UNIT-IV: CURRICULUM DEVELOPMENT AND IMPLEMENTATION

Phases of Curriculum Development process – Models of Curriculum Development: Tyler's curriculum Inquiry Model, Taba's Grassroots Rationale Model and Saylor and Alexander's Planning process Model. Curriculum Implementation Models: ORC Model and LOC Model.

1.1 Curriculum Development and its process

Curriculum development is understood as process implying a wide range of education concerning learning experiences, taken by different factors at different levels, politicians, experts and teachers: at the national, state, local, school and also international levels.

Thus, process of curriculum development is essential for need analysis or task analysis, curriculum design, selection of appropriate methods of teaching- learning and evaluation, formation of curriculum implantation committees at various levels of education and reviewing the effectiveness of existing educational programme.

1.2 Principles of Curriculum

Curriculum refers both organized and informal activities of school life. School life need not imply life of the child within the four walls of the school alone, but extents beyond that. The place and importance of the curriculum in the educative process needs no reemphasis. The general aims of education receive concrete expression through the curriculum. It translates ideals into action. It is the crucial link between objectives and outcomes. As King and Brownell write "Deliberately Designed activity of life is education, deliberately designed portion of education is schooling, the heart of schooling is curriculum." The following are the basic principles of curriculum construction.

i) **Principle of Totality of Experiences:**

In the first place, it must be clearly understood that, according to the best modern educational thought, curriculum in this context does not mean only the academic subjects traditionally taught in the school but it includes the totality of experiences that pupil receives through the manifold curricular, co-curricular and extra-curricular activities.

ii) **Principle of Child-Centeredness:**

Child's nature, concern, motive and need should be of primary consideration in the construction of curriculum. Child is the central point round which all the curricular activities in school involve and develop. Curriculum should be adjusted to bring

nearer to the child rather than the child bringing nearer to the pre-determined curriculum.

iii) The Principle of Creativity:

Even a child has got some creative power. In the curriculum the students should be provided an opportunity for creative work. Perfect development of the child's personality is impossible without an opportunity to express his creative power. The child should be stimulated for creative work and given an opportunity for the development of hidden powers.

iv) Principle of Conservation and Creativity:

An effective curriculum must be based on the principle of conservation and creativity. While framing the curriculum we should include those subjects and experiences which help in the conservation of cultural heritage. There should be scope for their further modification in light of the changing needs and situations. A modern curriculum cannot be static. Subjects should be included in the curriculum, which will enable the child to exercise his constructive and creative powers.

v) Principle of Integration:

The curriculum should not split up into water-tight academic subjects. Various subjects included in the curriculum at a particular stage of education should be integrated and correlated with many other as well as with the real life of pupils. The school curriculum should promote unified studies which have direct connection with life.

vi) Principle of Flexibility:

In order to serve the varying needs and concerns of individual on the one hand and society on the other, curriculum should follow the principle of flexibility and dynamism. It should allow desirable changes and modifications of its contents from time to time in order to keep it up to date.

vii) The Principle of Utility:

It is a very important principle that at the time of curriculum construction utility instead of 'special knowledge' or logical sequence should be the base. Only that which is useful to the individual and society should be included in the curriculum, and that which is not useful should be excluded, however, important mater it may be. Nunn rightly says, "while the plain man generally likes his children to pick up some scraps of useless learning for purely decorative purposes, he requires, on the whole, that they shall be taught what will be useful to them in later life".

viii) **Principle of Character Formation:**

Aim of curriculum identifies itself with development of character and personality in the students. It should train their desirable traits and qualities of character through the program of rules, regulations and routines. Affective education should form part of curriculum for this character training.

ix) **Principle of Mental Discipline:**

One major task of curriculum is to train the various mental faculties or powers of the learner for their efficiency and precision. Mental powers of individual is to be developed through the cognitive training and practice.

x) **The Principle of Social Fulfilment:**

The curriculum should be connected with the social life of the people. Since man is a social being, he cannot be isolated from the society. Therefore, while constructing of the curriculum we cannot ignore the areas of aspects of social life of the people. The social principle of curriculum construction will help for training in citizenship. Curriculum should be constructed according to the social context of the children.

xi) **Principle of Relating to Community Life:**

The curriculum should be vitally and organically related to community life. It should allow to child to come into close contact with the life around him. Infact the curriculum should grow out of community life. This means due importance should be given to social function and productive work which is the backbone of organized human life.

xii) **Principle of Training for Leisure:**

The curriculum should be so designed as to train the students not only for work but also for leisure. Attempts should be made to include variety of co-curricular and extra- curricular activities - social, athletic sports and games and dramatics, etc. Such a curriculum will help the adolescence to release their pent up emotions in a socially desirable channel.

xiii) **Principle of Correlation:**

Curriculum should not ignore the natural affinity that exists in between the subjects. It should aim at giving a correlative view of knowledge to students instead of compartmentalizing the subjects. For this, it should combine and correlate between theory and practice of knowledge.

1.3 Phases of Curriculum Development

Phases of Curriculum Process
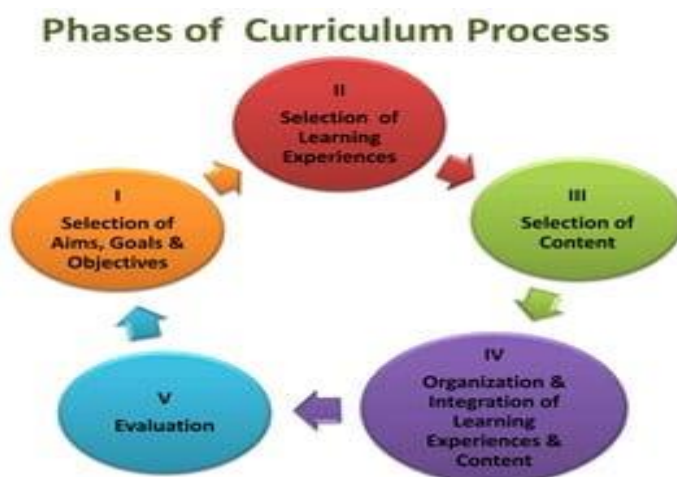
The curriculum development process consists of the following six phases:

1. Assessment of educational needs
2. Formulation of objectives
3. The selection of learning experiences to attain these objectives.
4. The selection of content through which learning experiences may be offered.
5. The organization and integration of learning experience and content with respect of the teaching learning process
6. Evaluation of all the above phases.

Guidelines for formulating Educational Objectives

Since objectives specify expected outcomes (endpoints) we need to give serious thought to the following guidelines while formulating them:

Matching:

The objectives should be related to the broad goals and aims of education from with they are derived. For example, the objective of understanding of certain scientific facts should enable the student to apply the knowledge gained in practical problems. The point of emphasis here is that the attainment of the objectives should lead the students to attain the overall goal of education.

Worth:

Worth relates to whether attaining an objective has value in the life of the student in the present or future. Since our knowledge base is continually changing, the objective needs to be updated, modified or eliminated to improve the quality of education and of human life. The objectives should be useful, meaningful and of relevant to the need of the students.

Wording:

The statements of the objectives should be worded properly, briefly and obviously so that students can easily understand the intended outcomes. Appropriateness: All objectives should be derived from and cater to the needs and interests of the students. Any ambiguity in the statement of an objective may create confusion in the mind of both the teacher and the students. In such a case the process of education will lose direction.

Logical grouping:

Sometimes objectives lack proper organizational coherence, especially when the learning experiences and their evaluation procedures are decided. The objectives should be grouped according to some common idea or in terms of domains-cognitive, affective and psychomotor (conative). Proper grouping (classification) of the objectives will help plan and develop a more meaningful curriculum in terms of its content, methods and evaluation.

Revision:

The objectives require periodic revision because students' needs, realm of knowledge, academic agenda, instructional strategies, evaluation techniques etc., change at a very fast pace these days. Revision of objectives will have a recurring impact on the curriculum and make it an on – going process. The curriculum should have the flexibility to accommodate changes in the society.

Third phase:

The selection of learning experience

After the aims and objectives are defined, we must think of the appropriate means which are required in order to achieve the ends. The means of securing behavioural changes are through learning experiences. The learning experiences may be put into certain categories. This classification pertains to three areas viz. physical, mental and emotional experiences.

- Physical experience is concerned with conation (faculty of will) and volitional activity.
- Mental experience is concerned with cognition (faculty of knowing) and thinking activity.
- Emotional experience is concerned with affection (faculty of feeling) and act of value clarification or value building.

The relationship between a learning experience and the resulting behaviour is a conditional one. The relationship is dependent on the existence of several other conditions. Therefore, the

learning experiences should be chosen very carefully. These experiences may differ from goal to goal as mentioned in phase one. The teacher has to make use of his knowledge of the pupils in his class and the environment for selecting suitable learning experiences. Emphasis on individual needs results in an activity-based programme, experience-based programme, self-directed learning, affective learning whereas emphasis on social needs results in a core programme. The term learning experiences connotes learning activities which shape the learner's orientation to the content and ultimately their understanding of it. In essence, it refers to the teaching-learning process the methods followed and the activities planned to facilitate the teaching-learning process.

Various teaching methods are used by teachers such as, inquiry strategies, lecture, panel discussion, team teaching, symposium, seminar, conference, tutorial, discussion, project, demonstration, etc. Similarly, there are various learning activities, such as

- viewing films,
- conducting experiments,
- undertaking fieldtrips,
- viewing videos,
- taking notes,
- working on assignments,
- interacting with computer programs,
- participating in discussions,
- listening to speakers etc.

The teaching methods generate learning activities. Teaching methods and learning activities are two sides of the same coin. Some curriculum planner differentiate content from experience. They should remember that content and experiences do not exist independent of one another. On the contrary, both content and learning experiences comprise the overall curriculum.

Criteria for Selecting Learning Experiences

There are few questions which should be addressed before we select learning experiences. They are listed below:

- Do the learning experiences function the way we wish them to in the light of the overall comprehensive aims and the specific objectives of the curriculum?
- Will the students be able to apply the knowledge gained to practical situations?

- Is it feasible in terms of time, staff expertise, resources, etc., to learn the content of the curriculum in the specified time.
- Do the learning experiences enable students to develop thinking skills an rational powers?
- Do the learning experiences stimulate in students a greater understanding of their own existence as individuals and as members of a group/ community /society?
- Do the earning experiences foster in students an openness to new experiences and a tolerance for diversity?
- Do the learning experiences allow students to address their concerns, needs and interests?
- Do the learning experiences cater to total personality development of students in cognitive, affective and conative domains?

The questions will help us to select appropriate learning experience for a given set of objectives. Thus, criteria for selecting experiences are expressed by the questions. Besides, we should able to create proper environment: Physical and psychological, for optimal learning. The experiencing of content cannot be divorced from the environment in which the experiences occur. Students who work in a creative environment are more likely to be stimulated and excited about their learning. The educational environment should address social needs security needs, and belongingness needs, as well as the development of inner awareness, appreciation and empathy for others. It should enable students to master intended learning It should stimulate purposeful student activity and allow for a depth and range of activities that facilitate learning.

Criteria for Environment

Brian Castaldi (1977) has suggested four criteria for designing educational environments. They are adequacy, suitability, efficiency and economy. Adequacy refers to the space planned and also environmental control. This criterion addresses the sufficiency in terms of space, light, visual display, learning material and acoustics (hearing). Suitability refers to the contribution and facilitation of provided learning environment for effective learning of students. Ensuring efficiency involves attending to those characteristics of educational space that are likely to improve its instructional effectiveness or operational characteristics. It refers to the attainment of greatest amount of learning with the least amount of effort by students and teachers. Final criterion, economy, relates to actual savings, in terms of capital outlay, that can be achieved by the initial architectural design or by a modification of an existing environment for a particular aspect of the curriculum. Economy deals with the cost of teaching some part of

the curriculum in the environment provided. It also relates to economy of students' and teachers' efforts. Time is a resource, and curricula are designed to make maximum use of time to achieve basic program goals and objectives.
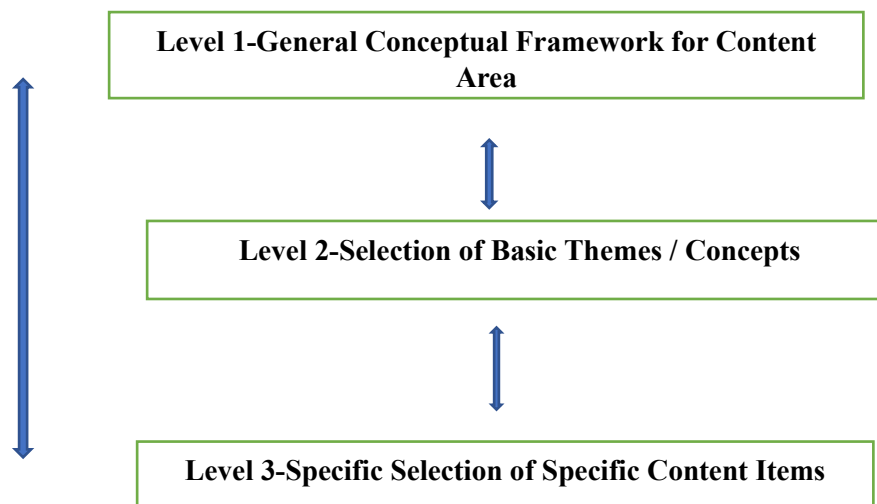
Fourth phase: The selection of content

Curriculum deal with the question, what shall be included for purpose of learning? After that they deal with how to present or arrange the what that is selected for learning so that students can learn or experience it. In other words, first they deal with knowledge and content specifically, and then they deal with teaching, and learning experiences. Curricularists who view the world from a traditional philosophical posture "discover" knowledge by using their senses. Also, to them knowledge is objective; it can be measured and therefore tests. Those who view the world from a progressive posture invent knowledge according to their relationships with others and the environment. The meaning and truth of a child's experience depend on their relationship to the situations in which he/she is acting. Those who are part of the romantic position view knowledge and content from an existential or phenomenological epistemology. To these individuals, knowledge and reality refer to an immediate inner experience of the Self. Knowledge and truth in this view are self-awareness or self-insight. This form of truth is extended beyond the Self as a person attempts to understand other human beings.

Content refers to the compendium of information which comprises the learning materials for a particular course of a given grade (Parker and Rubin, 1966). This information may consist of facts, concepts, principles, laws, theories and generalizations, as in the case of mathematics or science courses, or it may consist of a description of events, trends or categories, as in the case of a history course. Content is more than just information to be learned for school purposes. Information, according to some educationists is considered as mere acquisition of facts or role memory and knowledge as a mental process that takes shape in the mind or an intellectual process, it must bear some relationship to "some questions with which the learner is concerned" and it must fit into his more direct acquaintance so as to increase its efficacy and deepen its meaning (John Dewey, 1916). Some curricularists might conclude that content (subject matter) is really another term for knowledge. Content is a compendium of facts, concepts, generalizations, principles and theories similar to disciplined knowledge. Additionally, school content does incorporate methods of processing information. All curriculum content should enable students to gain understanding and to apply that understanding to daily living -present and anticipates. When selecting content, the curriculum planner must take into account the potential of content to address all the cognitive, social and

psychological dimensions of the individual student. Considering content in terms of its meaning as knowledge allows or enables the curriculum planner to be more effective in the content-selection process. The selection of subject matter or content is the principal concern of many curriculum makers. The content is an important part of curriculum as every learning experience involves content. One importance point in considering content is that it cannot be directly related to the general aims of education. Directly relating content to the aims implies an illicit curriculum process. If the general aims of education are directly related to the school subjects, the aims may remain as the general aims of certain school subjects and it may mean that individual teachers may have quite different objectives. We should not forget that the general aims of education must be translated into more specific operational goals before they can exert some influence of the teaching learning process.

Three Levels of Selection of Content

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        │  Level 1-General Conceptual Framework for Content
        │                    Area                        │
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                            ↕
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        │     Level 2-Selection of Basic Themes / Concepts │
        └──────────────────────────────────────────────┘
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        │  Level 3-Specific Selection of Specific Content Items │
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The process of selection of content can be viewed at three levels.
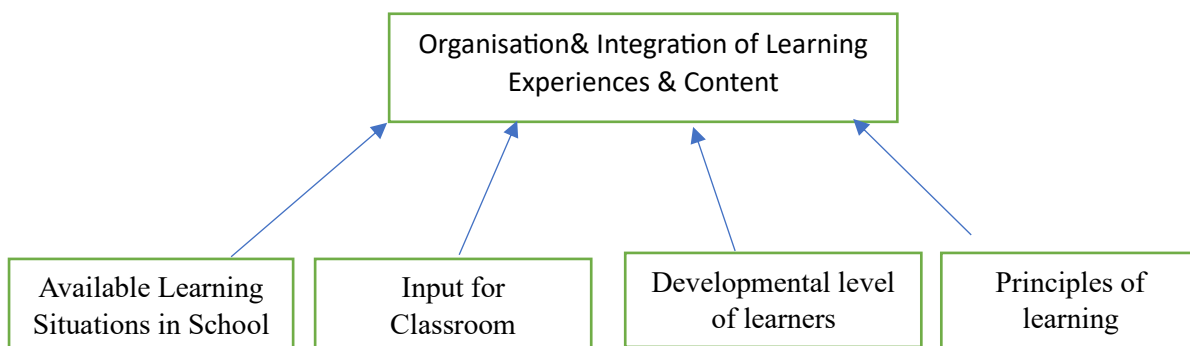
The first level deals with selection and clarification of the conceptual framework related to the content areas. The so-called modern mathematics of the 1960s and the conventional mathematics provide a good example of this.

The second level is concerned with selection of basic themes or key concepts which along with other basic themes or concepts constitute the framework of knowledge in a given subject. Basic operations, the number system, the set theory is some of its examples. These themes / key concepts have hierarchical relationship with each other. Some of these have broad connotation (e.g., the number system) while others have limited connotation (e.g., prime numbers).

The third level is the most specific. At this level the content items are matched with the basic theme/concept they belong to and also with the objectives of the curriculum.

Criteria for the selection of content

The content and objectives are interdependent and constitute a major dimension of curriculum development. Generally, content refers to subject matter or the compendium of facts, concepts, generalization, principles and theories. By content we imply learning experiences besides subject matter. The curriculum content should enable students to gain and apply knowledge in dayto-day life. The content selected should contribute to the student's knowledge or understanding of the reality of human life. The following diagram make this discussion clear.

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          ┌─────────────────────────────────────┐
          │ Organisation& Integration of Learning│
          │       Experiences & Content          │
          └─────────────────────────────────────┘
            ↑          ↑              ↑          ↑
┌──────────────────┐ ┌──────────┐ ┌──────────────────┐ ┌──────────────┐
│ Available Learning│ │ Input for│ │ Developmental level│ │ Principles of│
│ Situations in School│ │Classroom │ │   of learners    │ │  learning    │
└──────────────────┘ └──────────┘ └──────────────────┘ └──────────────┘
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At the micro level the criteria should suit the specific objectives set for meeting the student's needs. Some of the criteria for content selection are discussed as follows:

1. **Self-sufficiency**: This criterion helps the students to attain maximum self-sufficiency and that too in the most economical manner i.e., economy of teaching efforts and educational resources, students' efforts and extent of generalizability of subject matter. In other words, we can say that the content should help the student become self-reliant and self-sufficient. This criterion is the means by which learners can actualize their potential and crystallize their identities

2. **Validity:** Validity relates to the authenticity of the content selected. The content selected should be valid to the extent that it flows from and supports the goals and objectives of curriculum. The content should be usable in day – to- day life. In other words, validity refers to the extent to which the content adequately covers the subject matter of the course and the objectives specified for the course of study.

3. **Utility**: The utility criterion is concerned with the usefulness of the content. The usefulness can be interpreted in different ways. For example, the content learned by the students should be useful in his/her job situations, or how content enables the individual to gain an accurate perception of his/her self-identify and to attain meaning in his/her life or content has direct application to on-going life and to social and political issues.

4. **Learnability**: This criterion relates the optimal placement and appropriate organization and sequencing of content. The selected content should not be out of the range of student's experiences, intellectual abilities etc., In other words, the content should be such that it can be perceived, understood and assimilated by the learners for whom it is intended.

5. **Feasibility**: Feasibility as a criterion of content selection compels curriculum planners to analyse and examine the content in the light of the time and resources available to the students, the expertise of current staff, costs involved, the existing legislation contemporary sociopolitical climate, etc., Despite the fact that there are several options available, the students do have limitations as far as the pace of their learning is concerned.

6. **Significance:** Content to be learned is significant only to the degree to which it contributes to the basic ideas, concepts, principles, generalizations, and so on, of the overall aims of the curriculum, and to the development of particular learning abilities, skills, process and attitude formation. While selecting the content it is necessary to decide which concepts and ideas connected with the learning experiences are significant. It is a difficult task. To achieve this task successfully there must be a high degree of coordination between the persons who prepare the content and the persons who teach it.

7. **Relevancy of content to the present needs:** The criterion of relevancy becomes more and more important as efforts are made to improve the schools and to educate a larger number of persons. We know by experience that many students do not have interest in the lessons, if the content of those lessons is not related to their current experiences. The curriculum should have a cosmopolitan orientation in order to reflect the diversities of the culture. Moreover, the teaching of subjects like social studies should be relevant to the present-day events. The contents should also help in the broadening of horizons for tomorrow. Otherwise, what is being taught in the schools today will be behind the times.

8. **Interest:** The subject matter must create interest in the pupils. It should satisfy the needs of the learner. This criterion will be fulfilled when the subject matter in different subjects is useful in solving pupils, problems or in fulfilling pupil's goals. The content of the curriculum must be selected with students' interests in mind. The criterion of students' interests should be weighted and adjusted to allow for students maturity, their prior experiences, the educational and social value of their interests and the way they are expected to interact within society.

9. **Orientation of democratic values**:This criterion implies that education will help in providing intelligent direction of social change through the selection of curriculum content. It means that the instructional programme should focus upon the development of moral values, effective thought processes the skills of democratic qualities.

Fifth phase - Organization and Integration of Learning experiences and content

Next important task is the organization and integration of experiences and content. This involves combining of all information about experience. There is no common organizing principle. Each type of experience will be focused by different things.

The subject centered curriculum is focused upon the school subjects, inherent organization of content and their internal divisions, while the learner centered curriculum is focused on different categories of activities, concerns, interests, needs, impulses of children. The problem centered curriculum is focused on areas of living or social functions and the problems of living. Emphasis on school subjects results in academic subjects, disciplines, Broad field or correlated programmes; emphasis on individual needs results in an activity-based programme, experience-based programme, incidental education, de-schooling programme or affective learning whereas emphasis on social needs results in community life, social function or socialization programme. The essential task at this stage is to develop sequences of educational activities based on selected experiences and content. This fusion of selected experiences and content has a definite purpose which is derived from educational objectives. Hence it is called a sequence of learning experiences.

The organizing principles of this integration and sequence should ideally be derived from the learning situations available in schools and classrooms, inputs needed for effective classroom interaction, the development levels of learners, and principles of learning by children for whom the curriculum is meant. Bruner talks of three modes of learning viz., enactive, iconic and symbolic.

- Enactive mode of learning is activity based, the learner acts and learns as result of action process.
- Iconic mode of learning is based on the use of images and diagrams.
- Symbolic mode of learning is based on the use of a symbol system.

It must be remembered that there are alternative ways of sequencing and integrating content and learning experiences. Besides, a particular approach to sequencing and integration of content shall have certain implications for classroom methodology and administration of school. A change in sequencing and integration of content and learning experiences is bound

to affect classroom methodologies or school administration or both. It must be understood that the most effective sequencing and integration of learning experiences and content depends upon certain and dependable knowledge about how knowledge is acquired and how it accumulates over time and how this accumulated knowledge can be best organized for easy recall and use later on. Unfortunately, we do not have dependable answers to these questions. Yet the task of sequencing and integration of content and learning experiences must somehow be accomplished as best as it can be.

Quite often, this sequencing and integration is determined by the size and scope of units and the overlap and interrelation among units. If modular units are to be developed, the scope would be more specific and overlap with the preceding or the following unit would be minimal if not absent. Sometimes the entire curriculum has a built-in overlap and interrelation even though at surface level it may be divided in chunk a of units, lessons, activities and projects.

Sixth phase- Evaluation

The final stage in the curriculum process is the coming to conclusion about the success or failure of the educational enterprise. This is done by means of some measurement or assessment of the behaviour changes. As a result of formal education, certain behaviours are expected. We have to find out in this stage whether those behaviours have actually occurred. We have to assess whether the students actually acquired the facts, the knowledge, the skills, the attitudes, the beliefs and the values that were intended. There is a certain amount of the interdependence between one phase and another discussed above. As we have to translate the aims into various kinds of goals, some fore-thought must be given to the main processes of evaluation. Similarly, the various aspects of evaluation may affect the derivation of goals, the selection of experiences and their organization into sequences.

Curriculum process is therefore represented as a cycle and the curriculum must be envisaged as subject to continuous scrutiny and constant revision. The evaluation can be done for assessing the modification of student's behavior. It is called student evaluation. Student evaluation aims at assessing the changes in the students' behaviour.

These changes in behaviour can be accessed through:
- oral, written or practical tests.
- Responses during interactive teaching-learning sessions, discussions in different kinds of situations, etc.

- Written products of different kinds, e.g., assignment responses, term papers, project report. etc.

The process of evaluation is undertaken in order to determine the strengths and weakness of existing or an under-construction curriculum so that improvements can be made in curriculum design. Evaluation results are primarily a function of judging the effectiveness of the curriculum.

The need to evaluate a school curriculum arises out of the following reasons:

- to cope with the recent advancement in the field of knowledge
- to remove redundant material from the curriculum which has become obsolete.
- to identify the gap between the requirements of the next grade and the objectives of this grade and to fill in these gaps with appropriate learning experiences.
- to make the curriculum more efficient in achieving the envisaged objectives, and
- to assess the extent to which the latent curriculum has been achieved in terms of behavioural objectives.

In brief the curriculum evaluation is the process of assessing whether curricula are achieving their aims and/or can be judged to be worthwhile.
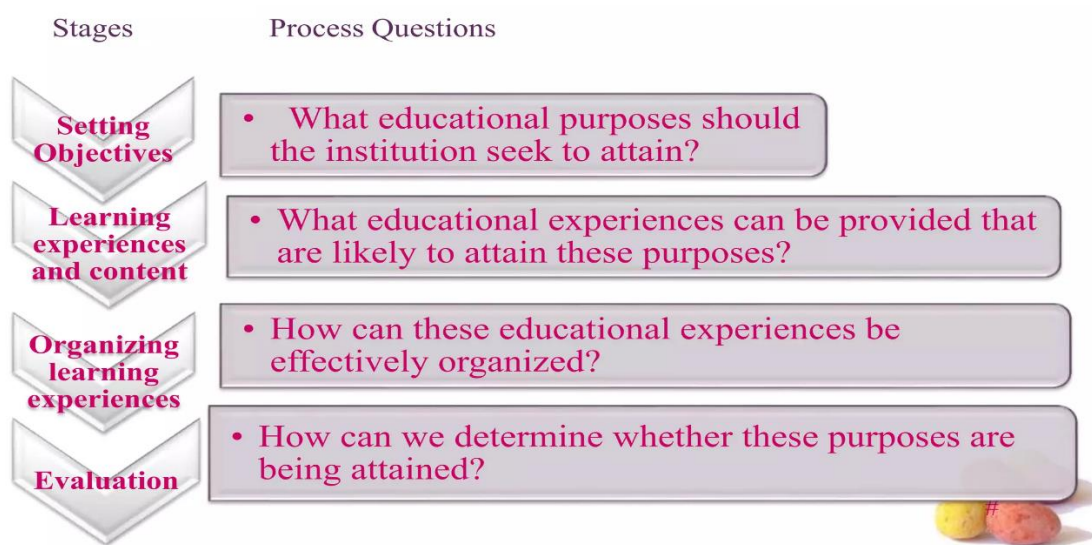
1.4 Models of Curriculum Development

The curriculum development model can be classified into technical-scientific approach and nontechnical-non-scientific approach. The term technical-scientific emphasizes that the curriculum development model involves intellectual and rational approach based on the views of experts and demands of subject matter. The term nontechnical-non-scientific stress that the curriculum development model involves learner-centred approach based on the students' perceptions of their needs and preferences.

The Tyler's Curriculum Inquiry Model

Tyler's model of curriculum development is an ends-means approach. Tyler mentioned that those involved in curriculum inquiry must try to define the four basic components of curriculum.

They are:
1. **purposes of the school;**
2. **educational experiences related to the purposes;**
3. **organization of these experiences and**
4. **evaluation of the purposes.**

| Stages	Process Questions
Setting Objectives	• What educational purposes should the institution seek to attain?
Learning experiences and content	• What educational experiences can be provided that are likely to attain these purposes?
Organizing learning experiences	• How can these educational experiences be effectively organized?
Evaluation	• How can we determine whether these purposes are being attained?

By 'purposes', Tyler was referring to objectives. He indicated that curriculum planners should identify these general objectives by gathering data from three sources – the subject matter, the learners and the society. After identifying numerous general objectives, the curriculum planners were to refine them by filtering them through two screens – the philosophy of the school and the psychology of learning. As a result of such screening the specific instructional objectives were formulated.

Tyler then discussed how to select educational experiences that would allow the attainment of objectives. Learning experiences had to take into account both the previous experience and the perceptions that the learner brings to a situation. Also, the experiences were to be selected in light of what educators know about learning and human development.

Tyler next talked about the organization and sequencing of these experiences. He stated that the ordering of the experiences had to be somewhat systematic so as to produce a maximum cumulative effect. He thought that organizing elements, such as ideas, concepts, values and skills should be woven as threads into the curriculum fabric. These key elements could serve as organizers and means and methods of instruction and they could relate different learning experiences among different subjects. The ideas, concepts, values and skills could also link content within particular subject courses – for example, English and mathematics. Indeed, much of the discussion today on the conceptual structures of courses or curricular content is drawn from Tyler.

Tyler's last principle deals with evaluating the effectiveness of planning and actions. Tyler considered evaluation to be important in curriculum development. He realized that it was necessary if educators were to find out whether the learning experiences actually produced the

intended results. Also, it was necessary to determine whether the program was effective or ineffective. It could guide where the program should be maintained or modified. An evaluation should relate to all of the objectives. The Tyler's curriculum inquiry model is represented in the following figure.
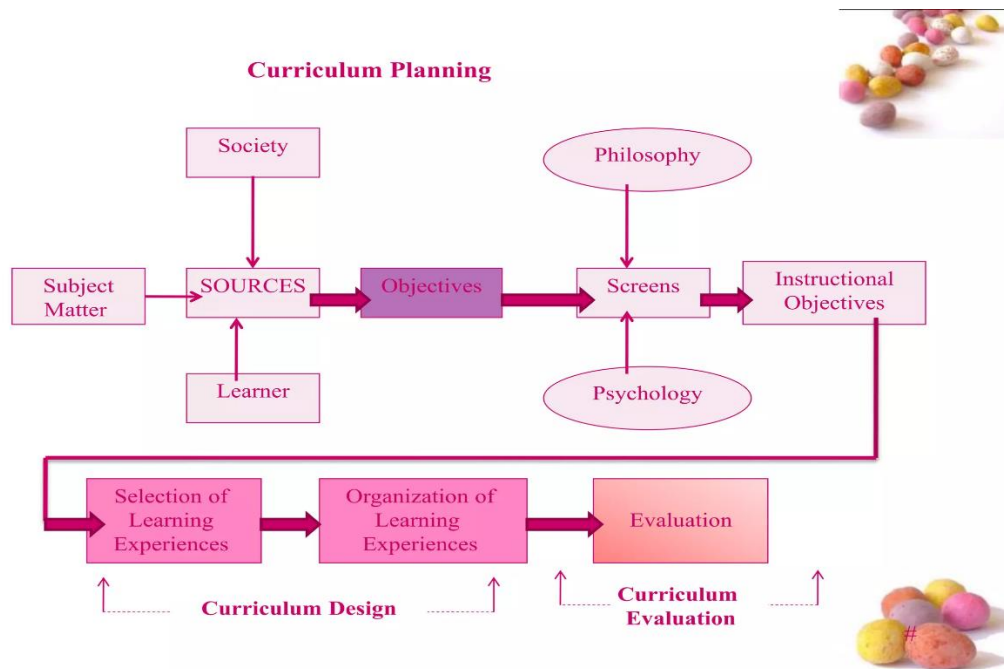
The Taba's Grass-Roots Rationale Model

Hilda Taba believed that those who teach curriculum should participate in developing it. She advocated the "grass-roots approach" for curriculum development.

According to Taba, the curriculum should be designed by the users of the program. Teachers should begin the process by creating specific teaching-learning units for their students. She advocated that teachers take an inductive approach to curriculum development – starting with specifics and building to a general design – as opposed to the more traditional deductive approach – starting with the general design and working toward the specifics.

Taba noted seven major steps to her grass-roots model in which teachers would have major input:

1. **Diagnosing needs**
2. **Formulating specific objectives**
3. **Selecting content**
4. **Organising Content**
5. **Selecting learning experiences**
6. **Organising learning experiences**

7. **Evaluating**

1. Diagnosis of Needs: Before planning curriculum, diagnosis of needs is very important. This helps in general analysis of problems, conditions and difficulties. The purpose is to generate new ideas about the curriculum, by knowing thoroughly from various sources such as students' cumulative records, teacher recordings, parents' interviews, children's cases and their IQ achievement. This kind of analysis would lead to a come out with a new conception of curriculum. Diagnosis leads to understand the prime needs at different stages of curriculum. The teacher (curriculum designer) starts the process by identifying the needs of the students for whom the curriculum is to be planned.

2. Formulation of Objectives: After the teacher has identified needs that require attention, he or she specifies objectives to be accomplished. The objectives needs to be comprehensive in relation to the following: Concepts or ideas to be learnt, Attitudes, sensitivities and feelings to be developed, Ways of thinking to be reinforced, Strengthened or initiated, Habits and skills to be mastered.

3. Selection of Content: The objectives selected or created suggest the subject matter or content of the curriculum unit. The objectives and needs provide a basic idea and guidance to select relevant content. While selecting content, the following points have to be followed meticulously:

- Selecting the topic
- Selecting the basic ideas
- Selecting the specific content

The first task is to select the relevant topics through which the objectives formulated can be achieved unit by unit; the topics have to be finalised. The different topics which can be covered under each subject, class and level should be decided. Then attention has to be paide to incorporate these into the broad content structure.

4. Organisation of Content: A teacher cannot just select content, but must organize it in some type of sequence, taking into consideration the maturity of the learners, their academic achievement and their interests. Once the content is finalised, the content has to be organised systematically by keeping in view the following:

- Sequential order
- Concrete to abstract
- Simple to complex
- Known to unknown
- Immediate to remote

- Easy to difficult

It should follow inductive logical arrangement of the content and a psychological sequence. There should be cohesion among ideas, facts and relationships.

5. Selection of Learning Experiences: Content must be presented to pupils or pupils must engage in an interaction with the content. With the content ready, it is easy to plan for learning experiences and activities. The criteria with which the content is drawn should provide/plan/visualise what students need to experience in order to acquire certain behavioural competencies and sequence of the experiences. Care must be taken to include a variety of learning experiences like reading, writing, observing, analysing, discussing, tabulating, painting etc.

6. Organization of Learning Activities: Just as content must be sequenced and organized, so must the learning activities. Often the sequence of the learning activities is determined by the content that is sequenced. But the teacher needs to keep in mind the particular students whom he or she will be teaching.

7. Evaluation and Means of Evaluation: The curriculum planner must determine just what objectives have been accomplished. Evaluation procedures need to be considered by the students and teachers. Evaluation is determining the objectives, diagnosis or establishment of baseline for learning and appraising progress and changes. There are varied approaches and methods of evaluation to know the progress of the child. Evaluation, is in a way continuous diagnosis along with comparison of results. Even several informal devices can also be used to evaluate the outcomes of the curriculum on the whole. Finally, whether the objectives of the curriculum are achieved needs to be evaluated.
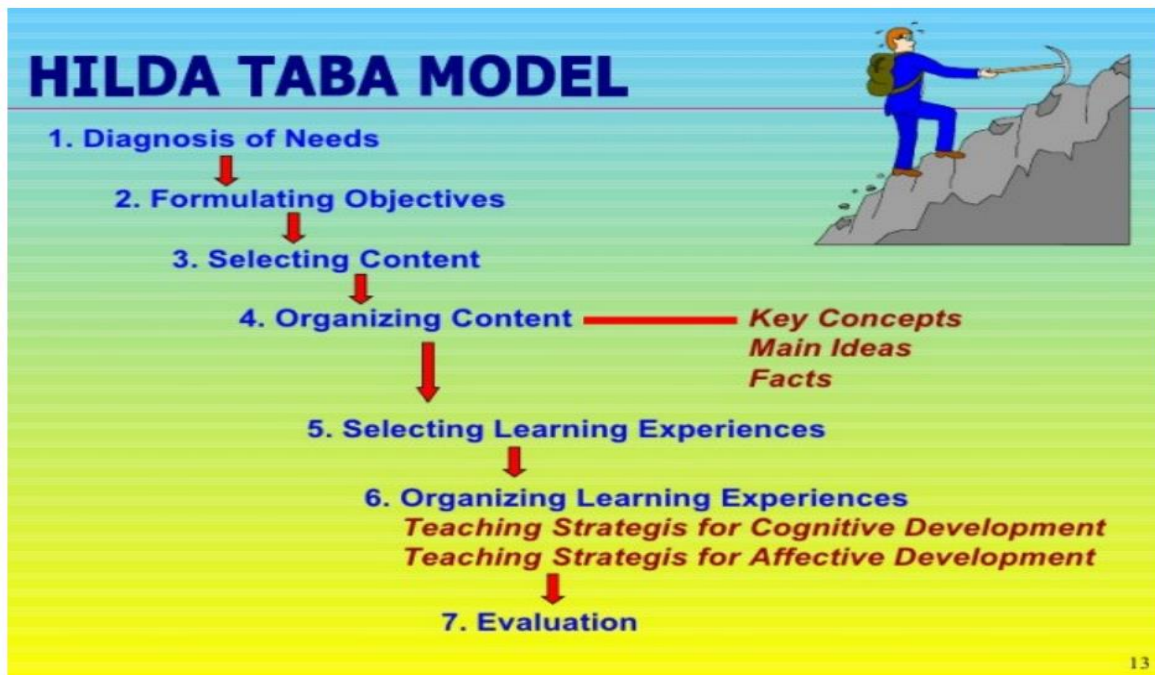
The grass-roots approach has made it abundantly clear that a broad base of involvement of the users of the curriculum is essential for effective curriculum decision-making. Curriculum making requires compromise among administrators from the central office, supervisors from the local school and teachers, students and community members. Traditionally, the central office staff is charged with directing those actions that enable the various participators to engage in curriculum development. In a non-traditional approach member of the community and teaching profession are given primary responsibility for developing the curriculum.

BENEFITS OF USING THE TABA MODEL

1. This model taps into higher- order thinking skills.
2. Builds comprehension skills such as inference, synthesizing and summarizing.
2. Gifted learners will thrive with the opportunities to explore questions with multiple correct answers.
3. Questioning is open ended, No clear right or wrong response.
4. When grouped together students work collaboratively with others to build skills with speaking and listening'
5. Provides an opportunity for healthy classroom discussions before andafter generalizations are made
6. When grouped together students work collaboratively with others tobuild skills with speaking and listening'
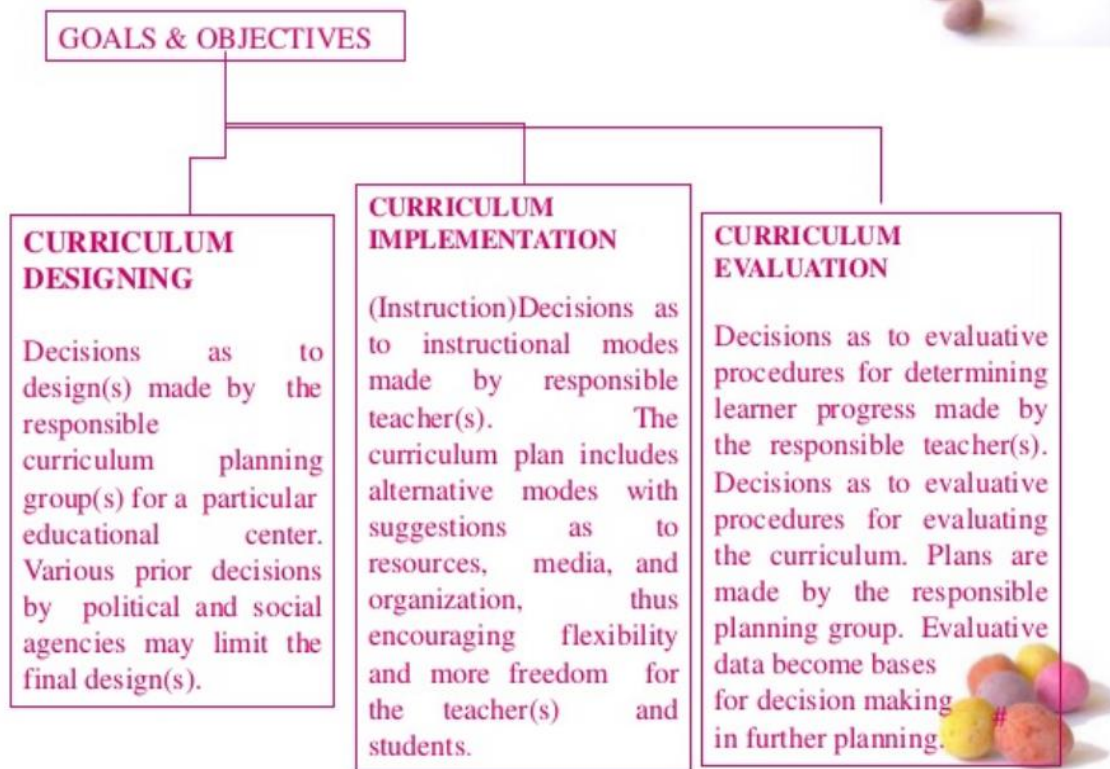7. Provides an opportunity for healthy classroom discussions before and after generalizations are made.

Difference between Tyler's Model and Taba

Tyler's model	Taba's Model
deductive	inductive
argues from the administrator approach	reflects the teacher's approach
believes that administration should design the curriculum and the teachers implement it.	believes that the teachers are aware of the students needs; hence teachers should be the ones to develop the curriculum and implement in practice.
lays the main stress on aims, evaluation and control.	her rationale does not start with objectives, as she believes that the demand for education in a particular society should be studied first (see Step 1)
This approach may be perfect, perhaps, for market-oriented education, but inadequate for the development of responsible and creative individuals able to meet the challenges of the constantly changing circumstances	pays attention to the selection of the content and its organization with an aim to provide students with an opportunity to learn with comprehension.

The Saylor, Alexander, and Lewis Model
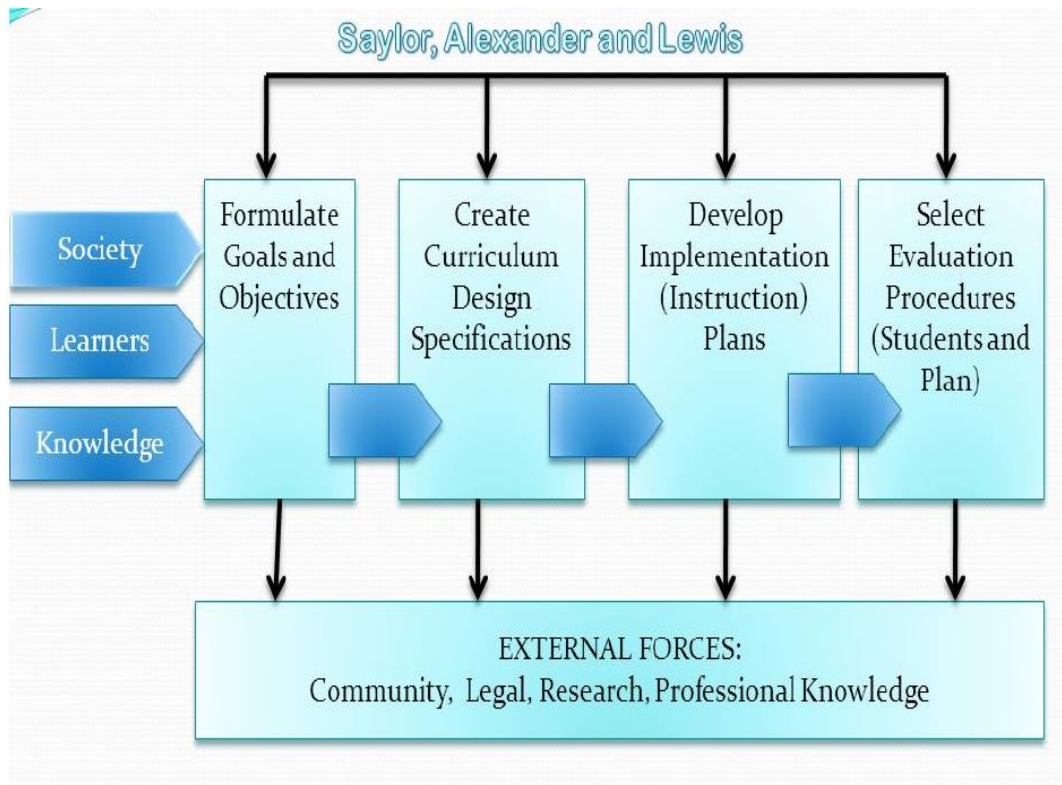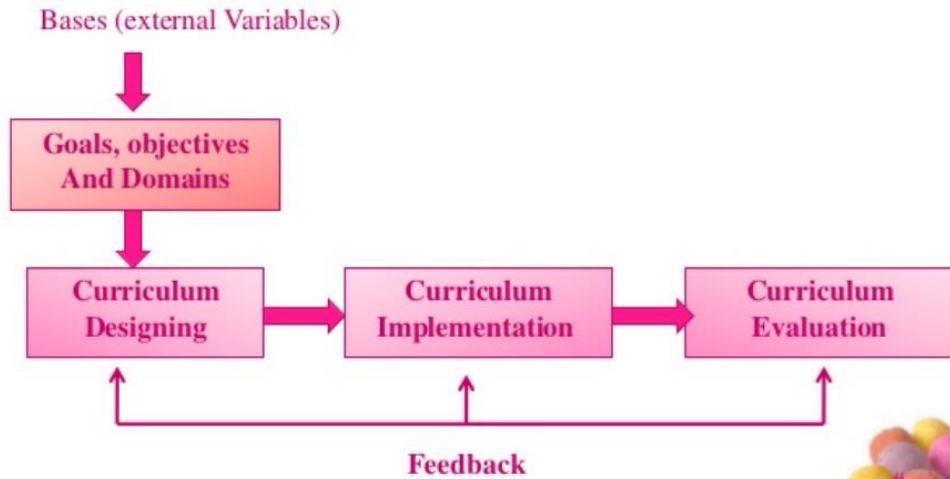
Saylor, Alexander, and Lewis's conception of the curriculum planning process:

GOALS & OBJECTIVES

CURRICULUM DESIGNING

Decisions as to design(s) made by the responsible curriculum planning group(s) for a particular educational center. Various prior decisions by political and social agencies may limit the final design(s).

CURRICULUM IMPLEMENTATION

(Instruction)Decisions as to instructional modes made by responsible teacher(s). The curriculum plan includes alternative modes with suggestions as to resources, media, and organization, thus encouraging flexibility and more freedom for the teacher(s) and students.

CURRICULUM EVALUATION

Decisions as to evaluative procedures for determining learner progress made by the responsible teacher(s). Decisions as to evaluative procedures for evaluating the curriculum. Plans are made by the responsible planning group. Evaluative data become bases for decision making in further planning.

Galen Saylor and William Alexander (1974) viewed curriculum development as consisting of four steps. According to them, curriculum is "a plan for providing sets of learning opportunities to achieve broad educational goals and related specific objectives for an identifiable population served by a single school centre".

Goals, Objectives and Domains: The model indicates that curriculum planners begin by specifying the major educational goals and specific objectives they wish to accomplish. Each major goal represents a curriculum domain and they advocate. 4 major goals or domains:

- Personal development,
- Human relations,
- Continued learning skills and
- Specialization

The goals, objectives and domains are selected after careful consideration of several external variables such as findings from educational research, accreditation standards, views of community groups and others.

Curriculum Designing: Once the goals, objectives and domains have been established, planners move into the process of designing the curriculum. Here decision is made on the appropriate learning opportunities for each domain and how and when these opportunities will be provided. Will the curriculum be designed along the lines of academic disciplines, or according to student needs and interests or along themes? These are some of the questions that need to be answered at this stage of the development process.

Curriculum Implementation: After the designs have been created the next step is implementation of the designs by teachers. Based on the design of the curriculum plan teachers would specify instructional objectives and then select relevant teaching methods and strategies to achieve the desired learning outcomes among students in the classroom.

Evaluation: Finally, curriculum planner and teachers engage in evaluation. The model proposed that evaluation should be comprehensive using a variety of evaluation techniques. Evaluation should involve the total educational programme of the school and the curriculum plan, the effectiveness of instruction and the achievement of students. Through the evaluation process, curriculum planner and developers can determine whether or not the goals of the school and the objectives of instruction have been met.

Saylor and Alexander have a model that requires an understanding of their concepts of curriculum and curriculum planning. They define curriculum as a plan for providing learning opportunities and emphasize that the curriculum plan is not a single document but a collection of smaller plans for specific parts of the curriculum.

According to the model, curriculum planners start by defining the key educational goals and specific objectives they aim to achieve. Saylor and Alexander grouped broader goals into four domains, which serve as the basis for various learning experiences: personal development, social competence, continued learning skills, and specialization. After establishing the goals, objectives, and domains, planners proceed to create the curriculum by selecting relevant learning opportunities for each domain and determining how and when they will be presented. They can choose to design the curriculum based on academic disciplines, social institutions, or students' needs and interests.

Significance of S-A-L Curriculum Model

Developing curriculum models provide a structure to systematically and transparently map out the rationale for the use of particular teaching, learning and assessment approaches in the classroom and are regarded as an effective and essential framework for successful teachers. Saylor and Alexander curriculum model helps teachers to design their own instructional plans based on the designed curriculum, evaluate and edit if needed. This model works appropriately for each of the domain mentioned above.

The S-A-L model is *deductive*; it moves from the general (e.g., assessing societal needs) to the particular (e.g., specifying instructional objectives). Additionally, the model is *linear*; from beginning to conclusion, it follows a specific order or series of stages. However, linear models do not have to be constant sets of actions. The model's entrance points and interrelationships can be decided upon by curriculum designers. The model is also *prescriptive*; it makes recommendations for what should be done and what many curriculum designers actually undertake.

In a nutshell, this curriculum model offers substitute modes along with recommendations, fostering adaptability and greater freedom for both teachers and students. It provides students autonomy and establishes them as subject matter experts in what they need to know. Additionally, it respects the learners' social and cultural backgrounds. However, it could also be challenging for teachers to establish a good balance between students' needs and interests.

Curriculum Implementation

Curriculum implementation requires beginning with a clear plan and an educational strategy. A well thought out long- term plan that addresses the needs of a diverse population is the start of successful implementation of a curriculum. One of the best ways to begin mapping out curriculum implementation is to determine the most effective means of communication between all stakeholders. Communication needs to be clear and concise along with a consistent mode of two-way, back and forth talk. Every member of the team must know what's expected of them and what their job will be in implementing the new curriculum. The following are the most important aspects to require of teams that are in charge of curriculum implementation:

- Clear goals
- Resource Management
- Professional Development
- Community

Often times in curriculum development one of the most important aspects of the educational experience is forgotten. Including communities and family in curriculum implementation and

design is essential for understanding a holistic approach to educational needs in India. Often times the community and families of students feel left out of the educational planning process. Implementing the community and families into curriculum development makes them feel included and a part of the educational process within their world. Everyone is necessary in order to develop a successful curriculum. Teachers, policy makers, principles, families, caregivers, and parents are all seeking the common goal of educating children to be better community members and build a better world. Curriculum implementation requires including everyone in the planning process of what our children need to learn in order to make them successful.
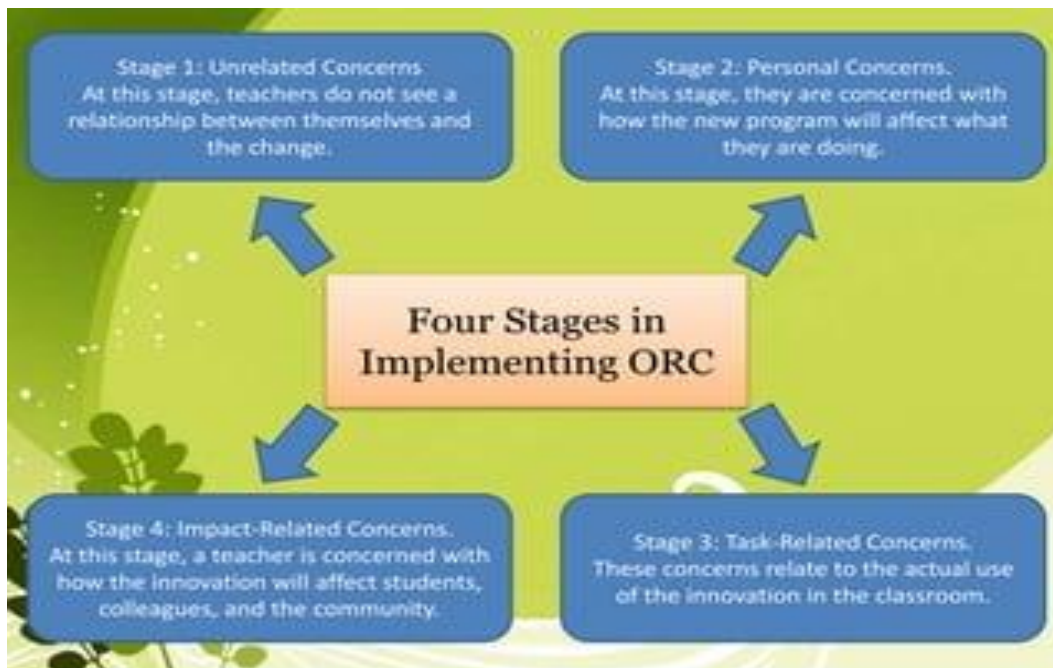
ORC model

The letters 'ORC' here stands for **'Overcoming Resistance to Change'**. This model rests on the assumption that the success or otherwise of curriculum implementation primarily depends on the impact the developer can make on the consumers, i.e., teachers, students and the society in general. If we desire change, we must address people's misgivings, their misapprehensions, or other such related factors. We must point out to them that the curriculum incorporates, wherever possible and appropriate, their values, assumptions and beliefs. And while addressing the persons within the system, we should remember that to get the desired result the subordinates should be motivated rather than ordered. Curriculum developers should, therefore, identify and deal with the concerns of the staff in various educational institutions. We can group the concerns into the following four broad developmental stages

Developmental stage	Developmental concerns
1.	**Unrelated Concerns**: At this stage, teachers do not perceive a relationship between themselves and the suggested changes. For example, if a new programme is being developed, a teacher at this stage may or may not be aware of this effort. If he/she is aware of it, he/she may not consider it something that concerns him/her. The teacher would not resist the change, because he/she really does not perceive the change as something that influences his/her own personal or professional domain.
2.	**Personal Concerns**: At this stage, the teacher will react to the innovation in relation to his/her personal situation. He/she is concerned with how the new programme compares to the one already in use. Therefore, when a new programme is being launched, he/she would involve I himself/herself in the activity.

3.	**Task-related Concerns**: This stage relates to the actual use of the innovation. The teacher at this stage will be concerned with the time required for reaching the new programme, availability of materials, strategies to be adopted, etc.
4.	**Impact-related Concerns**: The teacher at this stage will be concerned with how the innovation will influence others.

When working with the ORC model, we must deal directly with the concerns at stages 2, 3 and 4 in order to serve the purpose for which the change is affected. To achieve this purpose, we can meet the faculty members together. During this meeting, we can share our concerns and map strategies for dealing with those concerns. Depending on the context and particular needs we can administer questionnaires to gather and share information on concerns to make such meetings successful.

LOC model

LOC is the acronym for **'Leadership-Obstacle Course'** model. This model treats staff resistance to change as problematic and proposes that we should collect data to determine the extent and nature of the resistance. We can do this by making sure that the following five conditions exist:

i) the organisational members must have a clear understanding of the proposed innovation;

ii) individuals within the organisation must be given relevant skills so that they possess the capabilities requisite for carrying out the innovation;

iii) the necessary materials and equipment for the innovation must be furnished; I

iv) if need be, the organisational structure must be modified so that it is compatible with the innovation being suggested;

v) the participants in the innovation must be motivated to spend the required time and effort to make the innovation a success.

The LOC model extends the ORC model in several respects. While the ORC model conceptualises educational change as a two-stage process:

i) initiation; and

ii) incorporation (or the innovation as part of the ongoing processes of the organisation).

The LOC model considers educational change as a sequence of three stages:

i)   initiation;

ii)   attempted implementation; and

iii)   incorporation. We should note here that implementation obstacles solved at one point of time using this model may arise again at another point.

This model, therefore, has a feedback and monitoring mechanism to determine if problems once solved keep reappearing, etc.