roger Born on Jan 8th 1902 in Chicago, USA. After some practical experience in the field of psychology, he developed this model which is also known as model of interpersonal relations. Carl Rogers (1979) has developed a model for changing human behaviour which can be used for curriculum development. In this model the emphasis is on human experiences rather than content or learning activities. He believes that by interacting in a group, learners can solve their problems. They express themselves honestly and explore each other's feelings. Rogers contends that the group experience "permits individuals" to know themselves and each other more fully than is possible in the usual social or working relationships, the climate of openness, risk taking and honesty generates trust", which permits each participant to "test out and adopt more innovative and constructive behaviours." In short, the model promotes curriculum change by changing the participants involved in curriculum development". This model implies

1. **Formative Tendency** -The evaluation occurs in step-by-step process, from simple to complex. Human consciousness evolves from primitive unconsciousness to highly organized awareness.
2. **Actualizing Tendency**- It is a tendency in humans to move towards completion and fulfilment of potentials. Individuals have the inner power to creativity, to change the self-concept. The source of psychological growth and maturity resides within individuals and is not found in other forces.
3. **Self-concept**- It is the collection of information, ideas, attitude and belief we have about ourselves. If self-concept becomes strong it becomes difficult to be changed easily.

4. **Human nature** -According to Roger those humans have inner drive towards self fulfilment and maturity, so educator and therapist to provide good environment and help.

Educational Implications

1. Rich educational environment
2. Educator as a facilitator.
3. Positive educator-learner relationship.
4. Curriculum must be new and modern.
5. Educator must be an active listener.
6. Nurturing learners.
7. Experience is the highest authority.

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