

Module – 1

Unit – 2

Foundations of Curriculum

Author

Dr.Dibyendu Bhattacharyya
Reader, Department of Education
University of Kalyani

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CURRICULUM DEVELOPMENT AND EDUCATION
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Module – 1

Unit – 2
FOUNDATIONS OF CURRICULUM

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6.1.2.1 : INTRODUCTION

It is not difficult to note that the broad functions of education in any society may be categorized into three headings – education as preservation and transmission of cultural heritage; education as an instrument for transferring culture and education (knowledge and techniques); and education as a means for individual development. Within each of the three phrases, there are variations, some significant enough to cause sharp conflicts regarding the nature of desirable curriculum. In the emphasis of individual development, for example, there are differences as to whether education should stress intellectual development exclusively or should also stress social and emotional development. And as to how much the socializing of the social role of education divides according to whether the major emphasis is on serving social needs and social change or on a planned reconstruction of society.

Similarly, what knowledge is of worth that will be injected in the curriculum can be answered in a single point. This worthiness of knowledge depends at least on the answer to the basic question that is embedded in the philosophical and sociological evaluation of that piece of knowledge. Secondly, what knowledge is feasible to attain within location of learning gives clues by the psychologist. Over the years philosophy, anthropology, sociology, and psychology have experienced and also undergone changes by the impact of many waves of changes, consequently, education as derivatives of all those changes has strived to search for new address.

Some post-modern thinkers like Aronowitz, Giroux, and McLaren have raised voices against cultural imperialism in school curriculum. Aronowitz and Giroux have extensively treated the debate over education between conservatives, liberals and radicals in *Education Under Siege* (1991) and attempt to redefine curriculum by waging a “cultural war” in the schools against liberal and leftist ideas. In *Border Crossings* (Giroux, 1992) Giroux sees schools as active arenas of cultural politics rather than simply places where cultural domination and hegemony are reproduced. These signify some trend of “de-construction” in the traditional curriculum. An important aspect of today’s curriculum is inclusion of the ordinary experiences of

students as legitimate parts of the curriculum. Thus, the issue in curriculum is not simply an argument for or against established canons of knowledge but one that remakes the meaning and use of canons of knowledge that may take different forms, such as tacit knowledge, official knowledge, pedagogic knowledge, curriculum knowledge and global knowledge.

Location and sources of knowledge and information are now solely neither the textbook nor the teacher. The virtual repository of web network has made available to all with the integration of high technology with the curricular inputs. Thus, philosophy, sociology, psychology and technology both singly and jointly are now the foundations of curriculum.

In the Unit we shall understand the four foundations – Philosophical, Sociological, Psychological and Technological foundations of curriculum. But it shall be taken in cognizance that while developing a curriculum all the four foundations come neatly together.

6.1.2.2 : OBJECTIVES

You will be able to :

To study different foundations of curriculum.

To describe how foundations of curriculum enable learners for curriculum development.

To develop critical understanding about curriculum.

6.1.2.3 : PHILOSOPHICAL FOUNDATION OF CURRICULUM

Introduction :

Structurally curriculum is based on four foundations namely philosophical, sociological, psychological and technological foundations. Here we are first concentrating our attention how different schools of philosophy may be sourced to develop curriculum.

Philosophy is a continuous source of knowledge being implemented for

knowledge itself and helping the way to be implemented. Therefore, in curriculum foundation epistemologically knowledge and its structural presentation are very much significant. It provides the guideline for its framework and also shifting its trends for fulfilling objectives of education and for the betterment of transactional phase of curriculum, surely, human knowledge stored in various schools of thought as expected to underpin various epistemological issues and axiological questions to be dealt in the theoretical foundations of curriculum. Not only these, the practical ramifications of these must have bearing in curriculum planning and development, and transactions.

Curriculum planning is an understanding of the structure of knowledge and its logical categories. The central concern of curriculum, is the transmission of knowledge. What aspects of the vast fund of knowledge that mankind has accumulated is to be selected for transmission and on what criteria and how is the same to be organized ? The central questions of curriculum planning, cannot be decided except on the basis of the stand we take in regard to the composition of knowledge and its distinct forms.

Idealism and the Curriculum :

As to an idealist, the ideas i.e. essence is more important than the materialistic, i.e. changing state / order, non-permanent, at least a liberal curriculum is suggestive.

The basic questions which we consider for inculcating philosophical application in curriculum may be mentioned below :

1. What knowledge aspect may assist pupils to think critically and creatively for mental development ?
2. Which may reflect vital subject-matter that has endured in nature ?
3. Which may emphasize learning acquired for development of inner potentiality ?
4. Which may reflect universal content in relating one human being to another involving human development ?
5. Which content is emphasize individual pupils moving away from being finite to increasingly becoming infinite human beings through development of values ?

Existentialism and the Curriculum

Existentialism in curriculum development contributes the individualized pattern of instruction and trying to explain the natural world where existence precedes essence as this philosophical notion emphasise on rugged individualism. It also strongly believes in freedom of each individual.

For applying the concepts of existentialism following instructions may be suggestive :

1. Pupils need to be guided to choose what to learn (objectives), as well as learning activities to achieve the desired ends. Learning centers may emphasize, in degrees, existentialist thinking.
2. These needs to be much pupil / teacher planning in the school / class setting. True input, not manipulation of the learner, needs to be in evidence. The involved pupils must, increasingly, be free to select their own destiny and value system. A teacher-determined curriculum would definitely not harmonize with existentialist thinking.
3. Learners need to study and analyze the human dilemma. Units of study in history and literature, in particular, can offer pupils valuable insight into situations where right and wrong solutions to problems were definitely in evidence. Individuals and groups in literature and history made decisions in which numerous alternative solutions were possible. Learners need to look at the outcomes of these solutions. Were the outcomes rational, irrational, or in between ?
4. Pupils with teacher guidance need to notice absurd, ridiculous situations in life. How can moral decisions be made within the framework of these irrational settings ? A major objective of the existentialist teacher is to have pupils accept the inconsistencies in society and still attempt to operate morally in the environment,
5. The teacher needs to stress continuously the importance of making personal choices and commitment.
6. Discovering self-responsibility is the cornerstone of such curriculum.

Experimentalism and the Curriculum

Experimentalists believe in building up experience which according to them, represents ultimate reality, may not be stable for over. They also assert that knowledge is modifiable though continuous testing or verification.

Experiments and reality are keenly involved in development of curriculum according to this type of philosophy. The basic contributing factors are mentioned below :

1. Problem solving objectives being highly significant;
2. Data gathering from a variety of resources to solve problems;
3. Developing hypotheses in answering the identified problems;
4. Testing and revising hypotheses, if evidence warrants;
5. Working effectively in committee settings; i.e. through group cooperation and discussion.
6. Accepting the consequences of acts / deeds performed.
7. Change should be continuously in evidence in the curriculum of life.
8. Contents must be linked to real experiences of life.

Realism and Curriculum

1. Pupils should experience, in particular, a quality science and mathematics curriculum. Precise, measurably stated objectives can be emphasized in teaching learning situations. The content of science and mathematics is accurate and verifiable.
2. Other curriculum areas also need to receive adequate emphasis in the school or class setting. Accurate facts, concepts, and generalizations need to be emphasized which adhere to scientific methods in acquiring content. Opinions might receive relatively little emphasis in teaching and learning. Hypotheses need developing which can be tested.
3. Pupils should be guided to receive exact content as it truly is in the natural / social environment. Replicas of what exists in the environment should be experienced by learners.

4. Learners need to realize that much of what occurs in the natural environment, in particular, is relatively stable and not subject to continuous change. The natural environment, of course, changes in degrees, but changes occur slowly. Objective values which have stood the test of time may also become relevant for pupils to attain.

Discussion :

Depending upon the philosophy of education being emphasized, a selected set of consistent objectives may be chosen for pupils to achieve. Each philosophical school of thought has unique objectives for learners to acquire. Existentialists emphasize that the individual make moral choices and decisions in a relatively absurd environment. Idealists believe that universal ideas which have stood the test of time be achieved by learners, whereas experimentalists adhere to continual changes occurring in society in which problems need identification and solutions. Realists believe in a relatively stable natural / social environment which learners can know as it truly is.

Some Educational Philosophies and Curriculum

Besides the above mainstream philosophical foundations of curriculum we may now move to see curriculum foundations emanated from some educational philosophies. These educational views have influenced greatly curriculum of the earlier century and they are equally importance in contemporary educational curriculum all over the world. These foundations may come under five heads, namely:

1. Perennialism
2. Progressivism
3. Essentialism, and
4. Reconstructionism

1. Perennialism

It advocates the permanency of knowledge that has stood the test of time and the values that have moral and spiritual bases. The underlying idea is that education is constant, absolute and universal. Naturally the curriculum of the perennialist is subject

centered. It draws heavily on defined disciplines or logically organized bodies of content, but emphasizes teaching / learning of languages, literature, sciences and arts.

Teacher is viewed as an authority in his / her particular discipline and teaching is held as an art of imparting information / knowledge and stimulating discussion. In such scheme of things, students are considered as immature as they lack the judgment required to determine what should be studied.

There is usually only one common curriculum for all students with a little scope for elective subjects. Such views appeal to those educators who stress intellectual meritocracy. Their emphasis is on testing student, enforcing tougher academic standards, identifying and encouraging talented students.

2. Progressivism

This concept emerged as a protest against the perennialist thinking in education. It is considered as a contemporary reformist movement in educational, social and political affairs during the 20s and 30s decades of the last century, especially in USA.

According to progressivist thought, the skills and tools of learning include problem solving methods and scientific enquiry. The curriculum is interdisciplinary in nature and the teacher is seen as a guide for students in their problem solving exercise. The progressive movement in education encompassed many different theories and practices but jointly they oppose the following traditions and practices.

- the authoritarian teacher
- excessive dependence on textbook
- static aims of factual data and learning by memorization and drills
- attempts to isolate education from individual experiences and social reality.

Historically, the major thrust of progressive education waned in the 1950s with the advent of “essentialism”; however, contemporary progressivism is expressed in several movements including those for a socially relevant curriculum.

3. Essentialism

This philosophical thought is rooted in idealism and partly in realism, evolved mainly as a critique of progressive thought in education. However, it is not totally anti-progressivism. In essentialism learning should consist of mastering the subject matter that reflects currently available knowledge in various disciplines. Teachers play high directive role by disseminating information to students. According to this viewpoint, the institution (school / college / university) gets sidetracked, when at the expense of cognitive needs, it attempts to pay greater attention to the social and psychological problems of students. The most notable achievements of the essentialists have been the widespread implementation of competency – based programmes, establishment of grade-level achievement standards, and the movement to reemphasize academic subjects in schools / colleges. In many ways, the ideas of essentialism lie behind the attacks on the quality of education by the media and by local pressure groups and also to a good extent on distance education.

4. Reconstructionism

This is being discussed in the next sub-section.

Reconstructionism and Curriculum

The philosophy of Reconstructionism holds two premises : (1) society is in need of constant reconstruction or change, and (2) such social change involves both a reconstruction of education and the use of education in reconstructing society. Reconstructionist look education as the most effective and efficient instrument for making such changes in an intelligent, democratic and humane way though, it does not seek to make detailed epistemological or logical studies. Hence, it looks for some radical curriculum changes. Counts advocates that education must be used as a positive force for establishing new cultural patterns and eliminating social evils, while Bramheld views reconstructionism as crisis philosophy, not only in terms or education, but of culture as well. Moreover according to him, Reconstructionism is a philosophy of values, ends and purposes and also it purports to overcome crisis in philosophy by means of education. Ivan Illich even goes further in Deschooling

Society. Ultimately world community, brotherhood, and democracy are the three ideals that deconstructionists believe in and desire to implement in schools and in society. This stream of idea has also got further momentum from the works of Giroux, McLaren, Friere, etc.

Reconstructionists are critical of most of the methods generally used in all levels of schooling and argued that these methods reinforce traditional values and attitudes underlying the status quo and resistance of change. The teacher becomes an unwitting agent of entrenched values and ideas as the “hidden curriculum” underlines the educational process and students are shaped to fit preexisting models of living. Similarly, textbooks and teaching techniques and processes are guilty of subtle influences on learners. Reconstructionism want to see activism rather than the passivity that exists in traditional schooling underpinned by its curriculum. Therefore, education should be directed toward arousing interests in public activism.

Bramheld recommends that as much as half of a student’s time be spent outside the traditional school structure, consequently one of the ways of organizing curriculum is to modify the core plan / core curriculum plan advocated by the pragmatists into what Bramheld calls “*wheel*” curriculum. According to Bramheld, the core may be viewed as the hub of the wheel, the central theme of school programme. The spokes represents related studies, such as discussing groups, field experiences, content and skills studies, and vocational studies. The hub and the spokes support each other, while the rim of the wheel serves in a synthesizing and unifying capacity. While each school year would have its own “wheel”, there would be continuity from year to year, with each “wheel” flowing into and strengthening the other. Although each year would be different, it would also inherit the problems and solutions from previous years and would move on to new syntheses. He thinks that reconstructionist curriculum is both a ‘centripetal’ and ‘centrifugal’ force. It is centripetal because it draws the people of the community together in common studies and centrifugal because it extends from the school into wider community. Thus, it has capacity to help bring about cultural transformation due to the dynamic relationship between school and society.

From another angle, Reconstructional curriculum favors a “world” curriculum

with emphasis on truth, brotherhood and justice. It is opposed to narrow or parochial curriculum that deals only with local and community ideas and ideals. It views multicultural education and it must include the actual facts of historical and contemporary life. Reconstructionists want teacher be internationally oriented and humanitarian in their outlook.

Despite several criticisms hurled against reconstructionists curriculum and education, it calls for action. Toffer (1974 : Learning for Tomorrow : The Role of Future Education], for example, the development of an image of a “good” future world implies developing inquiring minds. A futurizing education implies that the learner will begin to sense and to accept both the constraints and advantages of freedom. Such future-oriented learning would decrease inequality in the ability of all persons to engage in effective, receptive, and expressive communication in their many forms. The best future-oriented education could be based on a reversal of contemporary practice. Curriculum switching might undergo changes as stated below :

From	To
Mass teaching	Personalized teaching
Single learning	Multiple learning
Passive answer-absorbing	Active answer-seeking
Rigid daily programme	Flexible schedule
Training in formal skills and knowledge that stimulate a questioning for knowledge	Building desirable appreciations
Teacher initiative and direction	Child initiative and group planning
Isolated content	Interrelated content
Memorized answer	Problem awareness
Emphasis on textbooks next	Use of many media in addition to
Passive memory of information and so on	Active stimulation of intellect and so on

Then from the above discussion it is apparent that reconstructionism condemns the traditional curriculum and addresses to a new direction to future curriculum. In fact some more advancement has already been within the profile of curriculum of the 21st century.

Social Reconstruction Ideology

Advancing the theses of Counts and Bramheld other modern authorized like Giroux, McLaren, Friere, etc. have emphasized more strongly on education for social reconstruction in protest against Eurocentric conceptions of knowledge, culture and values which through hidden curriculum cunningly shape student beliefs and behavior in such as way that they both as student and future adults, will contribute to the continuation and worsening of existing problems. They advocate that education takes place in many locations, including the family, community and school. Hence, they want to influence how education takes place in all these locations and believe that it is the job of the educators to do so. They advocate not only for institutional change but also in conception of knowledge and curriculum.

According to them knowledge has six characteristics :

1. Knowledge is not viewed as a purely intellectual quantity.
2. Knowledge is both cognitive and experimental in nature. Knowledge is not just “information about” but also “experience with” a subject. Knowledge is based both in people’s experiences and in their ability to understand those experiences.
3. Knowledge is possessed by society, though knowledge is a personal attribute of the perceiver. Educators wish to reconstruct society by reconstructing the social consensus of the masses – the summative total of the knowledge held by the many individuals who make up society.
4. Academic skills are also of little use expect as they can be used as analytical tools for the purpose of reconstructing the knowledge base of individual and their societies.
5. Knowledge as “interdisciplinary in nature” and questions “the fundamental categories of all disciplines” (Giroux, 1992, p.10). It creates “new forms of

- knowledge through its emphasis on breaking down disciplinary boundaries and creating new spheres in which knowledge can be produced” (Giroux, 2005, p. 69).
6. There is the ethical and political dimensions of knowledge and its use by Hence, schools “must be seen as places where culture, power, and knowledge come together to produce a vision of the future”, a vision that determines what knowledge we consider to be true, ethical, emancipatory, and worthwhile (Giroux, 2006, pp. 4 – 5).

The Social Reconstruction views of the sources of curriculum knowledge as shown below :

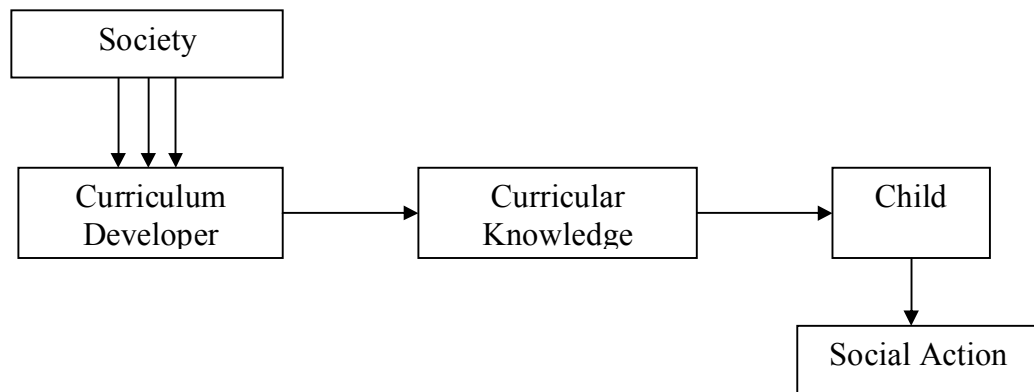


Fig. 1 : Sources of Curriculum Knowledge

Hence curriculum developers have different role to play. Curriculum knowledge has its origin in educator’s subjective view of society so as to make them into change agents who swell the social consensus that will turn align society with educators’s visions. Consequently objective information, such as that possessed by the academic disciplines, is of little use to these educators”.

Naturally, children are social agents as well as meaning makers. Four aspects of children’s minds (meaning-making) can be distinguished as :

1. Children’s minds have **contents**, called “meaning”, that include such things as their knowledge, beliefs, facts, theories, affiliations, fears, and hopes.
2. The contents of children’s minds are stored in a “meaning structure” that contains, among other things, the organization of meaning in children’s minds and the functions governing the intake, output, and redistribution of their meanings.

3. Children have **perceptual filters and functions** that control the types of stimuli they perceive from the many sensations that impinge on them. These filters and functions control the manner in which children perceive reality.
4. Children's minds have "**interpretive functions**" that control how they give meaning to the sensations they perceive and thus how they interpret reality.
5. Children's perceive functions, interpretive functions, and meaning structures are important to Social Reconstructionists because they affect the manner in which children perceive, interpret, and organize reality. While creating or teaching curricula, educators should design and use instructional strategies to influence these structures and functions as well as children's meanings.

Social Reconstructions view learning from the perspective of *constructivism*. They regard learning as active assimilation of new experiences into learners' meaning structures in such a way as to force meaning structures to accommodate to the new experiences (McLaren and Giroux, 1997). This conception of learning has two components – first hinges on "meaning making" learning occurs when learners construct meaning out of their sensations; learning is a process of actively assimilating and accommodation experience in such a way that it makes sense to the learners. The second component of this view of learning depends on the concept of meaning structure : learning is based on what one already knows about the world, and it is meaningful only when it can be accommodated to one's overall conception of reality.

Teaching at one level is intent to reconstruct society. At another level the intent of teaching is to stimulate students to reconstruct themselves so that they can contribute to the reconstruction of society ... Still at another level the intent of teaching is to stimulate students how to reconstruct society. Group discussion is a social means of educating a group of persons. It requires both social control, and social interactions. Hence language is viewed as the primary mediator of human perception, learning, knowing, feeling, and acting. The discussion method of teaching involves engaging a group of students in a conversation while the teacher elicits "from students the meaning that they have already stored up so that they may subject those meanings to a testing and verifying, recording and reclassifying, modifying and

extending process” (Postman & Weingartner, 1969). The content of discussion comes from those involved in the discussion.

They “believe that a discussion must start where participants are. As a result, they must either find a way to tap into the prior experiences and knowledge of those who will experience a curriculum or find a way to provide them with the experiences and knowledge the curriculum will build on. Anything said during the discussion as well as any input into the discussion from sources such as outside experts, books, movies, or the like must relate to the prior experiences and knowledge of participants if they are to benefit from them”.

The teacher is a colleague several characteristics of good teaching are common to both the discussion and experiences methods.

Both are group methods and make use of group pressures to teach students.

Both methods depend on the relevance of their message in students’ lives.

In both methods, teachers find out what students know, draw it out of them, and help them reflect, analyze, and reconstruct their meanings in a value-laden context – where values shape much of what and how students learn.

The reconstructionism and curriculum may get a contemporary address in *Postmodern Education : Politics, Culture and Social Criticism* (Stanley Aronowitz and Henry Giroux, 1991). They see a crisis in culture, and they propose an emancipatory postmodern education that answers for its choices. They look forward a radical approach to education and the curriculum. They promote a curriculum that includes marginal knowledge and discourses of differences, particularly around gender, race, ethnic and class identities. They advocate an education that elevates these marginal voices to equitable or even superior standing with traditional canons. Traditional knowledge is not ignored, but when it is studied, the effort should be to examine the content – to “deconstruct” the “text” – to see how it shapes our notions of differences (gender, race, etc.) and contributes to elevating some segments of society. Finally, the curriculum will be tool as well as a model for construction of reality of knowledge. It should sincerely devote to the culture of ‘constructivism’.

Some Basic Curriculum Concern from Philosophical Standpoints :

Curriculum from philosophical perspectives is the philosophy of education that helps providing a critical outlook towards foundations of curriculum.

Curriculum and Educational Objectives

Whether stated explicitly, or implicitly, the goals of education constitute the reference points for determining the content and organization of curriculum. Now, “What are (or should be) the objectives of our national system of education ? is a question that has generated a good deal of educational discussion in our country. Before considering the different statements of the national objectives of education, it has to be noted that the aims of education in any society are influenced by various factors like the history and traditions of the society, social patterns, economic and political systems – and circumstances and also by purely philosophical considerations. The philosophical aspects influencing educational aims may be taken to refer to belief in certain universal and eternal values reflecting the higher aspirations of the human spirit like justice and honesty, ethical principles governing the concept of the good life and the summum bonum, the picture of the ideal society, belief in certain intrinsic values and so on. It is such broad philosophical considerations that give educational aims in any society their general character and contribute towards a general agreement among them. The UNESCO report Learning to Be notes that there exists a consensus in the world about the ultimate aims of education in view of their universal applicability. These aims are identified as : scientific humanism, development of reason, creativity, spirit of social responsibility, search for balance among the various intellectual, ethical, emotional and physical components of personality (‘the whole man’) and positive perception of mankind’s historic fate. Moreover, the Learning : Treasure within (Delor’s Report, 1996) critically looks forward to the four pillars of today’s education : Learning to know, Learning to do, Learning to Live Together, and Learning to Be.

In our own country various statements of educational aims have been made.

These give point and purpose to the educational enterprise, the general statement of aims like individual development, social progress, citizenship and so on

should be translatable into specific curriculum objectives. They should commit their users to definite educational policies and programmes. For example, issues like the development of scientific attitude and commitment to moral and spiritual values, secularism, democracy, and equality of educational opportunity require a thorough examination in order to determine their precise implication to concrete curricular programmes. It is the task of philosophical analysis to do this. Philosophical exercise on such general educational aims would bring to surface instances of overlap and superfluity and also cases of mutual incompatibility or essential unworkability on other valid grounds, in the changing order of the day is the 21st Century.

Curriculum and Knowledge

The objectives of education sought to be realized through the curriculum are many. They are believed to constitute a triad corresponding to the familiar psychological analysis of the states of mind into cognitive (knowing) conative (doing) and effective (feeling). Analogously, it has been argued that the curriculum must comprise of : (a) what man knows, i.e., his major modes of thinking; (b) what man does and strive to do, i.e., all crafts and technology; thinking and (c) what man feels, i.e., fine arts like poetry, music, etc. Mahatma Gandhi referred to this aspect as the education of the head, hand and heart. Curriculum objectives, it is suggested should cater to all these aspects of the human being the complete human being.

Whatever be the number and variety of curricular objectives, there is no gainsaying the fact, however, that knowledge constitutes the most critical concern of curriculum.

The Structure of Knowledge and the Disciplines

Knowledge refers to the sum total of man's interactions with his environment and his interpretations of the same. Therefore knowledge is not a unified whole but is constitutive of different approaches to the understanding of life. The different approaches to the classification of knowledge suggest different aspects of the process of knowledge acquisition and hence their significance to the curriculum planner. These different classifications and categorizations have, however, been characterized

differently by different philosophers as ‘disciplines’, ‘forms of knowledge’, ‘realms of meaning’ and so on. A discipline may be considered as a organized body of knowledge having a logical structure. It is a network of concepts and generalizations which explain the relationships among a body of facts. Man learns by seeing relationships among different events and processes and by generalizing about them. He sees relationships among different facts and events with the aid of concepts and he conceptualizes by classifying. However, thinking does not stop at the point of making single concepts or single generalizations. Just as we relate different events to form concepts, we link concepts belonging to a class together and form conceptual networks of systems. It is these conceptual networks that constitute our disciplines science, mathematics, history and so on.

A discipline has some characteristics. First, it has a domain, a field of phenomena with which it deals (subject matter). For example Physicists, Biologists, or Mathematicians deal with different aspects of reality although there may be some overlapping among the different disciplines as evidenced by the emergence of interdisciplinary studies. Secondly, every discipline has its own method and mode of inquiry. The members of a discipline agree upon a set of rules by which to create knowledge and by which to validate it. The rules of one discipline cannot apply to the rules of the other. The rules of science, for example, cannot apply to mathematics. Thirdly, a discipline has a history. The effect of history or tradition on a discipline is to define in some degree its domain and rules. Fourthly, a discipline has a language for communication of its own and also some unique explicit and implicit values too. Fifthly, integration of knowledge from most available sources has been envisaged in our National Curriculum Framework – 2005.

‘Realms of Meaning’ and ‘Forms of Knowledge’

Apart from disciplinary conception, knowledge has been classified in terms of meanings and forms. According to Professor Philip Phenix, education ought to be concerned with engendering essential meanings and curriculum and should be planned with that end in view. He divides knowledge into six realms of meaning, which corresponds to the disciplines as follows :

The Realms of Meaning

1. Symbolics
2. Empirics
3. Aesthetics
4. Synnoetics
5. Ethics and morality
6. Synoptics

The Disciplines

- Language, logic, mathematics, and symbols in art.
- Physical and social sciences.
- Literature, music, art.
- Literature, philosophy, history, psychology and theology.
- Parts of philosophy and theology.
- Philosophy, religion and history.

Further, Professor Hirst differentiates knowledge into seven logically distinct domains or forms. These forms are distinguished from one another in three ways. First, within the domain, there are distinct types of concepts that characterize different types of knowledge. Second, these concepts occur within different networks, whose relationships determine what meaningful propositions can be made. Third, the domains can be distinguished by the different types of tests they involve for the truth or solidity of propositions. The seven forms of knowledge may be shown as :

1. Mathematics and formal logic.
2. The physical sciences.
3. The human sciences, including history.
4. Moral understanding.
5. The religious form of knowledge.
6. Philosophy.
7. Aesthetics.

Whatever be the actual classification of knowledge, the important point for curriculum-planning is that human knowledge, meaning, and understanding consists of a limited number of quite different kinds and that these are distinguished from one another by their content, subject matter and rules and concepts and methods of validation. A second implication is that education should be concerned both with learning about the differences between disciplines and the relations between them.

However, important principles for curriculum-planning can be derived from the above discussion : the principle of adequate coverage of the disciplines and the principle of achieving balance between the disciplines. A common curriculum for the

nation's schools should give due representation to all the disciplines and also avoid excessive or narrow specialization in any one of them at the expense of the others. Knowledge is the central core of our culture, whatever may be the sub-cultural differences, and the task of education is to guarantee the basic minimum of understanding in all these knowledge areas.

Moreover, as education is a value laden term, it must have bearing on the philosophy which is acceptable to the Civil Society and what is endorsed by the Nation because education gets its aims from philosophy.

Let us Check our Progress :

1. Distinguish between the existentialist and pragmatist in the matter of curricular knowledge content.
2. Why is 'structure of knowledge' important in curriculum planning ? – Explain.

6.1.2.4 : SOCIOCULTURAL FOUNDATION OF CURRICULUM

Education from sociological perspective, is a process of transmission of culture. Culture refers to the total way of life of a society, its knowledge, beliefs, attitudes, values, skills and behaviour patterns – and not just to what is best or most important in that way of life, or to art, music or literature. Culture, to the sociologist, includes everything that is learned and manmade. Schools are formal institutions specially set up for the preservation and transmission of culture by the society. Schools seek to discharge this function through the curriculum, which is nothing but the sum total of learning experiences provided under its auspices. However, it is neither possible nor desirable to transmit the whole of culture to the successive generations through educational institutions. It is not possible because the schools do not have the required resources and time to do that in view of the vast amount of knowledge, values and skills involved. It is not desirable because the society does not want everything preserved and transmitted, but only those aspects of its culture, which it considers valuable and important. Certain ways of life, certain kinds of knowledge, attitudes, values and beliefs are evaluated and considered so important by the society

that their preservation and transmission cannot be left to chance or to informal modes. On the contrary, it has to be done systematically through professional teachers and in specially set up institutions, the schools. Some kind of a 'selection and processing of culture, is thus necessary to determine what aspects of culture should (and what aspects should not) be transmitted and in what form. It is these selected segments of culture then, that constitute the school-curriculum. Curriculum-planning is about the way these elements are selected and structured. "On what criteria is one to decide what is valuable and worthy of transmission in culture?" "How is one to decide on the priorities?" "And how is one to put them into practice?" are questions that are central to curriculum-planning.

Curriculum-planning is a very complicated task. It is the hard fact that no society in the modern world, with the exception of simple, pre-industrial societies, can lay claim to an all-pervading homogeneous culture. On the contrary, the culture of most societies can be described as an intermixing of several different regional or ethnic sub-cultures, which fuse to some extent but, at the same time, also retain their distinctiveness and individuality. India presents an excellent example of this social phenomenon. It is a vast country inhabited by people belonging to diverse social stocks, cultures, languages, religions and customs. The Indian society is stratified not only on the basis of caste but also on economic class, educational achievement, occupation and sex. The force with which these loyalties draw people to different sub-cultures is great. The problem before the country is how to forge a genuine national sentiment among all its people and bring about emotional and national integration through a national system of education without, in any way, diminishing its cultural variety and richness. In other-words, the task before national education is to promote unity in diversity. Cultural pluralism must be a credo.

It has been said earlier that a curriculum without its explicit and implicit cultural roots has no meaning and pedagogical significance. The two-way traffic in – between school and community is praxis, though the nature and quality of this communication varies from community to community and also the nature, quality and priorities of changes of such relationship vary over time within a single community. This implies that a community or society has organic growth and it is in changing

order what has been known as social change, coined by the sociologists. Sometimes new technology comes into forefront and produces heavy impact on the normal flow of a society.

Similarly, culture is conceived to reside in the repository of a group or a community or a society. Hilda Taba maintains that “Scientific understanding of culture and of the personality in culture should be part of the equipment of all those deal with curriculum development. There is an obvious need for a rapprochement between the disciplines studying the culture and those studying education, for the real issues that plague schools today are not exclusively rooted in education itself – they spring from the dynamics of the human and social environment.” Moreover, “An understanding of what that environment is, what it contains, by what dynamic it operates, and what problems and possibilities it holds should shed light on what education can and must do if is to play its legitimate role.” Not only has this, social anthropology which deals with culture and personality, made a unique contribution to education. Kluckholm suggests, the interest of education and anthropology coverage because both deal with humanity created techniques of living, with norms and values attached to these techniques, and with their transmission to younger generation. Most anthropologists agree that a degree of conformity to social norms is essential in any kind of social order if that to continue. But on the contrary this conformity may be bar to freedom of thinking, creativity, imitativeness or even those culture norms and values may be defined and control by some groups only. Such norms may be imposed in any mass cultural groups by various ways one of which may be curriculum. This danger has been analyzed and expressed by Prof. Apple in various languages.

Counts, Bramheld and Giroux, etc have been vocal against the Euro centric conceptions of knowledge and culture which get entry through hidden curriculum of school. Faced with the crisis of society, they devise a vision of a new, better society and advocate that education should take place for social reconstruction. Hence, a new, better society and advocate and advocate that education should take place for social reconstruction. Hence, a new defining points what have been discussed earlier. Finally, schools must be seen as places where culture, power, and knowledge come together to produce a vision of future that is supposed to determine what knowledge

we consider to be true, ethical, emancipatory and worthwhile. that is there will remain the struggle over the production and creation of knowledge.

Therefore the curriculum developers must understand that ‘struggle’ and they must contest with the differing wings of cultural and also ideological conflicts so that the curriculum may ponder over issues and concern about – the school as countervailing socializing agent, education for values and feelings, autonomy, individuality and creativity, voice of the people/masses, the danger of ethnocentricity, importance pluralism, right to education for all, etc. It should be kept in mind that touching upon all those sociological issues and concern while developing a curriculum is not easy. Obviously necessary conditions are to be integrated in the length and breadth of the curriculum. Educators need also to consider way which to integrate learning from socializing process with learning that occurs as a result of its curriculum without any confusion.

To keep abreast of the fast-moving social events and rapidly growing knowledge about society and culture, a new role needs to be created among those responsible for setting a pattern for the curriculum. This is the role of a team of interdisciplinary research group, taking cues and information from the neighbouring disciplines.

The story of sociological foundations of curriculum, in brief, may be delineated with the following headings –

1. Society and education – curriculum while reflecting contemporary social forces should also be able to respond to the dynamics of changes – local, national and global – and put emphasis on local and global knowledge praxis of the day.
2. Social change and the curriculum – must take cues from growth of technology and its impact on the learners in all corners of their lives, changing order of structure of family and other basic institutions, cultural diversity and cultural pluralism, etc.
3. Changing order of meaning of learning and its relationship with the community living – learning to live together, lifelong, learning, building social capital, empowerment, etc.

Two Examples of Social Linage to Curriculum Development :

1. Curriculum as praxis

Curriculum as praxis is, in many respects, a development of the process model. Critical pedagogy goes beyond situating the learning experience within the experience of the learner : it is a process which takes the experiences of both the learner and the teacher and, through dialogue and negotiations, recognizes them both as problematic... [It] allows, indeed encourages, students and teachers together to confront the real problems of their existence and relationships... When students confront the real problems of their existence they will soon also be faced with their own oppression. (Grundy 1987 : 105)... In this approach the curriculum itself develops through the dynamic interaction of action and reflection. That is, the curriculum is not simply a set of plans to be implemented, but rather is constituted through an active process in which planning, acting and evaluating are all reciprocally related and integrated into the process' (Grundy 1987 : 115).

Curriculum in context

One criticism of the above model is that it does not place a strong enough emphasis upon context. This is a criticism that can also be laid at the door of the other approaches. In this respect Catherine Cornbleth (1990) sees curriculum as a particular type of process. Curriculum for her is what actually happens in classrooms, that is, 'an ongoing social process comprised of the interactions of students, teachers, knowledge and milieu' (1990 : 5). Cornbleth further contends that curriculum as practice cannot be understood adequately or changed substantially without attention to its setting or context. Curriculum is contextually shaped. She stresses on the social relationships of the school – the nature of the teacher-student relationship, the organization of classes, streaming and so on. These elements are what are sometimes known as the hidden curriculum coined by Philip W. Jackson (1968) but it had been present as an acknowledged element in education or some time before. The learning associated with the 'hidden curriculum' is most often treated in a negative way. It is learning that is smuggled in and serves the interests of the status quo. The emphasis on regimentation, on bells and time management, and on streaming are sometimes seen as preparing

young people for the world of capitalist production. What we do need to recognize is that such 'hidden' learning is not all negative and can be potentially liberating. 'In so far as they enable students to develop socially valued knowledge and skills... or to form their own peer groups and subcultures, they may contribute to personal and collective autonomy and to possible critique and challenge of existing norms and institutions' (Cornbleth 1990 : 50). What we also need to recognize is that by treating curriculum as a contextualized social process, the notion of hidden curriculum as a contextualized social process, the notion of hidden curriculum becomes rather redundant. If we need to stay in touch with milieu as we build curriculum then it is not hidden but becomes a central part of our processes.

Some Main Sociological Issues in Shaping Curriculum

For understanding this theme more elaborately we shall learn about some other sociological issues in the next sub-section.

The Case for a Common Curriculum

This is a prime concern in India. Situation demands that national education and its curriculum be built on a common Indian culture. At the same time, it should also take account of the distinct cultural needs and demands of the different sections of the Indian society. This requirement; however, raises a number of questions : To what extent is it possible to identify a common Indian culture to serve as a basis for a national curriculum emphasize the traditional cultural values or values of modernization ? What aspects of traditional culture should be retained and what should be removed ? To what extent should the different subcultures be represented in a common curriculum ? How can the interests of the different linguistic and ethnic groups be compromised with a national educational system ? and so on.

Criticism of the Common Curriculum

The idea of deriving a common curriculum from culture has come under severe criticism by some sociologists of education in recent times. Prof. G. H. Bantock, deriving inspiration from T. S. Eliot sees culture as falling into two categories – high

and low. The high culture has an essentially academic, literary tradition and the low culture has an essentially folk or non-literary tradition. Compulsory education based on a common culture curriculum has failed, according to Bantock, because we have attempted to force a literary culture down the throats of the masses whose tradition is basically an oral one. His own educational prescription for this situation is to have separate schools and curriculum for participants from high and low culture groups.

Such a criticism however derives from an assumption that culture can be divided into high and low and that it is possible to allocate human beings to these two rigid categories, a highly questionable assumption. Common culture-curriculum critics also fear that it would restrict the pupils, achievement-to some kind of lowest common denominator without providing sufficient opportunities for the bright and the talented and that in practice it is not possible to organize a common curriculum for a wide range of pupil-ability.

These criticism draw our attention to the fact the – question in actual fact is not whether we should have a common curriculum but how to conceive of a curriculum that suits different individual needs and abilities, that will preserve the identities of different cultural groups, and at the same time promote a sense of unity among them. If the charge against the common curriculum is that it tends to force down on a large section of the people's knowledge, which is predominantly academic and literary and which is of dubious value to them, then the criticism is not against the idea of a common curriculum as such, but against a particular type of common curriculum. We, thus, come back to the question : How is one to derive a curriculum that caters to the needs and interests of the different sections of the people while at the same pursuing worthwhile knowledge, values and skills ? We must go for common curriculum is the sense that its planning, organization and implementation should be grounded by equity, equality and human rights. In view of these constructivism in its socio-cultural dress has not been accepted in curriculum development.

Equality of Cultures :

A different kind of criticism on the common curriculum takes the form that one subculture or culture is as good (or as bad) as any other. So, why try to force a

common culture on all in a pluralistic society ? This is an extreme form of cultural relativity whose educational consequences will be far-reaching. Certain schools have tried to transmit what they have assumed as “culture-free” knowledge, languages, sciences, mathematics, arts and crafts, physical education and so on – which is believed to be needed by one and all for the all round development of one’s personality. It is also accepted that those who found it difficult to respond to such curricular treatment, either because of poor home-background or other socio-economic reasons, should be given compensatory education to make up for their cultural disadvantages and deprivations.

It has also been taken as axiomatic that there were always some children in schools who were in a particular sense, culturally deprived. The argument that all cultures are equally good, that there is no high or low culture, and that the schools being middle-class institutions try to force down on the children the dominant middle class culture, makes the very concept of cultural deprivation meaningless except in the economic sense. Deprivation, it is now argued, can have meaning only as an economic notion and instead of taking a patronizing attitude by labeling working class children as culturally deprived, the schools should re-order their curriculum, taking into account the cultural richness and energy of that class of children, who are economically deprived.

But such a view poses a number of questions to the curriculum-planners. If the most important datum about any student is that relating to his present and likely future membership of a particular social class, what does it imply for the work of the schools ? What would be adequate socio-philosophical reasons for schools transmitting different cultures to students from different social classes ? What would be the cultural content of curriculum aimed at different social classes particularly in terms of notions like excellence or the best! As Shukla points out, it is problematic to provide school-college culture supportive of the hitherto underprivileged, or to promote in college the knowledge and skills at which they can be more adept. Even more problematic is the relation of such skills and knowledge to the economy or to the knowledge system as it obtains in society.

Social Class and Curriculum

That school curriculum represents class-free, non-controversial fund of knowledge that is good for all children that have come under the fold of the school has till recently been taken for granted. Early sociological research on educational opportunity certainly treated as unproblematic the concept of “what it is to be educated” or the nature of the education pupils failed at. Of late, however, school-curriculum has become the target of severe criticism in the context of the ideals of social justice and equalization of opportunity, the charge against it being that it is invariably conceived in narrow middle class terms and therefore acts against the interests of the children coming from impoverished lower socio-economic classes. Why should emphasis be placed on the assimilation of middle class values ? Why should school-success be judged in terms of high scores in language or mathematics rather than in work or social service ? And why should children who find it difficult to respond to such ‘education’ be branded as ‘culturally deprived’ ? Radical thinkers like Ivan Illich, Everett Reimer and Paulo Friere have taken up cudgels against schools for their bias in favour of middle class and white collar attitudes and their denigration of the attitudes and values associated with the poor. The worst victims of compulsory schooling according to Illich are the poor. “Students, especially those who are poor are schooled to confuse process and substance”. Reimer, commenting about the Latin American dropout children, says that although they failed to learn to read “they did learn, however, how unsuited they were to school, how poor their clothing was, how bad their manners were, how stupid they were in comparison with those’ who went on to higher grades”. Some national leaders of our country think that our schools are used to reside in an aristocratic model and dignity of labour remains only in mental activity.

Social Learning

How the social factors affect the school achievement unfavorably of children, especially of the unskilled working classes – have been brought out by many studies. The most well known of these is Basil Bernstein’s work in social learning. Bernstein’s main finding was that since a child learns his social structure through its language,

spoken language powerfully conditions what is learned and how it is learned and so influences his future learning.

Naturally, middle class child, Bernstein points out, is capable of responding to, manipulating, and understanding a public language that is structured to mediate relatively explicitly individualized qualifications, as a result of his socio-cultural environment. Because of the different structuring of the lower working-class child's environment, he is limited to a public language only. This radically narrows the extent and type of his object relationships. Thus, the middle class child and the lower working-class child are oriented to different orders of learning as a result of the implications of their forms of language-use. A public language, Bernstein adds, symbolizes a tradition and a form of social relationship in which the individual is treated as an end and not as a means to a further end. The schools by simply substituting a formal language, which is not necessarily a logical, impersonal, emotionally eviscerated language, cut off the individual from his traditional relationship and, perhaps, alienate him from them. And this is the reason, the critics charge, why working class children do not get 'ahead in schools. By implications, it means that schools should adapt themselves to this different use of language with all its different implications of the kinds of learning it encourages. The schools are, so as to say, faced with a political choice on language. If they maintain their present attitudes, they are acting against the working class.

Several authors on the subjects have reported how the value-orientation of our educational institutions acts against the interests of the poor and the underprivileged classes. According to Malavika Karlekar, the problem of education of the Scheduled Castes is essentially one of socialization in the dominant norms of an educational system based on learning by rote and cramming. According to J. P. Naik, the narrow interpretation of educational quality as achievement in cognitive and linguistic skills associated with the middle and upper classes is one of the main obstacles in the way of educational reform. This is rally a big challenge and issue in curriculum planning. The ecological validity of curricular knowledge is rarely articulation in our National Curriculum Framework.

The Sociology of Knowledge

Education is essentially concerned with the transmission of knowledge. Hitherto it was taken for granted that knowledge which the school sought to transmit through its curriculum – the sciences, arts, history, mathematics and such other disciplines – derived their validity from purely epistemological considerations and had nothing to do with social factors. However, during recent times, the whole question of knowledge and curriculum has received a thorough shake-up by a section of educational sociologists who have questioned the ‘neutrality’ of school-knowledge and called attention to its social dimensions. Deriving inspiration from the Marxian dictum : i.e., the class that is the ruling material power of society is at the same time its ruling intellectual power” hence a school curriculum, cannot have any absolute validity. On the other hand, knowledge can be viewed as “socially constructed as sets of shared meanings” representative of the dominant power structure of society. Then knowing the world is not coming into possession of a set of truths about the world which is out there but a matter of coming to perceive the world in particular ways which are largely determined by one’s interactions with a particular historical and social context.

What knowledge shall be transmitted through the curriculum and in what form are decided not on the basis of epistemological theories but on the basis of normative or value premises relating to the material conditions of existing social relations. And they are decided in such a way that education serves as a major factor in the production of certain kinds of knowledge, which in turn serve the particular interests of particular societies. Education is, thus, a political act first and foremost and curriculum content is a form of intellectual and political manipulation.

Prof. Apple points out that the structural arrangements – the basic ways institutions, people and modes of production, distribution and consumption are organized and controlled – dominate cultural life which includes schools, teaching and curricula. There is a dialectical relationship between the overt and covert knowledge” taught in schools, the principles of selection and organization of that knowledge and the criteria and modes of evaluation used to ‘measure success’ in teaching. Schools create and recreate forms of consciousness that enable social control to be maintained

without the necessity of dominant groups having to resort to overt mechanism of domination. Further sociologists like Samuel Bowles and Herbert Gintis have stressed the role of economic factors – mobility, selection, the reproduction of division of labor, etc. – in educational institutions and argued that conscious economic manipulation by those in power is a determining element of school-curriculum. Young, Bernstein and others have argued that the structure of knowledge and symbol in our educational institutions is intimately related the principles of social and cultural control in society. Here lies the Centre-Periphery dialogue in curriculum planning and organization.

While these views on the social determinants of knowledge and school-curriculum are highly controversial, it cannot be denied that there are highly significant social considerations underlying such questions as : What counts as educational knowledge and why ? What changes should be made in school-curricula and why ?; and how can curricula be planned so that pupils will have equal access to knowledge ? The quality of solutions to these controversies is a continuous search for the curriculum experts.

The contribution of sociology of knowledge consists in having asked these questions boldly and brought to surface the issues of social class differences in access to knowledge, the validity of streaming and compensatory education and the distribution and stratification of knowledge (why should certain kinds of knowledge be given a higher prestige than other kinds ?).

But Sociology of knowledge alone cannot decide curriculum issues. It simply cannot be that the only reasons for labeling knowledge as high status or low status are social; for there might be other good reasons for the division of knowledge. It cannot also be that subject disciplines are merely social constructs. Actually, it is a problematic issue. If it is true that school subjects at present hinder the learning of some pupils, the solution may lie in the recognition of the teaching of those subjects. It does not necessarily follow that subjects are always bad or that they do not exist. Also, to argue that all knowledge is socially constructed is simplistic. It ignores philosophical views of knowledge is socially constructed is simplistic. It ignores philosophical views of knowledge and reality other than phenomenology on which the

sociology of knowledge is based. While it is true that social factors influence knowledge, it is not the case that they determine it, rather we must go to philosophy, psychology and technology to find the workable solutions of many kinds.

We, thus, see that there are various sociological considerations like cultural, economic and political that deeply influence school-curriculum – its conception, content, and organization. To begin with, curriculum is the device which a society uses to transmit what it considers as the worthwhile aspects of its culture – knowledge, values, beliefs, skills. In designing this device for application in its schools, a pluralistic society has to build it upon the elements that are common to the various subcultures that together make up the total culture of the society besides making adequate provisions for the preservation of the identities of the different subcultural groups. Curriculum should be so designed that it does not act unfair to the interests of the lower socio-economic classes. In the name of transmission of culture it should not act as a vehicle of domination of middle class values. Rather it should taken note of the social factors influencing knowledge especially relating to its distribution and stratification.

Let Us Check Our Progress

1. Explain with suitable examples, the sociological background of the hidden curriculum.
2. Explain : “There is a dialectical relationship between the overt and covert knowledge taught at schools”.

6.1.2.5 : PSYCHOLOGICAL FOUNDATIONS OF CURRICULUM

We are discussing this area under two sections.

6.1.2.5.1 : CURRICULUM AND THEORIES OF LEARNING

Introduction

Grounded by some fundamental assumptions about human behavior, Educational Psychology, an applied branch of Psychology, is a strong pillar upon

which curriculum is erected systematically. The main area of psychological movement in education is understanding learning and teaching and deepening our understanding of human potential to learn and also individual variations – both inter and intra. A curriculum without in-built in psychological principle, is a void and meaningless. There are several areas in which the psychological principles and theories come and help as the psychological foundations of education as well as of curriculum.

Hilda Taba in Curriculum Development : Theory and Practice puts : “Sound suggestions for curriculum development can be derived only from a sound psychology of learning. In setting issues of curriculum and methods one must take into account all that is known about the nature of man and the nature of the learning process. Historically, there has always been a relationship between education and knowledge of or assumptions about the nature of learning”. This relationship is not that education is borrowing knowledge about psychology of learning, the relationship is not uni-directional, about psychology of learning (say Educational Psychology) is also getting or sensing problems or anomalies in the actual practice of education in the learning sites and as a matter of instinctual curiosity as well as disciplinary responsibility psychology of learning is becoming both active and proactive in expanding its horizon of knowledge. That is the relationship is two-way communicative or complementary.

Further, issues relating to interrelationship among areas of development – cognitive, affective, moral, motor, and meta-cognitive – philosophical goal of education are distribution of equity and ensuring human rights to education for all. The concepts of readiness and pacing, developmental tasks, intelligence stage of cognitive development, limitation in intellectual potential, other native potential , motivation, problems of heterogeneity in learners, dilemma of receptive and creative thinking, problem of underdevelopment, besides all aspects of learning are also some the multitude determining factors and issues for the curriculum developers and they take account of these as the basic materials for building curriculum superstructure. Moreover issues and concerns relating to instruction, instructional design and assessment of learning outcomes or even curriculum evaluation are also getting theoretical and practical supports for psychology.

Learning Theories and Curriculum

Knowledge about the learner and learning is relevant to making a host of curriculum decisions. Some of the very important decisions, according to Taba, are : selection and arrangements of content, the choice of the learning experiences by which this content is to be manipulated and by which the objectives not achievable through content alone can be attained, and plans for optimum conditions for learning.

These decisions cannot be made adequately without understanding a good deal about learners and learning process which is eventually not explained by an all-agreed definition. Learning is complex and there are many different kinds : mastering motor skills, memorizing information, learning feelings, concepts, and intellectual skills, such as generalizing, scientific inquiry and problem solving. Theorization about all kinds of learning in a super theory of learning is not achieved so far. Various theories of learning are also contesting each others. For example, behaviorist associationist theories which dominate the field, overlook ideational learning; field theories stress the learning of ideas and insight, while the dynamics of learning, such as motivational patterns, are the chief concerns of psychoanalytic theories. Further, learning occurs in a social setting and also through personal experiences. Consequently, learning is central in the educative process, it is difficult to determine just what it is, under what conditions it occurs, or how to manipulate the conditions, how to maximize it under school conditions. Moreover, psychological investigations are not generally concerned with the nature of learning as it occurs in school. Some argue that there is even a sign of rift between the science of learning and educational methods. The above phenomena present a baffling experiences and difficulties to the curriculum developers and hence they are to move toward a broader periphery of learning theories while panning curriculum.

All theories of learning rest on a concept of man and his capacities and their intricate natures as well as the interplaying operating variables assumed by a particular theoretician. Historically, the first concept of man produced a theory of learning often called the theory of mental discipline or faculty psychology. In this view, motivation does not matter and individual differences are irrelevant, learning connotes training of mind, special merit is found in such 'hard' subject like mathematics and Latin and

practice and drills are most important. Science of learning has advanced now a lot but many current critics of educational practices seem to make similar assumptions when they advocate toughness and hardness of study per se.

Now from training of mind to shaping or modifying behaviors of all kinds is the main issues of theories and consequently the curriculum developer like to take cues from these modern theories. For the sake of convenience we may classify the whole family of learning theories into three categories.

1. Behaviorist theories which deal with various aspects of stimulus – response and reinforcement scheme.
2. Cognitivist theories which view the learner in relationship with the total environment, and
3. Phenomenology which emphasizes the affective domain of learning and also personal meaning making about the environmental inputs or happening.
4. Increasing interest in constructivism and curriculum.

1. Behaviorism and Curriculum

The behaviorist school is rooted in a corresponding philosophical speculation about the nature of learning. It has dominated particularly the first-half of the 20th century psychology. After a few years of wilderness it has recently gained currency once again with the advent of individualized education. Essentially, here learning is considered as habit formation and teaching is regarded as arranging learning experiences in such a way as to promote desirable behavior. It also takes notes of retention and transfer of learning for economizing pupil learning encounter.

Broadly, behaviorists advocate that –

- behaviour is likely to be influenced by the condition under which learning takes place.
- attitudes to and abilities of learning can change or improve over time through proper stimuli,
- learning experiences can be designed and controlled to create desires for learning.
- selective reinforcement is essential.
- rote learning and memorization of knowledge are unnecessary.

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

1. remediation, skills acquisition, 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 shaping behavior through prescribed tasks, phase by phase activities, close supervision of activities and positive reinforcement.
4. diagnosing, assessing and reassessing the learner's needs, objectives, tasks and instruction with a view to improving the curriculum.
5. curriculum planning, sequencing contents, writing materials, illustrating materials, etc. are some aspects which are shaped and directed by this school of thinking.

We can see manifestation of these guidelines in theories, principles or trends related to –

- individualized education, both in face-to-face and distance learning contexts.
- instructional design and systematic design models.
- teacher-training techniques such as simulation, microteaching competency performance based teacher education.
- educational technology including programmed instruction.

2. Cognitivism and Curriculum

Cognitivism focuses on learning as change in cognitive structure, a hypothetical construct reasoned out by a community of psychologists, popularly known as cognitivists. Cognitive theory of learning refers to any theory of learning that postulates intervening variables of a cognitive nature in order to explain learning. Learning is considered as a growth-cognitive growth, essentially through the process of education. Educator's task is to facilitate pupil's cognitive growth. Consequently, curriculum aims at so. Most cognitivists believe that growth and development occur in progressive stages. Jean Piaget is a growth and development occur in progressive stages. Jean Piaget is a pioneer in this direction and his theorization about growth of intelligence in the *Psychology of Intelligence* (1950) has made significant change in

curriculum development, especially in sciences. Bruner's formulation of concept attainment model has also a renowned venture in employing strategies in concept attainment. Their works have given much knowledge how to present learning when building learning materials as well as during instruction.

Most curriculum specialists tend to draw greater adherence to cognitive than to behaviorism today. It might be because cognitive approach leads to logical methods and interpreting learning, and cognitive approach is rooted in the tradition of teaching based on the subject matter which is supposed to have embedded structure of knowledge and it sometimes may be explained with the aid of a map-cognitive map.

The curriculum specialists take note of encouraging pupils to ask questions and solve problems. Students should be encouraged to take up cognitive risk and seek for alternatives strategies to come to a solution. Classroom should be a place for discovering the truth by formulating hypotheses and testing them appropriately. This, cognitivism regards classroom a site for experimentation and naturally a place of greater freedom for exploration.

3. Phenomenology and Curriculum

Phenomenologists point out that the way we look at ourselves is crucial for understanding our behaviors and that we respond to an organization or pattern of stimuli and not to an isolated one. That is like to understand the total, not a part of anything ... It emphasizes learning must be explained in terms of the "wholeness" of the problem. It differs from cognitivism in this way that phenomenology stresses the affective and the cognitivism gives emphasis on cognitive aspect. Because each individual has specific needs and interests related to his / her self-fulfillment and self-realization. This implies that in this case curriculum must be humanistic. Here subjective experience is given importance in comparison to objectivity.

Some writers tend to be cognition-oriented. However, one purpose should be that behaviorist components are needed for planning and developing a sound curriculum. Further, humanistic components of teaching-learning must be incorporated into the curriculum.

4. Increasing Interest in Constructivist Curriculum

Constructivism is a theory about the nature of knowledge. While there are different interpretations of constructivism, their common denominator seems to be a belief that knowledge is created by people and influenced by their values and culture. It is more popular with its two views – cognitive view exemplified by Piaget and the social view exemplified by Vygotsky. The former posits that people develop universal forms or structures of knowledge that enable them to experience reality; knowledge is individually constructed and is based on the knower's intellectual development as one experiences reality during physical and social activity. Here the teacher's role as facilitator is to pose problems that challenge children's conception of reality. On the other hand, social constructivism posits that knowledge is co-constructed through social and cultural contexts, rendering reality non-objective. Knowledge, socially constructed as reality is created during physical and social activity. The teacher's role is to be a collaborator who participates with the children in constructing reality by engaging in open-ended inquiry that elicits and addresses student misconceptions.

Thus, constructivism is a theory of learning based on the principles that learners construct meaning from what they experience; thus, learning is an active, meaning-making process. Curriculum development from the constructivist point of view generally follows four tenets.

1. Human mind has the ability to represent through symbols; language is one of the major symbol systems having a primary relationship to thinking and learning; meaning is also created and expressed through other symbol systems;
2. Individual is the active constructor of meaning rather than passive recipient of knowledge;
3. Learning is complex process involving the interaction of past experiences, personal intentions and new experiences;
4. Social context is recognized as a crucial element in meaning making process.

Brooks and Brooks (1993) maintain that there are principles of constructivist pedagogy which includes posing problem, structuring learning around the primary

concepts, seeking and valuing children's point of view adapting curriculum to address student suppositions and assessing children's learning in the context of teaching.

Although constructivism seems to have made its strongest impact on science and mathematics curricula, leaders in other fields are attempting to embody in curriculum units the following principles :

- Units should be problem-focused, requiring the student to solve open-ended contextualized problems.
- Units should enable the students to have access to research and other knowledge in solving problems (generative knowledge).
- Learning strategies (such as the use of matrices and web diagrams) should be taught in the context of solving problems.
- The teacher should provide the necessary scaffolding of structure throughout units.
- Because learning is a social process, teachers should ensure that students spend at least part of their time in group formalism such as cooperative learning..
- Units should conclude by requiring the student to demonstrate learning in some authentic manner.

The recent brain research provides some physiological basis for much of constructivist view of knowledge and the role of the knower in constructing that knowledge. Thus, we need radical change in the design and implementation of educational studies and curriculum. Such curriculum change would include at its core the recognition and celebration of multiple realities and multiple ways to create express and represent those realities.

To sum up, the above ideas about learning have influenced the shaping of curriculum. The curriculum organization, therefore, parallels the theories of learning. The real thing is that the curriculum developers have choices about selecting and integrating theory of learning. Possibly, they may not have open choice grounded by reasons and conscious decision of the psychological one rather those decisions are some function of other sources and influences emerged from philosophy and sociology.

Let Us Check Our Progress

1. Give one example from your M. A. / M. Sc. in Education Curriculum indicating (a) behaviorist and (b) cognitivist theories of learning content materials.

6.1.2.5.2 OTHER PSYCHOLOGICAL BEARINGS ON CURRICULUM DEVELOPMENT

Human Development and Curriculum

Another issues are : How do children grow and develop ? What are the characteristics manifested during the developmental process ? Under what conditions do children develop in a particular way ? These are very important questions for planning the content and process of learning involved in curriculum.

The idea that growth and development are gradual and continuous and that development stages occur in a fairly orderly sequence is now universally accepted. Another important idea is the interrelationship among areas of development – physical, social, emotional and mental. These interrelationships are many and the pattern shifts during growth. No individual develops evenly. The unevenness becomes a source of additional difficulties when cultural expectations assume an even development. This is a fact which is of great significance in curriculum planning.

The issue of sequential development has also given the concepts of readiness and pacing. Certain minimum levels of maturity are necessary before certain subjects can be taught efficiently; effective teaching involves pacing teaching to child's maturity. This principle has greatly influenced the arrangement and presentation of curriculum content.

A curriculum gauged to fixed age-level norms of development based on the idea of a fixed sequence may be guilty of under development as well as over expectation. Individual variations in readiness and speed with which they master different tasks should be catered to in the curriculum. A strictly age patterned curriculum with its uniform requirements often fails to accommodate slow learners and late starters. The interrelatedness of the different aspects of development implies that there should be a broader base of diagnosis and assessment in order to determine what curriculum to offer and to whom. Curriculum-decisions are to be made not on

discrete measurements and standards but on the relevant factors determining an individual's readiness to learn. The concept of development suggests that the child and the adolescent are in the process of becoming and so curriculum should aid this process of becoming instead of enforcing static norms of achievement and progress.

Another notion that is of significance to the curriculum planner is that of a developmental task. A developmental task is essentially a task of learning, which an individual must accomplish in relation to his culture to be a successful, productive and healthy person. The nature of developmental tasks varies according to culture. An important implication of this is that curriculum-planning needs to design use and control the conditions for learning as well as the content to be learned.

Cognitive Development

Development has several dimension to it – physical, social, emotional, intellectual and so on. Of these, intellectual or mental development is of critical concern to the school, as development of knowledge and understanding constitutes the most important objective of school-curriculum.

The nature of intelligence and the factors influencing its development have been a favorite area of research-interest among psychologists for quite sometime and various theories have been formulated. One of the theories that has influenced curriculum to a great extent is that of the Swiss psychologist Jean Piaget. Piaget distinguishes three stages in the intellectual development of the child.

Piaget has highlighted the fact that at each stage of its development, the child has a characteristic way of viewing the world and explaining it to himself. The significance of this to curriculum has been well brought out by Jerome Bruner who has declared that any subject can be taught effectively in some intellectually honest way to any child at any stage of development. The task of teaching a subject according to him is one of representing the structure of that subject in terms of the child's way of viewing things. It is a task of translation of the idea in the thought forms of children.

The implication of these findings are best seen in some of the modern-curriculum projects which have attempted to present the basic ideas of the different disciplines in the thought-forms of children and gradually deepen their understanding

of them by enabling them to use them in progressively more complex forms. The spiral curriculum (Bruner) begins with the teaching of the various disciplines but with an intuitive grasp of ideas and use of them and revisits these basic ideas repeatedly as it develops, building upon them until the student has grasped the full apparatus that goes with them. The important lesson for curriculum-planning is that curriculum should be built around the great issues, principles and values that a society deems worthy of the continual concern of its members. It should have continuity and development. This issue is an open issue. Further development in cognitive science is putting more challenges to the curriculum planners.

Transfer of Learning

Formal education is based on the premise that whatever is taught and learnt in the school gets transferred over to life-situations and proves to be of functional value to the student. School-curricula must, therefore, lay stress on such content as will promise maximum transfer and develop a knowledge and understanding of matters, which lie beyond what is taught directly.

All theories of learning make assumptions about transfer but different views are held as to how transfer takes place. One view holds that the study of certain subjects assures a general and automatic transfer. It was believed, for example, that the study of Latin improved intelligence, that of mathematics, logical reasoning and so on. This view influenced curriculum-selection a great deal in the past and is still an influential force as can be seen by the advocacy of inclusion of this or that subject on the ground that the subject under question trained this or that power of the mind. According to the second view, transfer is not automatic but is possible only if there are identical elements in the content involved or in the process of training. The emphasis in curriculum, therefore, should be on the teaching of specific knowledge and skills and not on abstract subject matter and general understanding. A third view of transfer holds that transfer occurs not by means of specific identical elements but through generalization of the content or of the methods employed in the learning of that content. The last mentioned view of transfer is backed by the cognitive field theories of learning and constitutes a major influence on modern curriculum-practices. Modern

curricula are organized on the principle that understanding of general principles is the key to transfer of learning and that has been the throwing away from curriculum of meaningless, non-functional structure of the discipline studied. A staunch advocate of this type of curriculum-organization is Bruner. He declares that understanding of the fundamental principles and ideas is the main road to transfer of training.

We, thus, see that these are various psychological considerations that deeply influence curriculum planning and development. A knowledge of these considerations of which we have discussed only the major ones – the process of human development, the theories of learning and transfer of training – is very essential for curriculum-planning and practice.

We can now add to the precision of our thinking about the psychological foundation of curriculum by placing in an appropriate perspective of paradigm shift ; a few of the major concepts are discussed below.

First, let us consider the following simple relationships :

(1) Maturation × Nurture = Development

Although the equation is an oversimplification we may think of it as being a general one and applicable to all the types of development that occur in the human being. Maturation is used in the equation to represent innate sequences and patterns in which the design for change is assured by internal factors.

The nature of the equation is intended to include not only physical and biological but all of the types of experiences that nurture the maturing design. Development is the end product of a complex interaction between maturation and nurture to be considered for psychological foundations in curriculum.

When we consider the special role of the curriculum in nurture we are at the same time specifying that the development in which we have a special interest for the moment is school achievement. We may then substitute in the equation as follows :

(2) Maturation × Experience = Achievement

Actually in this case we would wish to consider only that part of the experience which becomes incorporated in the learner so as to produce achievement. For this purpose we might wish to substitute ‘responses’ for experiences. This would be a

more definite term since we learn our responses, not necessarily the gross experiences to which we are exposed.

At any particular point in time, of course, we are not dealing with sheer maturation as we plan experiences to produce achievement in the learners. He is already a complex of maturation and learning.

As an example, let us consider achievement in ability to read. If under deprived conditions, the experience is not supplied, we would write zero in the equation for large numbers of children. It then becomes :

(3) Maturation × Zero Reading Experience = Zero Achievement in Reading

The goal in curriculum planning is somehow to take into account the needs of the individual and of society so as to provide the experiences appropriate to the maturing individual so as to secure achievement.

The curriculum is commonly concerned with those experiences which all children should have in common plus a consideration of those experiences which are designed to produce differences. The process of teaching involves the understanding and management of the factors in the equations.

Let us turn first to a brief consideration of the nurture of the equation as a basis for curriculum planning.

(4) Deprivation and the curriculum

Deprivation is now commonly recognized as the greatest hazard to the developmental process of curriculum whether it is to be experience, or of transaction. The easiest things to discover and to appraise in the study of the curriculum are the areas of experience where presence or absence can be guaranteed. Thus one can easily establish the broad contrasts between the people who have or have not taking the positive output about curriculum and one can discern at least the immediate effects of a unit of study or of a particular course with and without involving curriculum.

The experience that should be provided are the major concern in curriculum planning. In order to have a perspective on the experiences that children are to have in schools there must be some consideration of the objectives.

(5) The objectives of curriculum experiences

The objectives of curriculum experiences are commonly found by a study of the learner and society in actual practice these must commonly be translated by the specialists who are acquainted with the various fields of organized knowledge. For example, it is relatively easy to determine that one of the greatest health needs is the easy to determine that one of the greatest health needs is the prevention of the common cold. One does not get far, however, in translating this individual and social need into a practical programme since secure knowledge on prevention is not available. Thus one must frequently rely on specialists to determine what is or is not possible in terms of the present state of our knowledge. Most curriculum experts will agree that one fundamental purpose of education is to assist in the learning of the cultural heritage. History, literature, science, mathematics, and government constitute vast reservoirs of potential experiences for understanding man and his institutions. How to select, organize, and relate these and similar materials to the needs of the learner becomes one of the interesting and important tasks of the curriculum expert and the teacher.

When groups engage in curriculum planning they are likely either to state the objectives in very general terms or may go to the opposite extreme of stating them in highly specific terms. For example, one might say in general terms that the objective of elementary education at the end of the primary period is to have the child understand his immediate environment. In very specific terms, however, one might have such an objective as : ‘To recognize and name the common animals and plants’. Frequently the statement in general terms is so broad and inclusive as to seem almost axiomatic and hardly to require a statement, while the attempt to enumerate specific objectives results in such a bewildering number and variety as to confront the teacher with burdensome details.

The contemporary approach to the curriculum argues that we should start with a broadly trained teacher, working under some general guides as to purpose and direction, with substantial latitude for the attainment of the countless details. Practice currently varies all the way from a narrowly prescribed body of content which the teacher is expected to teach, to a highly professional teacher who plans with children

and uses the human and natural resources of the community, and the prepared books and curriculum materials, to achieve both the broad design and the details of curriculum experience.

The development of the emergent pattern in a curriculum in a school is often assisted by study committees composed of teachers, parents and experts which help clarify both the problem of direction and process.

(6) The organization of curriculum experiences

Even after objectives have been agreed upon and the pertinent content decided upon there remains an interesting problem of how experiences are to be organized. Many innovations have been tried in an attempt to add meaning and transfer to school learnings. Organization of subjects determined by content is one of the simpler answers. Some type of fusion as in the combination of reading, spelling, and writing in a broad field such as language arts or communication arts has been another. Fusion and integration have been widely accepted at different levels both on a basis of broad fields and with unification about a particular unit or activity, e.g. transportation. The interest in a 'core' curriculum at secondary levels reflects a search for the same values.

(7) Growth and the curriculum

Growth and education are closely related. The chief measure of growth for purposes of the organization of schools is chronological age. Thus schools, from the nursery to the college, use the individual's age as a basic concept for classification when schools are built, classes organized, teachers employed, and curricula planned. Frequently such educational programmes are not outlined in detail, age by age, but are organized rather in terms of broad periods of development. Such planning recognizes the limitations of a strict age division, the approximate character of such classifications, and the need for consideration of characteristics of children over a broader band of time.

The development of knowledge concerning growth now demonstrates the crudity of the age criterion since the variation among children at a particular chronological age is far greater than the differences to be found between successive chronological ages. Age changes, correlated with maturity changes, have much

significance for the methods of teaching, for interpersonal relationship, and for the social and emotional life of the child.

(8) Basic Human Needs and Curriculum

A curriculum is supposed to be need-centric or life – centric. In this context two aspects need special attention of the curriculum specialists. These are – self-actualization and development tasks.

Self-actualization refers to individual student's need for self-fulfillment in life by actualizing / achieving his / her own potential. A curriculum, therefore, should provide learning activities that allow students to identify themselves with those things they can do well. Learners are thus helped to find personal meaning in the learning experiences.

Developmental tasks refers to a task which arises in relation to a certain period in the life of an individual, success which leads to his / her happiness and to success in later task, while failure leads to unhappiness in the individual and difficulties in subsequent task. This implies a sequencing of learning materials and organizing them in such a manner that it will match to students progress in lower to higher order developmental tasks.

The story does not end here. Various aspects of psychology give ample data, detections, assessment techniques, transactional modalities, etc. in the matters of curriculum planning, development, organization of materials and evaluation, etc. Thus, psychology is a strong foundation of curriculum.

Let Us Check Our Progress

1. Relate maturation of the learner to organization of curriculum experiences.
2. Explain : $\text{Maturation} \times \text{Experience} = \text{Achievement}$.

6.1.2.6 : TECHNOLOGICAL FOUNDATIONS IN CURRICULUM

Introduction

Technological foundation of curriculum development refers to what extent or in which way systematic thinking approach supports to the rational approach to curriculum planning, development implementation and evaluation. The most

competent approach is said to be system approach. It begins by looking at how educational technology evolved from the 'technology in education' model on which it 'was originally based to the current 'technology of education' model – a model that is founded on general systems theory developed by the engineers. It then introduces some of the basic concepts that underlie the systems approach, and presents a simple, highly practical model that can be used as the basis of virtually all course and curriculum development.

When system approach started to emerge as a recognized discipline during the 1940s and 1950s, educational technology was based on what is now described as the 'technology in education' model. This model embraced all possible means by which information could be presented, and had two main aspects, namely hardware and software. The hardware side was concerned with the actual equipment – and the software side, was concerned with the various things that were used in conjunction with this equipment.

The 'software phase', was used to the development of suitable learning materials, often based on the currently dominant theories of learning and perception.

Initially, this has borne distinctly engineering connotations, subsequently, it became much more associated with psychology and learning theory, as the main thrust changed to the development of suitable software for use with this equipment, for preparing educationware and other curriculum materials and also assessment.

The principle role of educational technology is to help improve the overall efficiency and effectiveness of the teaching / learning process by implementing it through curriculum. Such an improvement can manifests itself in many ways, e.g.:

1. by increasing the quality of learning, or the degree of mastery;
2. by decreasing the time taken for learners to attain desired goals;
3. by increasing the efficiency of teachers in terms of numbers of learners taught, without reducing the quality of learning;
4. by reducing costs, without affecting quality;
5. by increasing the independence of learners, and the flexibility of educational provision.
6. by ensuring sequencing of contents and tasks, etc.

However, given agreed criteria by which an improvement in the efficiency or effective of an educational system, situation or process can be gauged, decision regarding the exact measures by which this can best be achieved can often be reached by applying a 'technology of education' approach. Recommendation for improvement are thus based on a study of the particular system as a whole, together with knowledge of appropriate educational research findings and theories and models of learning. In many cases, ideas and practices drawn from such divers fields as psychology, sociology, business management and systems analysis are combined with developments in more technical fields in curriculum. These aspects which are all part of the technology of education are sometimes referred to as the 'intangible' aspects. In this case, the emphasis is on the techniques of teaching and learning rather than on audiovisual aids per se. Although the 'intangible' aspects of educational technology are, by definition, less obvious than the 'hardware' and 'software' aspects, they are , nevertheless, just as important (indeed most educational technologists and educational developers would say more important) when it comes to solving a particular problem.

A 'technology of education' approach to educational technology thus involves a systematic, scientific approach to problems, together with the application of appropriate scientific research, both from 'hard' sciences such as Physics and Electronics and from social sciences such as Psychology and Sociology. In applying a technology of education approach, changes are not made to a system for their own sake, but only for good educational reasons that are generally based on research findings.

Here it is important to note that the educational development or innovation has been systematically and scientifically planned and executed. It is this 'system approach' to educational technology which is at the heart of the technology of education.

The Systems Approach to Educational Technology

The systems approach to the design and analysis of curriculum and teaching / learning situations is the basis of the great majority of modern educational technology-related developments.

In general systems theory, a system is any collection of interrelated parts that together constitute a larger whole. These component parts, or elements of the system are intimately linked with one another, either directly or indirectly, and any change in one or more elements may affect the overall performance of the system, either beneficially or adversely. Similarly a curriculum is thought of system within a super system – community.

The processes of teaching and learning can be considered to be very complex systems indeed. The input to a given teaching / learning system consists of people, resources and information, and the output consists of people, whose performance or ideas have improved in some desired way. Additionally, we are known that there are more than one models of curriculum. Basically in developing their models, the curriculum researchers have used systems approach in more convincing manner.

The Various Stages in the Systems Approach

Let us now take a more detailed look at the various elements of the basic system so that you may be able to understand system approach clearly. We are going to attend six aspects.

(a) Consider target population characteristics and topic area

The range of backgrounds, interests, knowledge, attitude and skills of students coming on to the course will have a strong influence on course design. Pre-knowledge and any common misconceptions will have to be catered for in the design of the course (these may, for example, affect sequence, structure and support mechanisms).

The broad thrust of the course content will also have to be considered. Consideration will be given to the sort of people which the course is trying to develop. The subject area may have traditional aims and directions, but one may wish to consider the justification of these and / or preparation for future change.

(b) Estimate relevant existing skills and knowledge of learners

There may be minimum standards of entry to the course, but this will not always be so. For example, the increasing numbers of non-standard and mature student entrants to higher education will not necessarily have conventional paper

qualifications, but may possess skills and qualities which will have an influence on course design. This may have implications for teaching methods, bridging courses, support systems etc. This is one form of diagnosis.

(c) Formulate Objectives / Learning Outcomes

The roles of objectives and learning outcomes in a systemic approach to instruction are to be known as prerequisite to instruction are to be known as prerequisite. The objectives and learning outcomes of the course or curriculum element will attempt to embrace the new skills, knowledge or attitudes which it is intended that the students will acquire. They may be formulated which it is intended that the students will acquire. They may be formulated by the learners themselves, by employers, by teaching staff, by a validating, examining or professional body, or by some combination of these and other sources. This will indicate the curriculum goals.

(d) Select Appropriate Instructional Methods

Having specified the objectives and learning outcomes (i.e. what we are trying to achieve in the course), we should be in a better position to select appropriate teaching / learning methods through which these have a reasonable chance of being achieved. There are far more teaching methods available to choose from than most people realize. The process of attempting to match appropriate methods to given objectives and learning an outcome is normally done on the basis of a combination of research and experience. This will focus on curriculum transaction.

(e) Operate Course or Curriculum

The next element in the system is the actual implementation of the course. This involves all the logistical arrangement associated with running the course, including overall structuring, pacing, implementing the chosen teaching strategies, using appropriate supportive media and materials, and ensuring that all aspects of the course run as smoothly as possible.

(f) Assess and Evaluate

The combined result of the preceding stages is that students are involved in a learning experience that is planned to develop their knowledge, skills and attitudes, taking into account the individual needs and experience of the learners. Just how effective the pre-planning and subsequent operation has been, can be measured by studying student performance in continuing and / or post-course assessments. These assessments should be closely related to the specified course objectives and learning outcomes. Poorly-achieved objectives or learning outcomes should lead the course designers to examine the entire system in order to identify places where improvements might be made. This could involve a change in the objectives / learning outcomes, a revised assessment of students' pre-knowledge, a critical review of the instructional methods used, an examination of the course structure and organization, a consideration of the assessment methods used, or a combination of some or all of these. These deliberations, together with feedback on the course from staff, students, employers, etc. can be used in an evaluation of the entire concept of the course, which should, in turn, form the basis of an on-going cyclical course development process.

Using the Systems Approach in Practice

The systems approach to course and curriculum design is no more than an attempt to use a process of logical development and on-going monitoring and evaluation in order to allow continuous evaluation of the course or curriculum to take place.

The approach is useful in mapping out the broad flow of factors to be considered and developed, diagrams.

In implementing the systems approach, it is important to appreciate that, while the decisions taken at each stage are always affected by earlier decisions, they may themselves necessitate some of these earlier decisions being changed. It is also important to realize that the stages shown are not the only ones possible, and that, once taken, a decision and iterative, always allowing for second thoughts and the refinement of ideas.

We have learnt that curriculum foundations are the components that influence and control the content and organization of the curriculum (Zais 1976, p. 101). They are based upon values one has developed pertaining to knowledge, society, learning, and the individual. Foundations tend to influence the philosophies of those who are developing the curriculum, and these philosophies are, in turn, reflected in the curriculum. Such components as (1) definition of the programme area, (2) rationale for the study of the program area, (3) content source, (4) content structure, (5) programme aim, and (6) programme goals are included in the curriculum foundations. As implied in the above discussion, curriculum foundations are used to establish a basis for further undertakings in curriculum development which are impossible without application of the curriculum workers.

Systematic human thinking mainly aided by system approach has stimulated greatly curriculum developers and teachers. These have been reflected in advancement of curriculum design since Tyler's effect. Some common examples are : producing textbooks, teachers handbooks, lesson planning, programme, learning materials – print as well as web-based, models of teaching, instructional designs, media selection and use, machine – aided learning, and assessment, etc.

As an example we may look at Madeline Hunter's (1994) behavioral model for in-service teacher education, known as "design of effective lessons".

1. *Anticipatory set.* The teacher gets students' attention and may also gather diagnostic data.
2. *Objective and Purpose.* The teacher states what students will learn and how it will be useful.
3. *Input.* The teacher provides opportunities for students to acquire new information necessary for students to achieve the objective. This requires prior analysis of the learning objectives and also experiences.
4. *Modeling.* The teacher provides opportunities for students to see what they are supposed to learn.
5. *Checking for understanding.* The teacher ascertains that students understand what they are supposed to do and the prerequisite skills for doing it.

6. *Guided practice*. Students practice their new knowledge under the direct supervision of the teacher. Mistakes are corrected.
7. *Independence practice*. After the teacher reasonably confident that the students will not make serious errors, the teacher assigns independent practice exercises.

The above family of activities is supported by three principles from behavioral perspective – (a) a curriculum consist of a set of ‘terminal objectives’; (b) the purpose of instruction is to change behavior, and (c) both content, taught and method used are means to the terminal objectives. The three principles taken together constitute what Sockett (1976) terms the model of “rational curriculum planning by behavioral objectives”.

A cognitive approach to objectives focuses on internal thought processes and cognitive structures, rather than on performance. Therefore, the proponents of cognitive perspective believe that objectives should refer to changes in students that are not directly observable. These internal changes are described using devices like schematic diagrams depicting interrelationships of acquired concepts, called “concept maps” or “schematic networks”; flowcharts of cognitive processes and lists of cognitive operations or concepts.

From the above discussion we may say, for example, of two models – conceptual change approach “to teaching and “cognitive apprenticeship” in which students participate in disciplined and productive work, just as youth once served as apprentices to master craftsman. This model (Resnick and Klofter, 1989) places three requirements on the curriculum and teaching :

1. “Real” tasks like challenging and engaging problems to solve :
2. “Contextualized practice” rather exercises on component skills ‘lifted out od context in which they are used”.
3. Sufficient ‘opportunity to observe other doing the kind of work they are expected to do”.

The principle that will govern the techniques is – a cognitively based curriculum focuses on its attention on helping students to think more effectively and to make sense of the real world. Curriculum development efforts are aimed at

encouraging students to develop understandings of the world that are sensible and useful to them. The curriculum experiences to be thought of to take form of a conceptual, development or thinking process approaches to curriculum development.

For an example, Reading Recovery (Pinnel, DeFord and Lycons, 1989) is a cognitively oriented curriculum designed for students in early primary school who are at risk of educational failure which is underpinned by system thinking.

Let Us Check Our Progress

1. 'Technological support makes curriculum more scientific' – Explain with suitable examples.
2. Without smart application of systems approach curriculum planning is wastages of resources. – Justif.

6.1.2.7 : LET US SUM UP

Foundation of curriculum is always a very important for shaping curriculum design and its construction. In this Unit we have discussed four dimensions of foundations namely philosophical, psychological, sociological and technological foundations. Philosophical foundation gives a rationale of selecting objectives in curriculum. Psychological foundations mostly relates to specially transactional phase. To make the curriculum socially productive and useful cultural involvement, it is very much important to consider curriculum as a process. Finally technological foundation seems to be important as without technology we are not professionally competent to formulate models or draw design of curriculum, the main wheel of the whole educational enterprise.

6.1.2.8 : SUGGESTED READINGS

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6.1.2.9 : ASSIGNMENTS

1. Discuss philosophical foundations of curriculum.
 2. How sociological foundations of curriculum may help to construct a culturally unbiased curriculum ? – Discuss.
 3. How does psychological foundations help curriculum construction.
 4. Discuss Technological foundations of curriculum.
 5. Discuss impact of learning theories on curriculum development.
 6. Prepare a note on Reconstruction and Curriculum.
 7. Discuss how system approach has helped shape systematization in curriculum planning and design.
 8. Write a note on hidden curriculum from sociological perspective of curriculum development.
 9. Critically discuss the needs for philosophical, psychological and sociological foundations of curriculum.
 10. Write notes on : (a) Existentialism and Curriculum, (b) Constructivism and Curriculum, (c) Sociology of Knowledge and Curriculum, (d) Social reconstructivism and curriculum, (e) Curriculum and systems approach.
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