PART I

Conceptual Framework

"Human history more and more becomes a race between education and catastrophe."

(H. G. Wells)
CHAPTER ONE

CURRICULUM STRUCTURE AND DESIGN

Curriculum Structure

Concept and Nature. Education is generally accepted as a potent instrument of social change that reinforces the process of nation-building and national development. To give a new shape to socio-economic and cultural set up of a particular country, education plays a dominant role. Curriculum consists of the means through which the ends of education are achieved. But the dynamic nature of our society guarantees that the organisation and the revision of the curriculum is and will be a perennial problem. The institutions use a variety of means to promote what the society considers desirable-learning. To the sum total of the means so employed, we apply the term 'curriculum'. In other words, curriculum becomes the instrument by which educational objectives of the schools are achieved. But a wide variety of definitions regarding the term 'curriculum' exists in the literature.

The Latin root for the word 'curriculum' means 'race course'. Following this origin, the most common definition of curriculum is a courses of studies. However, this notion has been widely criticised and frequently modified and replaced in the modern curriculum literature. Currently, there is no widely accepted definition of the term. It's definition varies with the concepts that the researcher or practitioner uses in his or her curricular thinking and work.
A list of definitions of curriculum is presented to demonstrate the existing diversity of uses of the term and to create a backdrop to subsequent discussion. Here are some of the definitions quoted in International Encyclopedia of Education.¹

a) A sequence of potential exercise is set up in the school for the purpose of disciplinning children and youth in group ways of thinking and acting. This set of experiences is referred to as the curriculum (Smith et al. 1957).

b) All the experiences a learner has under the guidance of the school (Foshey, 1969).

c) A general overall plan of the content or specific material of instruction that the school should offer the student by way of qualifying him for graduation or certification or for entrance into a professional or vocational field (Good, 1959).

d) We hold that curriculum is a methodological inquiry exploring the range of ways in which the subject matter elements of teachers, students, subject and melics can be seen (Westbury and Steimer 1971).

e) Curriculum is the life and programme of the school . . . . . . an enterprise in guided living, the curriculum becomes the very stream of dynamic activities that constitute the life of your pupil and their elders (Rugg, 1947).

f) A curriculum is a plan for learning (Taba 1962).

g) The planned and guided learning experiences and intended learning outcomes, formulated through the

systematic reconstruction of knowledge and experiences, under the auspices of the school for the learner's continuous and wilful growth in personal-social competence. (Tanner and Tanner 1975).

h) Curriculum must consist essentially of disciplined study in five great areas (i) command of the mother tongue and the systematic study of grammar, literature and writing, (ii) mathematics, (iii) science, (iv) history (v) foreign language (Bestor, 1955).

i) The curriculum is considered to be the increasingly wide range of possible modes of thinking about men's experiences - not the conclusions, but the models from which these conclusions, so called baths are grounded and validated. (Belth 1965).

In the modern age, the broad view of curriculum is being accepted, as the modern curriculum covers "all the wider areas of individual and group life. It encompasses all the meaningful and desirable activities both inside and outside the school provided that these are planned, organised and used educationally". As such modern curriculum is now viewed as a chase with no rigidly fixed goal rather than a race in which the goal and the course leading to that goal, are both fixed in advance.

Curriculum is one of the most important items in the educative process. It is futile to talk how and when to teach without first deciding what to teach.

"Firstly - Curriculum, in fact, is the fundamental problem which determines the warp and woof of the process of education."
Secondly - What to do and how to do are the very essence of curriculum which is a vehicle, where by and through which the pupils make an effort to achieve the objectives of education.

Thirdly - Being a means to this end, it usually follows and reflects the trends in education and changes in philosophy.

Lastly - No method of teaching can succeed unless the subject matter is graded and suitable according to this stage of development, capacity and attainment of the pupils for whom it is meant.2

Thus curriculum acts as a pivot in organising educational effort on some manageable basis and is undoubtly the heart of the school and that goes with it.

The curriculum has a triangular relationship with educational objectives and evaluation. Every curriculum is intended to achieve certain educational objectives - philosophical, sociological and psychological. Only a few educational objectives are widely accepted and others are transient, varying from region to region, nation to nation and time to time. Therefore, curriculum cannot be static.

A consideration of the relationship between curriculum and evaluation would confirm this. If evaluation shows the poor performance of the students, other things being normal, it can be presumed that some of the elements of the curriculum are defective; and it indicates the need for improvement or modification of the curriculum. As and when objectives change as in the context of evolution of new values, emergence of

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new social order, and better understanding of psychological characteristics and needs of the individual, as well as when evaluation indicates a positive need, the curriculum changes. Therefore, there can be no curriculum of universal application.

Bases. The bases of curriculum are the values, tradition, forces which influence the kind, quantity and quality of experiences that the institution provides to the learners. This can be viewed from three different angles. One refers to philosophies, values, ideas and ideology which guide the development of curriculum at a particular time, we call it as philosophical base. The second one relates to the nature of the learner and learning process influence content and arrangement of experiences based on psychological principles. This is commonly termed as psychological base. The other one sociological base which refers to a cultural set up of the learners where the experiences are provided.

Principles/Criteria for Development. Although, there is a lot of debate on the principles for curriculum development, majority agree on its relevance to the personal and social needs and problems, its flexibility to suit such needs and problems and organisational techniques, and its usefulness to the learners and society. Based on learning theories, the curriculum should be organised which can be readily acceptable to the learners. Its content should be local, specific and useful to the learners.

Factors Affecting Curriculum. Pupil readiness is a determining consideration in the selection of curriculum materials. Further, curriculum is a part and parcel of the
society, community, the school and the classroom, the school system, the college, the University or the institution in which it operates and thereby influenced "A mere existing of some of the factors which affect the curriculum makers are administrative policies, articulation evaluation, learning theory, materials of instruction, teacher personnel policies, public opinion, pupil personnel services, facilities and equipment, school day and term, standards, supervisory policies and teacher education." Those who depend principally upon partial and unrelated efforts as the means of curriculum improvement, are often disappointed with results. The curriculum must be viewed in the light of the total education-programme and the factors affect it.

Curriculum Design

Curriculum design is the organisational pattern or structure of a curriculum. It is determined by decisions made at two different levels of development; "a broad level which involves the technical planning and implementation of curricular elements. At the broad level of decision making, curriculum design is influenced by the choice of the data source or sources which the developer chooses to emphasize, three primary data sources historically have been used as bases for choices in making curricular decisions; organised subject matter, the students who are to experience the curriculum and the society".

(Tyler, 1950). Though the combination of all three data sources is preferred to ensure a balanced curriculum, in practice, one data source is chosen to be primary or exclusive bases for making curricular decisions and depends largely upon the values of the developer about what the curriculum ought to do for or contribute to the growth of the students.4

The pattern or structure of the curriculum is also influenced at a more specific technical level when decisions are made in relation to the curricular elements, that referred to in a discussion of a design, are objectives, content, learning activities, and evaluation procedures. Some authors also include learning materials and resources, time, space and environment, grouping and teaching strategies as curricular elements. These nine elements can be treated in different ways when developing curricula and through these different treatments, a variety of designs can be created. Thus, a specific curriculum design is created by the ways in which the elements are treated and the inter-relationships occur among them.

The challenge to curriculum developers is to make the necessary decisions so that the curriculum which is created, has a high degree of internal consistency. If the decision is made about each of the data sources and curricular elements are compatible, the curriculum will have internal consistency. With high internal consistency, it will have a

greater potential for having the desired impact upon the students.

Each design will achieve different goals and meet different purposes of learning. Decisions about curriculum design, are, in part, value choices which should be made as a result of rational and logical consideration. Designs created on a theoretical level rarely exist in practice in a pure form. The realities of schooling force choices and require compromises. Thus conducting research to determine the best curriculum design to use is not feasible. Evaluative studies can be and have been conducted to determine the impact of a particular curriculum upon the students.

The essential characteristics of Curriculum Design are as follows:

- The design achieved must be the result of deliberate and enlightened decision making.
- It must match the intent or function of the curriculum.
- Decisions made about objectives and evaluation must be compatible with decision made, for example about materials and activities.
- The designs available for use in curriculum development must evolve as new demands are placed upon the schools. Creativity and adoptability must be its essential characteristics.
- Within a given school, a balance is needed among curriculum designs as no single pattern is adequate for the entire curriculum.
Each curriculum design can be used to make the best contribution to the diverse aims of education. Ralph Tyler in 1949 outlined that curriculum should consist of aims and objectives, content and method and evaluation. He identifies three important elements in order to develop a design for curriculum such as the concept which recur in the sequence of learning experiences, skills required to be mastered, values and ideas. It is especially important for a curriculum design to make clear how the various elements and the criteria or considerations connected with them are related to each other. For example, to develop intelligent citizenship, the fact like critical thinking is an important objective which imposes certain requirements on the selection and organisation of learning experiences.

Herick also highlighted the necessity for examining the relationship among the elements—objectives, subject matter, method, organisation and evaluation for curriculum design.

Hildataba in his book "Curriculum Development Theory and Practice" suggests a model to show the design of curriculum in detail.

The model explains the objectives to be achieved at different levels, selecting experiences in possible centres in a particular sequence.

Curriculum Management

Curriculum needs to be managed properly, so it requires continual attention and ongoing assessment. There is no doubt that the ultimate responsibility for curriculum
TABLE 1.1

A MODEL FOR CURRICULUM DESIGN

<table>
<thead>
<tr>
<th>Objectives to be achieved</th>
<th>Determined by Analysis of:</th>
<th>Classified by:</th>
<th>Levels of:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. The learners and Learning Process and Principles.</td>
<td>2. Content Areas</td>
<td>2. School wise objectives</td>
</tr>
<tr>
<td></td>
<td>3. Areas of Human Knowledge and their unique functions</td>
<td>3. Areas of Needs etc</td>
<td>3. Specific Instructional objectives</td>
</tr>
<tr>
<td></td>
<td>4. Democratic Ideas.</td>
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</tbody>
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**Selecting Curriculum Experiences**

- Determined by what is known about Nature of Knowledge Development Learning Learner

**Dimension of:**
- Content
- Learning Experience

**Affected by:**
- Resources of the School
- Role of the educative agencies

**Possible Centres for Organising Curriculum**

- Determined by requirement of Continuity of Learning Integration of Learning

**Centres of Organisation**
- Subject
- Broad Fields
- Areas of Living Needs, experiences
- Activities of Children Focussing ideas etc.

**Affected by and affecting**
- The school organisation method of using staff
- Methods of Accounting Learning

**The Scheme of Scope and Sequence**

- Determined by:
  - Requirement of scope of Learning
  - Requirements of Continuity of Learning

**Dimension of:**
- Scope and Sequence of Content
- Scope and Sequence of mental operation

**Affected by:**
- Centres of Organising Curriculum

and its organisation lies with the head teacher and his team.

Middle level management plays a vital role in the co-ordination and planning of the curriculum, but the teachers should remember that their function is to reflect the views of their team nor to dictate. Two types of meeting are envisaged for the above purpose and in fact, take place in schools. First, there is the departmental or faculty meeting, secondly, the meeting of the middle managers. Both must take place on regular basis. The departmental meeting partly is devoted to the sectional interests of the team and partly to the matters of general concerned referred to it by the central planning meeting. The main task of the departmental committee is to ensure that the work of the department correlates with that of the departments and relates back to the central curriculum. The function of the middle management meeting is to plan that each section of it is in sequence, relates to and complements all other parts, to give reactions from the staff in general and to feed in suggestions or amendments from all sections of the school. Such committees and working parties are to be set up for thorough investigation into certain areas of common concern. Visiting speakers may be invited to give their views.

In order to succeed, a good deal of attention has to be paid to communication i.e. between the various section of internal structure. A school can only be free to experiment or develop a new curricula to the extent that there is controlling force at the centre keeping the lines of communication free.
and prepared to act quite ruthlessly against those who consistently pollute it.

Curriculum management along the lines suggested here involves a good deal of committee work for all concerned. Such meeting could take place out of the school or incorporating it in time table.

Styles of Development

The curriculum development is the heart of any educational system. The curriculum must be capable of catering to the requirement of a wide range of the learners making it an effective tool, it has to be built around local situations, need and environment. In more recent years, the meaning of the term curriculum has been broadened to encompass detailed plans of students activities, a variety of study materials, suggestions for learning strategies, arrangement for putting programme into use etc.

For any major curriculum development, the following stages are usually followed.

Planning a Programme Outline: A Programme Outline is concerned with the determination of programme objectives, the selection of subject contents to be learned and selection of appropriate teaching, learning strategies.

Programme objectives are affected by factors related to process of contemporary life outside the school, the need of the learner and the nature of the subject matter and are to be based according to taxonomy of educational objectives -
cognitive domain, affective domain and psychomotor domain.

Reflecting the programme objectives, contents are selected on the basis of various approaches — the structure of discipline, basic themes or key concepts, the example approach.

Keeping in view, the learner's needs and environments, a curriculum may imply a variety of learning strategies, such as expository teaching, inequity learnings, small group teaching, individualised learning, learning for mastery, games, programme instruction etc.

Preparation of Instructional Materials: Preparation of Instructional material is most important component in curriculum planning. If the teacher develops his own curriculum, he is likely to utilise products easily available in his environment for the preparation of learning materials. If the curriculum is developed by the Central Institute for a large population, items of various types will be assembled in a package. A teacher should explore a wide variety of materials to find suitable aids for instruction, to supplement what the text books provide, to add information to broaden concepts and to arouse interest. These materials and resources may be in the form of text book, Teacher's guide, Source Book, Teacher's Handbook, Diagnostic instrument, Class room equipment, Audio Visual equipment.

For the organisation of learning materials, approaches like subject matter, core curriculum and activity approach are very common. In subject approach, the instructional
materials are organised subject-wise separately, but in activity approach student's interest prescribes the organisation of instructional materials. Courses may also be organised around burning social problems or central themes and the relevant ideas from a variety of discipline. Programme of this type are frequently called core curriculum. With respect to the format of the materials, two major arrangements are common; the linear-units are arranged according to a prescribed sequence, the modular - the teacher decides which portions of the programme are to be used and determines their order.

Evaluation activities should be performed throughout the whole process of programme development. The gathering of evidence while parts of a programme are still being developed, is termed as formative evaluation which consists of three consecutive stages. Prototype evaluation - conducting a small scale evaluation study and on the basis of data collected, the team decided to keep the type of learning activities in the course which are decided to be included in the programme at the very beginning of the programme development. The Preliminary tryout - to highlight the level of difficulty, ambiguity in the programme, the curriculum materials may be used in the class room. This helps for the elimination of undesirable activities. The field trial is designed to examine the efficiency of the programme. At this stage, the programme is almost in its final form and the conditions under which it is tested are more representative of those in the entire
Implementation of New Programme: The success or failure of any programme depends upon its proper implementation. It requires careful planning and monitoring. For proper implementation, the following considerations should be taken:

- Orienting the legislators and administrators.
- The establishment of adequate logistics to all the schools i.e., adequate supply of teacher's guide and school equipment etc.
- Providing facilities for the training of the teachers.
- Establishing good contact with Teacher-Training Institutes.
- Formation of administrative bodies for proper implementation, orientation programme of school teachers, principals, inspectors about the total curriculum programme.
- Reform in examination for effective curriculum implementation.
- Provision of two types of organisational structures i.e., either centralised or decentralised as well as various patterns of contact with teachers.

Monitoring and Recycling: An educational programme introduced into a system requires continuous monitoring by:

(i) updating and supplementing the materials continuously according to the problem arises. Teacher Training Programmes should also be modified on the basis of accumulated experiences.

(ii) finding out whether the particular programme continues
to be effective in attaining the specific educational objectives.

(iii) re-examining the curricula periodically and thereby bringing changes either gradually step by step or by complete renewal.