

PGD

Curriculum Planning and Evaluation-1

Course Code: 8235

Educational Facilities
Futurology
National Development
Economic
Socio-political
Realistic
Planning process
Administrators
Planners
Quality
Research



**DEPARTMENT OF EDUCATIONAL PLANNING POLICY
STUDIES AND LEADERSHIP
ALLAMA IQBAL OPEN UNIVERSITY**

CURRICULUM PLANNING AND EVALUATION-I

PGD

Course Code: 8235

Units: 1– 9



**Department of Educational Planning,
Policies Studies and Leadership
Allama Iqbal Open University, Islamabad**

(All Rights reserved with the publisher)

Edition.....	2002
Revised in	2016
Quantity	500
Price	Rs. 150/-
Printer	AIOU-Printing Press, H-8, Islamabad.
Publisher	Allama Iqbal Open University, Islamabad

COURSE TEAM

Chairperson:	Dr. Afshan Huma
Course Coordinator:	Dr. Afshan Huma
Course Developer:	Dr. Aisha Akbar
Contributors & Reviewers:	Dr. Miss Feroza Yasmin (Late) Dr. M. Athar Khan (Former Dean Faculty of Education) Allama Iqbal Open University Dr. A.R Saghir Prof. (Rtd) EPPSL Department Allama Iqbal Open University Mrs. Aisha Akbar Associate Prof. (Rtd) EPPSL Department Allama Iqbal Open University Mr. Muhammad Ilyas Joint Education Advisor (Rtd) Ministry of Education Mr. Muhammad Hashim Abbasi Joint Education Advisor (Rtd) Ministry of Education Mr. Abdullah Khadim Hussain Joint Education Advisor (Rtd) Ministry of Education Dr. Afshan Huma Associate Professor, EPPSL Department Allama Iqbal Open University Ms. Irum Qureshi Intern EPPSL Department Allama Iqbal Open University
Composing & Layout	Asrar ul Haque Malik Print Production Unit (PPU) Allama Iqbal Open University

CONTENTS

UNIT 1:	Introduction to Curriculum Planning Perspectives and Principles	1
UNIT 2:	Foundations of Curriculum	33
UNIT 3:	Conceptual Frame Work of Curriculum Development.....	59
UNIT 4:	Aims Goals and Objectives of Education	91
UNIT 5:	Content Selection and Organization, Principles and Procedures	135
UNIT 6:	Evaluation of Curriculum	157
UNIT 7:	Approaches to Curriculum Planning.....	173
UNIT 8:	Population Educations and Curriculum Planning	189
UNIT 9:	Role of Instructional Technology in Curriculum Development	219

FORWARD

The advent of innovations in education has necessitated changes in the organizational and administrative structure of our educational system. In order to implement these changes in an effective manner acute need has been felt for reorientation of our planner, administrators, and supervisors in the new techniques of educational planning and management realizing this emerging need of the nation, the Allama Iqbal Open University has launched an M.A Program in Educational Planning and Management through the non-formal method of education. The main objectives of the program are as follows.

- i. To familiarize the key educational planners and administrators with theories, techniques and issues in educational planning and management and;
- ii. To equip the key educational personnel with skills and knowledge necessary to resolve the issues of planning and management through innovations in education.

Ever since the Allama Iqbal Open University launched its M.A Program in Educational Planning and Management in 1976, its main aim has been to orientate key educational personnel in the latest techniques of effective planning and management. For this purpose, the University has fully utilized the experiences and resources of the UNESCO Regional Office, Bangkok and I.I.E.P. UNESCO, Paris. One needs to acknowledge the contribution made by these agencies towards the provision of materials for our M.A (EPM) Program in the initial years. It is indeed a matter of great satisfaction for the EPPSL department to present EPM-6563 course entitled “Curriculum Planning and Evaluation-I”, which has been exclusively written and developed by scholars coming from key institutions throughout the country. Dr. Mukhtar Ahmed Bhatti (Late), Dr. Ronnie Carr, British Teaching Expert in the Open University, Dr. Zulkaif Ahmed and other contributors are deeply acknowledged with gratitude. I am confident that the revised materials in this new book would enable the students of the EPM course 6563 to suitably equip themselves with the latest techniques of curriculum planning and evaluation as they are applicable to Pakistan.

Prof. Dr. Shahid Siddiqui
Vice-Chancellor

PREFACE

The EPM-6563: “Curriculum Planning and Evaluation-I” is a 3 credit hour course being offered in master’s degree program of Educational Planning and Management (M.A EPM) of Allama Iqbal Open University. The M.A EPM program is offered to mid-career managers of education and it offers specialization in the planning and management of education at regional and national level. Curriculum planning is one of the key areas that is handled at provincial and partly at federal level in Pakistan. The basic concepts of curriculum planning and the procedures adopted for its evaluation are to be known by all educational planners, managers and administrators. The course on “Curriculum Planning and Evaluation-I” is the first part of two courses. The first course is developed and designed for the students of curriculum planning who are at the beginner’s level. This course offers all the basic concepts, knowledge and orientation to the foundations and procedures involved in curriculum planning and evaluation.

The students are required to study this course with the purpose in view to understand the basic of curriculum planning and evaluation with for using them as bases for all kinds of instructional planning and management of education. It is also to be remembered that planning of curriculum has become more of an administrator’s function in the country and even as such this course would provide the student sufficient workable knowledge in the planning and preparation for curriculum.

The department has been trying to enhance the recency and relevance of the contents of the course for its students. This revised edition of the course is being presented in 3-credits hours. All the authors and reviewers have significantly contributed in the initial development of this course. I owe my very special gratitude to all experts who scholarly contributed in the development of this course. I acknowledge the help and assistance of Ms Irum Qureshi in revising the content. I have tried my best to upgrade the information and provide up to date knowledge during the review of the course and all the students are expected to explore further resources and books available to them.

Dr. Afshan Huma
Course Coordinator

UNIT 1

Introduction to Curriculum Planning Perspectives and Principles

Written by: Dr. M.A. Bhatti
Dr. Zulkaif Ahmed
Reviewed by: Dr. Afshan Huma

CONTENTS

Introduction.....	5
Objectives	5
Meaning of Curriculum.....	5
Self-assessment Questions/Activities	8
Activities	9
1. Planning a Curriculum	10
1.1 Fundamental Questions in Curriculum Planning.....	10
1.2 The Components of a Curriculum Plan	10
i) Diagnosis.....	11
ii) Identification of Objectives & Learning Experiences.....	11
iii) Content and its Organisation.....	12
iv) Teachers and the Teaching Methods.....	12
v) The Learner and Learning Experiences	13
vi) Evaluation	13
2. Forces Affecting the Curriculum	13
2.1 Government.....	14
2.2 Professional People	14
2.3 Ideology of the Nation	14
2.4 Religious Groups	14
2.5 Business and Industry	14
2.6 Social Values	15

2.7	Material Resources.....	15
2.8	The General Consensus on Curricular Objectives	15
2.9	Global Pressures.....	15
3.	Contemporary Trends and Curriculum Planning.....	16
3.1	Scientific Advancement	16
3.2	The Needs of Society	16
3.3	The Needs of Students	17
3.4	Balancing the Curriculum	17
3.5	International Understanding.....	17
3.6	General Principles	17
4.	Curriculum Changes Necessary for Future Needs.....	18
4.1	A Mass Movement for School Improvement.....	18
4.2	A Critical and Careful Review of the Prevalent Situation	18
4.3	Learning as Life-Long Activity	19
4.4	National Goals as the Guiding Force for our Education System....	19
4.5	Appreciation of our own Intellectual Heritage	19
4.6	Cooperation in Planning Curricula	19
4.7	Teacher as the Most Effective Link in Implementing the Curriculum	19
4.8	Provision for Individual Differences	19
4.9	The need for Universal, Free Compulsory Education	19
4.10	The Application of Instructional Media and Technologies	20
4.11	An Inter-Disciplinary Approach	20

4.12	A Broader Concept of the Curriculum.....	20
4.13	A Contemporary Emphasis in the Content	20
4.14	The Encouragement of Further Research	20
4.15	Global Tripalization.....	20
4.16	Self-Assessment Questions.....	20
5.	Principles of Curriculum Development in a Muslim Society	21
5.1	General Perspectives on Education in Islam.....	21
5.2	Contents of Curriculum in a Muslim Society	23
5.3	The Derivation of Principles.....	26
a)	Education as a Goal-Oriented Activity	26
b)	An Integrated Approach to Life.....	27
c)	Knowledge as Gift of Almighty.....	27
d)	Man is Born Innocent.....	27
e)	No Human Being is Omniscient	27
f)	The Encouragement of Inquiry	27
g)	The Supreme Reality is Multi-Dimensional	28
5.4	Self-Assessment Questions.....	29
5.5	Answers to Objective Type Questions.....	29
5.6	Bibliography	31

Introduction

Curriculum is one form or the other has always been there since the formal as well as non-formal education is being planned. The work curriculum has been defined and its concepts are described by various authors in different ways.

Literature on education, whether ancient or modern, is replete with occasional references to the word ‘curriculum’ which means different thing to different persons. Ask a literate who is not professionally involved in education “What is curriculum? And he is likely to say “it is the text-books taught in the schools”. If you ask a teacher, an educational supervisor or administrator, a curriculum developer, planner or educational expert the same question, you will come across many varied answers. Even theorists writing in the field do not agree upon any one definition of the term.

In this unit we shall try to answer the following questions:

1. What is the meaning of ‘curriculum’?
2. What is its scope?
3. What do we mean by curriculum planning?
4. What are the forces affecting the curriculum?
5. What are the curricular needs of the future?
6. What are the principles of curriculum development in a Muslim society?

Objectives

After studying this unit, you should be able to:

1. Define various concepts of curriculum.
2. Describe the desirable components of curriculum
3. List the steps in curriculum planning.
4. State the steps involved in the process of curriculum planning.
5. Mention different forces affecting curriculum.
6. Visualize future curricular needs.
7. Identify contemporary trends in curriculum planning.
8. State and analyse the principles of curriculum development in a Muslim Society.

The Meaning of ‘Curriculum’

Although it is difficult to reach a consensus on any single definition of the term ‘curriculum’ but by studying the definitions which have been put forward we may become more aware of the various perspectives from which a curriculum can be viewed; and thus may be in a better position to judge what it ought to consist of.

Basically, the curriculum is a planned activity that goes on in educational institutions. It includes all the experiences which the institution accepts to provide to the learner.

According to this view a curriculum is the programme used by the school as a means of accomplishing its purposes.

Many writers use the term 'curriculum' loosely as being synonymous with "syllabus" "course of study" "subjects" or even "timetable". In some educational institutions the word curriculum, by tradition, is associated with narrowly conceived short courses which deal mainly with content. The selection of definitions presented below should illustrate that the concepts, as used curriculum theorists is much more complex. The examples quoted below also show the variety of definitions which have been offered during twentieth century. Consider them closely, noting their differences and similarities; and try to decide which comes closest to your own viewpoint the meaning and nature of curriculum. According to various theorists 'curriculum' may be defined as:

- a) "the planned experiences provided by the school to assist the pupils in attaining the designated learning outcomes to the best of their abilities" (Neagley and Evans, (1976 p.7).
- b) "the planned composite effort of any school to guide pupil learning towards predetermined learning outcomes" (Inlow, 1966, p.7)
- c) "the means by which the experience of attempting ot put an educational proposal into practice is made publicly available. It involves both content and method and in its widest application takes account of the problems of implementation in the institution of educational system" (Stenhouse, 1975 pp. 4-5)
- d) "a design of social group for the educational experiences of their children in school" (Beaucham, 1961, p.34)
- e) "all the learning which is planned and guided by the school, whether it is carried on in the group or individually, inside the school or outside it" (Kerr, 1976, pp.16, 18)

Kerr (1976) elaborates on his definition by saying that the curriculum may be divided into four inter-related components: curriculum objectives, knowledge, learning experiences and curriculum evaluation. The inter-relationship of these four components of curriculum may be represented by the figure given below. The value of this simple model is that it suggests some basic aspects of curriculum.

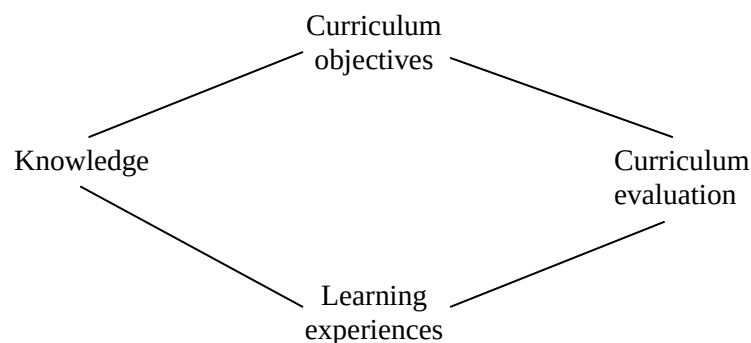


Illustration 1.1

What are the main purposes of a curriculum? What subject matter is to be covered? What learning experiences and school organization are to be provided? How are the results to be assessed? These are basic questions to be kept in view when conceptualizing a curriculum.

During the twentieth century, a large number of definitions have emerged reflecting the socio-philosophic orientations of curriculum scholars and conflicting conceptions of the nature of knowledge and the school. Tanner and Tanner (1975) have very concisely and critically examined various definitions as follows (pp. 10-27).

a) The Traditional Concept

The traditional concept of the curriculum views it as a body of subject-matter set out by teachers, planners and educators for the students. However, this concept is far too broad, since it reveals nothing as to what this body of subject-matter should include.

b) The Perennialist Concept

The perennialist position on the curriculum exemplified by Hutchins, holds that the curriculum should consist principally of permanent studies, i.e. of the rules of grammar, reading, rhetoric and logic and the “great books” of the world.

c) The Essentialist Concept

The essentialist position on the curriculum, as represented by Bestor, is that it must consist of disciplined study in five areas: (Grammar and literature; mathematics; Science; History and foreign Languages. According to this view these areas of systematized knowledge best represent the experience that is to be transmitted to children and youth.

d) The Progressive Viewpoint

According to the progressive viewpoint, the curriculum should consist of learning which an individual selects, organizes and uses in his current activities or subsequent behaviour in life.

e) The Disciplines Doctrine

According to the disciplines doctrine propagated by Schwab and other scholars, the curriculum should consist entirely of knowledge which comes from the disciplines. In other words, education should be conceived of as a guided recapitulation of the process of inquiry which gave rise to the fruitful bodies of organized knowledge comprising the established disciplines.

f) The Curriculum as Race Experience

Race experience embodies not only the cumulative tradition of knowledge but also the total culture of a society, the common elements that make a society more than a mere aggregation of individuals. The concern expressed by Dewey for recognizing the vital importance of transferring and reconstructing the race experience through

the curriculum is reflected in the definition of the curriculum propounded by Smith, Stanley and Shores in their work “*Fundamentals of Curriculum Development*”. According to them, a curriculum is “a sequence of potential experiences, set up in the school for ways of thinking and acting”.

g) The Curriculum as a Plan

In contrast to those educators who conceive of the curriculum as a group of activities, guided learning, or the programmes of a school, there are many writers who think of the curriculum as an instructional plan. For example, Taba states that curriculum is a plan for learning.

As you have already seen, different writers on curriculum during twentieth century have provided different definitions and concepts of curriculum. We may not arrive at a precise definition but in Einstein’s words, “the search for truth is more precious than its possession.” Until now we have searched through various ideas and opinions and may generalize that every good curriculum:

- a) includes learning experiences;
- b) is formulated and planned in a systematic way;
- c) is offered under the auspices of some institution;
- d) is concerned with the learners’ growth in personal and social context.

Curriculum in twenty first century has many more practical and critical attributes. It is inter disciplinary, globalized and it integrates technology at each step in variety of ways. As per the definition of curriculum given by UNESCO (2014):

“Curriculum is a systematic and intended packaging of competencies (i.e. knowledge, skills and attitudes that are underpinned by values) that learners should acquire through organized learning experiences both in-formal and non formal settings.” (Curriculum and Development, para 1)

Self Assessment Questions/Activities

1. Write down different definitions of ‘Curriculum’ quoting at least three educational theorists, other than those given in this unit.
2. After considering various definitions and views on curriculum write down your own ideas about the meaning of ‘curriculum’.
3. Compare the progressive and traditional concepts of curriculum. Give examples to explain both the concepts.

Activities

1. Ask three students, teachers and supervisors at Maters level what they mean by 'curriculum'. Then note the differences between their viewpoints and your own.
2. Make a list of all the activities that may be undertaken by a school for promoting learning in students and think how you can include them in curriculum.

1. Planning a Curriculum

For all rational actions, we must carefully determine the ends/goals first and then decide about the means to achieve them. The more intelligent and sensible the planning, the more rationale an action is likely to be. Actions which deviate from this procedure are correspondingly less rational. Curriculum development is a rational and responsible process. It must be planned carefully and cautiously.

1.1 Fundamental Questions in Curriculum Planning

The rationale for analyzing, developing, organizing and planning a curriculum begins with seeking answers to the following fundamental questions:

- i. What educational purpose should be institutions seek to attain through the curriculum?
- ii. What educational experiences can be provided which are likely to attain these purposes?
- iii. How can these educational experiences and relevant contents be effectively organized?
- iv. How can we determine whether these purposes are being attained?

According to Tanner and Tanner, (1975) these four functions in curriculum planning – identifying the objectives, establishing the means, organizing these means and evaluating the outcomes – are interdependent in nature rather than being rigidly sequential steps. D.K. Wheeler (p. 304) has identified the same steps, as illustrated in the following figure:



1.2 Components of Curriculum Plan

The components of a curriculum plan or design are generally as follows:

- a) Diagnosis
- b) Identification of objectives and learning experiences
- c) Contents and its organizations
- d) Teacher and teaching methods

- e) The learner and learning experiences
- f) Evaluation

Let us now look at each of these components in more detail.

i) Diagnosis

Just as the first step in developing a curriculum is to gather information relevant to ends as it is necessary to make a general analysis of problems, conditions and difficulties and to draw together existing information. These data must be scrutinized for an indication of new approaches or neglected needs, to supply a general picture of the prevailing circumstances and resources available. This picture may well indicate the need for a new approach to the curriculum changed attitudes or a new orientation to teaching-learning situations. The extent of diagnosis is directly related to the scope of the objectives and the extent of the deviation of the contemplated programme from the traditional organization. Diagnosis is necessarily prior to the establishment of a relationship between initial behaviour and the intended outcomes. The determination of levels of initial behaviour within the various behavioural categories facilitates the setting up of specific objectives. Though this preliminary analysis of needs, characteristics and resources in the initial step, it is not to be thought that the necessity for analysis comes to an end when the next stage is entered. Diagnosis is a type of evaluation and must be maintained throughout the planning process.

ii) Identification of Objectives and Learning Experiences

In this step, the goals already sketched out must be translated into specific objectives. Irrespective of the particular nature of the contents of each subject, attention must be paid to all the categories of behavioural outcomes. The immediate effect of simultaneous consideration of all categories of behaviour is to obviate the likelihood of continued emphasis on one particular category to the exclusion of others. It will also help in the selection of activities and contents. In formulating specific objectives, it is necessary to select the particular behaviour desired and to state the form in which it is to be exhibited and its level. If the objective is in cognitive field, then the sub-class of the taxonomy or some similar model will be useful in dictating precisely what is required, and up to what level. As far as possible, the objectives must be expressed as behavioural outcomes so that it is clear what skills are to be developed and what sensitivities, feelings or attitudes are the focus of attention. The formulation of objectives must be accompanied by some attempt to determine the type of evidence to be used in deciding whether these objectives have been achieved. Tylor (p. 1-50) has mentioned some sources of objectives, which are illustrated below:

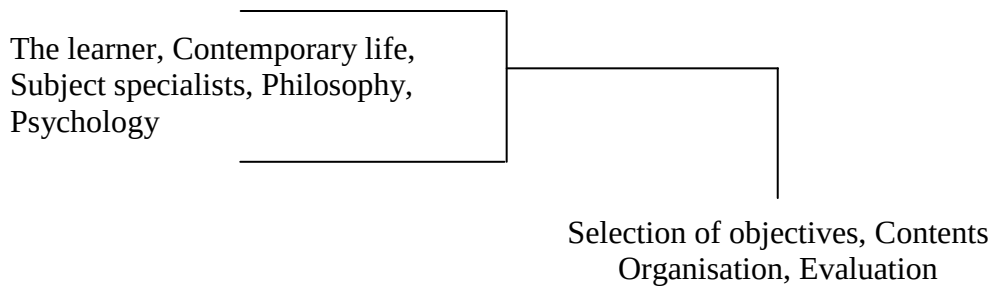


Illustration 1.3

A further step is to determine learning outcomes. Learning outcomes describe what the learners will be able to demonstrate in terms of knowledge, skills and values on the completion of a course, a span of several courses or a program of study.

iii) Content and its Organisation

The content of education is an inclusive term concerning what is considered necessary to be organised to achieve the desired goals. First, there is the subject matter or the instructional material which has to be remembered, recalled, comprehended, analysed, applied and evaluated, along with the ways and means of dealing with specifics and the larger conceptual framework. Secondly, there should be suitable activities or learning experiences, both real and vicarious, in the process of instruction. Then there are the integrating or focusing continuing evaluation procedures which determine the rate or progression from one step to another. (You will read more about the criteria for content selection in Unit-5).

It is necessary to arrange content according to some plan. Some are in favour of psychological approach to content organisation which goes after the mental maturity level of the learner. The other approach known as logical approach takes care of the sequential order of concepts in the subject/discipline. However, there is no unique pattern of organization of content. The most suitable organization is the one which most effectively promotes the achievement of intended outcomes. There is no guarantee that any of the arrangement is suited to the particular ends in view. Ideas and their subject-matter, which were carefully selected, still have to be arranged and planned in sequence that caters for the usual progression from simple to complex, concrete to abstract and immediate to remote.

iv) Teachers and Teaching Methods

Teachers are the operative agents in education. They are the people responsible for translating the curriculum into action. For effective implementation, it is necessary to inform teachers about the introduction of courses, aims and objectives, teaching methods and techniques, and the changes to be make in their normal teaching more specifically so teachers should be provided with the following:

- a) Explanatory statements about the aims of each subject.

- b) The general and specific objectives of each course.
- c) Background information on any changes made in subjects.
- d) Details of courses, guide books and teaching materials.
- e) Details of new methods of teaching aids to be adopted while teaching various subjects.

v) The Learner and Learning Experiences

It is for the society to answer question like “who is to be educated”? and “should equality of opportunity be provided in primary and secondary education for all children”? In some societies, the curriculum is totally different for the children of the elites and those of the lower order. In Pakistan there are various types of educational institutions, each with their peculiar kind of curriculum meeting different needs specifically up to secondary level general public and private schools; religious schools or *deeni madaris*; and European type English medium schools are the in each of these categories of schools, the learners come from different systems of the education and have different attitudes towards life. Though efforts are afoot to bridge this gap, the objective is still far from being fully realized. Learning experiences at these institutions are remarkably different. Learners coming from more affluent families get to attend high profile private schools. Learning experiences of these private schools and nothing like what learners get at public schools. Similar are the conditions at higher education level.

vi) Evaluation

Evaluation is a process of obtaining useful information for judging and decision-making. Socket (1976) approaches curriculum evaluation through a conceptual analysis of the term ‘evaluation’. In his analysis, he identifies four central features of evaluation given as under:

- a) Evaluation is appraisal in which we make judgments.
- b) Such judgments are made in the light of criteria.
- c) Criteria issue from, and are appropriate in respect of particular contents.
- d) Such criteria embody human purposes, and evaluations made, therefore, inform decisions.

Curriculum evaluation is essential for multiple reasons: One is that feedback to pupils at frequent intervals improves their performance. Another is that it is highly desirable for teachers to know how successful they are in achieving their teaching objectives, to be able to make any necessary improvements/revisions. Moreover, for curriculum planners to assess how for learning outcomes are achieved and how much improvement is needed.

2. Forces Affecting the Curriculum

Curriculum is the nerve centre of education. It is influenced is one way or another by almost everything that affects education. Some of the forces which affect decision about what should be included in the curriculum are:

2.1 Government

In many countries education is constitutionally a function of private organisations, but in Pakistan it is a government responsibility. Much of the responsibility for the building, maintaining and functioning of the schools lies with government. Generally, the federal and provincial governments provide funds for the purpose. The government exercises direct control over curriculum offerings incoming. The curriculum planners and educational leaders are, by and large, indebted to the government in one way or another in that most of them are government servants. As public servants; they cannot afford to remain completely independent. They have to abide by the rules and regulations prescribed by the government. No doubt the government generally favours and accommodates the recommendations of educationists; but they are always expected to adhere to the ideology and the philosophy of the government in power.

2.2 Professional Bodies and Individuals

Professionals employed in schools, colleges and universities constitute one of the powerful influences in shaping the curriculum, while practitioner are also consulted in many fields such as law, medicine and business. The ability training and attitudes of the professional leaders play an important part in determining the nature and content of curriculum. Whenever a national curriculum is designed and planner the professional associations of Pakistan are invited to send their recommendations. These associations, such as the college teachers' association, the academic staff associations, the Punjab Teachers Association the S.E.S association and the alumni association can exert a great influence directly or indirectly on the curriculum of programs related to education.

2.3 Ideology of the Nation

The curriculum is expected to reflect the ideology and philosophy of the nation. One of the first and foremost objectives of our nation is to ensure the preservation, promotion and practice of the basic ideology of Pakistan and make it a code of individual and national life. Nothing contradictory to the national philosophy can be included in the curriculum. This is true in every society. In a democratic society nothing can legitimately be included in the curriculum which does not augment the democratic ideals.

2.4 Religious Groups

Religious groups frequently express their views about what the schools should teach specially in Pakistan, religious groups have a strong influence on the masses. These groups insist that what is taught in the schools must confirm to their religious beliefs. Only secular states or countries ensure lesson or influence of religious groups.

2.5 Business and Industry

The economic and industrial conditions of a country also affect what is taught in the schools. The economy of Pakistan is primarily agriculture based. The curriculum that does not include agriculture as a subject is, therefore, not considered to be suitable to Pakistani schools. Industry also influences the curriculum in that the latter is expected to produce the personnel needed for the industry of the country. Agro-technical courses at secondary level must also reflect the same influence.

2.6 Social Values

Social values are basic in influencing any school curriculum. A society establishes schools when it recognizes that the training of the young can no longer be entrusted to the family, community and other informal agencies. The nature of the curriculum of the school will vary from one society to another. A socialist communist society aims at what a democratic society would reject. Indeed, school programmes should be different both in methodology and content if they are to meet the unique needs of different societies. Old and stable societies may support school programmes geared to transmitting and preserving the tried and tested traditions and values of their culture. This is not to say that their curricula are unchanging, but only that modification and reconstruction is gradual. Societies in transition, having conflicting and emerging values, will have less fixed curricula. They will emphasize what will help students to solve the new problems confronting their societies. Genuine demands and new requirements which are inevitable due to advancements in the fields of science and technology need to be incorporated into the curriculum.

2.7 Material Resources

Differences in physical facilities and the availability of teaching materials also affect the curriculum. The areas that lack of the financial or technological resources to provide an educational programme with depth and variety may not include many subjects in the curriculum. So, while thinking about the study programmes of such areas, the available resources must be kept in view. As an example, at present in Pakistan, every school cannot be provided with TV sets, radio sets, computer and laboratories. The programmes relating to these spheres can be provided in only a limited number of institutions. Thus resources of men and money and national need to be assessed while selecting proposed curricular activities.

2.8 The General consensus on Curricular Objectives

If there exists a general consensus on the objectives of the school programmes among teachers, community members and administrators, this will help to ensure the success of the programmes. If otherwise, one group may cause the failure of the entire programme. Each of them must realize their importance and play their expected role effectively. If there are blocks and differences of opinion, these may be resolved by mutual discussions and exchange of viewpoints.

2.9 Global Pressures

Globalization has introduced a new dimension of curriculum planning. The world around us is going through continuous and rapid changes. A phenomenon in one part of the world now brings drastic changes around the globe. Environment education population education, gender studies and peace education are some of the examples in recent history which were included in the curriculum. Such inclusions are made under the international resolutions passed at UN or other international forums.

Activity

Interview the teachers of local educational institutions and discuss the forces affecting curriculum change in our country.

3. Contemporary Trends and Curriculum Planning

Important changes occurring in several aspects of society need to be investigated and included. The success of our educational efforts lies in the degree to which we succeed in identifying the nature of these changes and incorporating the relevant content into our curriculum. Some of the changes in society or let us say the factors of curriculum planning are described as under:

3.1 Scientific Advancement

In the previous two or three decades, the curriculum has been more and more affected by developments in science. No nation wants to deprive its students of such knowledge; hence in almost all school systems, scientific knowledge has a central place in the curriculum. And the tendency to incorporate such information in the curriculum will continue to grow in future years.

However, in so doing, consideration must be given to the best methodology to adopt. According to some psychologist, the fundamentals of any subject can be taught to anybody at any age in some form. According to Bruner, for example, primary grade children can play interesting games based on the rules of topology and set theory, and even discover new 'move' or rules. In addition, they can understand the strategy and the basic human problems represented in maths. In order to introduce the child to a new domain of reality (maths, physics, chemistry etc) in any easy form, an educator must decide on the questions of "how", "when" and "with what".

While there is no doubt the curriculum should accommodate the influence of scientific developments, if education is to become purposeful, it should supply modern man with knowledge and ability to apply this scientific knowledge. This one of the most important education objectives that determines the nature of the curriculum. An old dictum that "the educated person has a sharp axe and the uneducated has a blunt one" has never been so relevant as it is today. The programme of school activities should be based on the life of the community; and should be intended to compensate for economic, social and cultural disparities, and in this way optimize its influence on youth.

3.2 The Needs of Society

The development and organisation of curriculum activities should meet the needs of a society. The success of these efforts depends upon a correct understanding of its nature and needs, as well as the nature and the needs of individuals, and their proper adjustment to each other. For example, the immediate needs of a society in respect of training of manpower for economic development and of cultural and intellectual advancement have

to be clearly understood. The present and future requirements of a society should be visualized and met through the school curriculum. If the society does not favour the curriculum, the school must adjust its programmes accordingly. Suggestions, proposals and recommendations of community members must receive proper weight in the formulation and designing of any curriculum.

3.3 The Needs of Students

A good curriculum also must not neglect the needs of the learners. If these needs and individual differences are not given due regard in the school programmes, the students may not fulfill their potential for learning. Therefore, the capacities, interests and attitudes of the students should be carefully assessed. The process of growth through which children pass during their school days must also be fully appreciated, so that the tasks assigned to them at different levels of growth suit their intellectual and emotional requirements.

Personality develops and functions as a whole. If the curriculum is to be designed to ensure healthy development of personality, it must take careful account of all aspects of the developing child, not just the intellectual aspects. A full understanding of children's social, emotional and moral growth is essential for curriculum planning. A curriculum that does not address contemporary trends and needs of time is not preparing the students for tomorrow.

3.4 Balancing the Curriculum

Whatever is included in the curriculum must be balanced. This is especially important for Pakistan which is trying to develop scientifically/technologically as well as socially, morally and spiritually. The comparative importance of languages, humanities, social sciences and sciences/technology must be determined and maintained in the curriculum.

While emphasizing the need to include the latest scientific developments and the importance of character building and the development of patriotism and regard for social values should not be underestimated. Hence a proper balance needs to be maintained to achieve such different goals.

3.5 International Understanding

Under various UN resolutions it is recommended that the promotion of international understanding, and the development of a belief in rational decision-making, were vital goals to bear in mind when framing the curriculum. Certainly, distances have shortened due to quicker means of communication. No country in the world can remain in isolation. So the younger generation must develop an international outlook through studying relevant content included in the curriculum. They must see themselves as members of the humanity at large.

3.6 General Principles

On the basis of the above considerations, the following could be viewed as general principles for guiding decisions about introducing changes in the curriculum.

- a) The curriculum should comprise all possible learning experiences which result in the development of children towards continuing self-realization.
- b) The curriculum should be flexible and broad enough to encourage the selection of learning experiences geared to the needs and purposes of each individual.
- c) Curriculum should make optimum use of knowledge of the learning process.
- d) The curriculum should develop the cultural and social values of the nation, as well as those of the immediate community.
- e) The curriculum should provide for a balanced and integrated programme to ensure each child's living more effectively in this world through greater understanding of it.
- f) The curriculum should provide each child with the basis for evaluating further changes in the world as they occur.
- g) The curriculum should enhance responsible citizenship in global perspective.

4. Curriculum Changes Necessary for Future Needs

To look ahead rationally and realistically is the need of the hour. We are living in an characterized by challenges. Nations should not only accept the present challenges but also make full preparation to meet their future needs. No sensible person can afford to remain insensitive to the future.

The children of today need to be so educated that they become the responsible citizens of tomorrow. As such, they are our hope for the future. The challenges to be met and the ideals to be realized can be taken care of only by them. Whatever the circumstances, the educational system has some obligation to the nation. The greatest contribution which it can make is through providing a relevant curriculum which is sound, forward-looking and consistent with the current and future needs of the nation. Only then we can be sure of a bright future.

In order to survive an education system must look at its curriculum and adjust it to changing needs. The following may serve as guidelines for the development of future curricula, although these are not suggested as hard and fast rules.

4.1 A Mass Movement for School Improvement

The improvement of our educational system must become a mass movement. It must become a holy mission for our teachers and parents. To know the content and the methods of teaching must be assumed as a sacred duty.

4.2 A Critical and Careful Review of the Prevalent Situation

In order to foresee better, one often has to look back. To know what has already happened, what is transpiring now and what are the possibilities of the future, one must be a keen observer, patient and far-sighted. The requirements of the future have to be visualized and met in the light of past and the changing conditions of today.

4.3 Learning as Life-Long Activity

Learning is not limited only to the period of childhood and adolescence. It is a life-long process. In our society on the one hand we have a big proportion of illiterate adults and on the other hand also have the challenges of knowledge base economy. Adult education programmes, therefore, should be launched with careful planning and proper enthusiasm at national level. Such education of adults must be given due consideration in future curriculum planning, which may ensure to meet both challenges.

4.4 National Goals as the Guiding Force for our Education System

Our national system of education appears to have failed to properly help us to achieve our national goals. Committees of experts can state the goals in clear behavioural terms; but this alone does not ensure that they will be achieved. At every step, we must evaluate our progress to see how far we have been successful in achieving them. The whole of our curriculum should be linked with our national goals.

4.5 Appreciation of our Intellectual Heritage

In trying to keep abreast of new knowledge, we should not forget that our forefathers provided the foundations for advanced knowledge. Moreover, we must share and help to advance the common heritage of not only all the Muslims of the world but also of the entire human race.

4.6 Cooperation in Planning Curricula

The experiences organised for the learners by the educational institutions should be selected as a result of cooperative planning by commonly parents, teachers and administrators. This will help to create a sense of involvement and responsibility.

4.7 Teachers as the Most Effective Link in Implementing the Curriculum

Teachers must keep in mind the fact that their attitudes, values judgments, likings and disliking etc. can have a deep impact on children. Therefore, their proper training and placement must be given due emphasis. While implementing a curriculum a teacher needs to take a neutral position.

4.8 Provision for Individual Differences

At present, in most Pakistani schools, due attention is not given to the needs of individual students. It is a fact that every student is unique. Teachers should, therefore, expect a wide range of performances from their learners. Special needs should, therefore, be given to the increasing individualization of the curriculum. It is not psychologically or academically sound to expect a uniform standard of performance from every student. Diversity must be included at every stage.

4.9 The Need for Universal, Free Compulsory Education

According to previous education policies and plans, the target of free universal primary education should have been achieved long before. In view of the present situation the destination is still out of sight. We must utilize all our resources to achieve universal free

compulsory education within the shortest possible time. For that matter multiple models of curriculum can be tested.

4.10 The Application of Instructional Media and Technologies

Particularly at the transitional level, the application of instructional systems and technologies can make important contributions to education as ideas, knowledge and know how can thus be shared with the illiterate and semi-literate in order to further their education. The power of the media and instructional technology should be used effectively for educative purposes. Even the best curriculum will fail without the proper application of modern methods of teaching. Teachers should include problem solving techniques and other new methods of instruction in the teaching.

4.11 An Inter-Disciplinary Approach to Learning

Inter-disciplinary learning should be stressed and the art of comprehending the complex relationship among various fields of knowledge should be fostered.

4.12 A Broader Concept of Curriculum

A broader concept of curriculum should be considered and adopted. “Extra-curricular” and out-of-school activities should not be considered as extra and additional but as an integral part of education.

4.13 A Contemporary Emphasis in the Content

Efforts should be made to make the content meaningful and up-to-date to give it a contemporary touch. Curriculum content should not be allowed to remain obsolete.

4.14 The Encouragement of Further Research

Innovations and new ideas arising from educational research must be encouraged and welcomed in the development of curricula.

4.15 Global Trends (Tripalization)

A general development or change in a situation that affects many countries of the world is called global trends.

By tripalization we mean to educate the coming generation so they may be able to meet individual, local as well as global needs.

Activity

Interview senior educationists and identify some future needs necessitating curricular changes in Pakistan.

4.16 Self Assessment Questions

1. What are the steps involved in curriculum planning? Make an action plan to design a new curriculum for social studies.
2. What are the sources of curricular objectives? Explain with suitable examples.

3. What are the pressure groups which a curriculum planner should keep in view while doing his job? And how can one deal with them effectively?
4. Identify the contemporary trends in curriculum planning; and analyse their advantages and disadvantages.
5. In this unit, certain guidelines are suggested for the development of curricula in the future. What do you consider to be the changes which deserve the highest priority (you may, of course, include other developments which you consider to be very important but have not been mentioned here).

5. Principles of Curriculum Development in a Muslim Society

5.1 General Perspectives on Education in Islam

The world is so diverse in pattern and belief that there is no consensus on the goals of education or, for that matter, of life. Every society has its own goals and efforts are made to achieve them through various means such as education. In the following section an effort has been made to identify the principles of curriculum development in a Muslim society.

As Muslims, we have to be clear about the purpose of life conceived for us in accordance with Holy Quran and the orders of the Holy Prophet (Peace Be Upon Him). The curriculum in any Muslim society must pursue the same purposes as ordained by the Creator in the Holy Quran. While some scholars start becoming apologetic and present different interpretations of the purpose of life and of education, the Holy Quran includes unambiguous verses about the goals and objectives. As an example, it says: “I created the jinn and human kind only that they might worship Me.” (Parah 27, Raku 3, Ayat 56). The main purpose of a Muslim’s life is, therefore, to submit to the Almighty. Complete submission being the broader goal of a Muslim’s life, it is necessary to study the role of knowledge in submission to the will of God.

The premises concerning the nature of knowledge and its acquisition/transmission need to be examined in the light of the teachings of the Holy Quran, which holds that knowledge is given by God. If it were possible for man to acquire complete knowledge of everything, it would have been possible for him to possess wisdom and a highly intellectual framework without receiving it from anybody. But it is not so. According to Islamic teachings, God Almighty gives the ability to gain knowledge: “He gives wisdom unto whom He will and he unto whom is given, truly hath received abundant good. But none remember except of understanding”. (Parah 3, Raku 37, Ayat 269).

If this were not true, every man could have become a great scientist because he could have acquired any knowledge he wished to. But is not the case. The basic motivation to gain knowledge does help but it does not guarantee that one will definitely achieve knowledge: “As for those who strive in Us, we surely guide them to Our paths, and lo Allah is with the good.” (Parah 21, Raku 7, Ayat 69). The limits of one’s knowledge are determined by Almighty Allah: “They said: Be gloried! We have no knowledge save that which Thou hast taught us. Lo! Only Thou art the knower, the Wise.” (Parah 1, Raku 4, Ayat 32).

The position in Islam is simple and clear. God created man and He gave him knowledge as much as he willed. The conclusion, therefore, is that everyone does not possess equal intellect or knowledge: "Say (unto them O Muhammad) Are those who knew equal with those who know not? But only men of understanding will pay heed" (Parah 23, Raku 1, Ayat 9). Abilities being diverse, those who have been given more knowledge are the ones blessed by the Creator. Certainly, the Prophets were given great knowledge. As an imbecile cannot understand the theories propounded by great scientists, many people do not understand what the Prophets said. Failure to understand a concept by a fool does not make the concept wrong. Truth remains truth irrespective of whether someone understands it or not. This explains why the orders of the Holy Quran and the Holy Prophet must be followed by the Muslims even if they are not wise enough to fully comprehend an order; they are obliged to obey the Almighty.

By failing to understand the preceding line of argument, some people erroneously conclude that Islam abhors critical thinking. This is certainly not the case. The Quran repeatedly enjoins Muslims to think reflectively. One of the characteristics of people particularly liked by Almighty has been described as follows: "And those who, when they are reminded of the revelations of their Lord, fall not deaf and blind threat." (Parah 19, Raku 6, Ayat 73).

Thinking about the creation of the skies and the earth has been emphasized" "Lo! In the creation of the heavens and the earth, and the differences of night and day and the ships which run upon the sea with that which of use to men and the water which Allah sendeth down from the sky, thereby reviving the earth after its death, and dispersing all kinds of beasts therein and (in) the ordinance of the winds and the clouds obedient between heaven and earth, are signs (of Allah's sovereignty) for people who have sense/" (Parah 2, Raku 20, Ayat 164). This point to the need for the inclusion of astronomy as an important subject of study, the majority of people are likely to be very myopic and to be concerned with only their immediate surroundings. Generally, people know only the external of the wordly life and remain ignorant of the life hereafter. "They know only some appearance of the life of the world and the heedless of the hereafter." (Parah 21, Raku 1, Ayat 7). The Quran emphasizes observation by means of extensive travelling: "Say (up to the disbelievers) Travel in the land and see the nature of the consequence for the rejecters." (Parah 7, Raku 2, Ayat 11).

The importance of educational field trips can be understood in the light of this verse. While describing how Prophet Ibrahim, through the use of inductive reasoning, silenced the non-believers, it has been emphasized for us that the pattern of reasoning should be such that questions the basic premises. The non-believers asked prophet Ibrahim, "Did you do this to our gods?" (Did you break them?). Instead of answering directly, he cross-questioned them to prove the absurdity of their beliefs, Having become baffled, they had to admit; "You know these gods do not speak." Having led them to this point, they were left with no answer to his question as to why did they worship their gods that could neither benefit nor harm them.

The dialogue between Prophet Moses and the Pharaoh also shows how fallacies ought to be unveiled by extending arguments to their logical ends: “Lo! Allah causeth the sun to rise in the East, so do thou cause it to come up from the West. Thus was the disbeliever abashed. And Allah guideth not wrong doing folk.” (Parah 3, Raku 35, Ayat 258). The Quran, therefore, by implication, invites Muslims to use similar logic and asks them to desist from following the wishes of those who do not know.

So important is adherence to truth in Islam that friendship and enmities are conditioned by whether other people accept or reject the supreme truth and knowledge based on truth. This aspect is considered by some people to be fundamentalism and fanaticism. However, one must not forget that even the most pragmatic person is also the true law of nature and that he must keep on changing his positions in the light of new knowledge. To be guided by those who are ignorant or to accept knowledge based on hearsay is wrong. The Quran urges Muslims to verify information before acting on certain reports/news: “O ye who believe! If an evil-liver brings you tidings verify it lest ye smite some folk in ignorance and afterwards repent of what ye did.” (Parah 26, Raku 1, Ayat 6). Spontaneity of action without prior thought is, therefore, discouraged in Islam.

An experimental basis for arriving at conclusions is also important in Islam. The evidence of women exonerating Prophet Yusuf was based on their experience. They proclaimed not having known anything bad about the prophet’s character. The Holy Prophet Muhammad (Peace Be Upon Him) appealed to the reason of people by saying: “Say! If Allah has so willed I should not have recited it to you nor would He have made it known to you. I dwelt among you a whole life time before it (came to me). Have ye then no sense?” (Parah 11, Raku 2, Ayat 16). Consistency of unimpeachable character should have enabled the people to know that if he did not tell a lie all his previous life, he would not tell a lie later.

Possession of knowledge is analogous to having power. One can gain control over one’s environment through knowledge: “One with whom was knowledge of the Scripture said: I will bring it before thy gaze returneth unto thee. And when he saw it set in his presence (Solomon) said: This is of the bounty of my Lord that He may try me whether I gave thanks or am ungrateful.

In short, being a gift of Allah, the extent of knowledge given to different individuals is different. However, the Almighty favours those who strive to know His path. Islam encourages the use of reasoning and induction. It also holds the senses to be accountable. One must, therefore, observe, analyse and think collectively. However, the overall umbrella is the belief in the Almighty Allah and complete submission to Him. Islam does not restrict acquisition of knowledge to the scientific method – though it is not necessarily inimical to it. The scientific method of knowing, however, does not lead one too far. The macrocosm must leave man think about the Creator.

5.2 Contents of the Curriculum in a Muslim Society

The preceding discussion about the concept of the nature of knowledge in Islam determines the parameters of curriculum offerings in an Islamic society. The contents of the curriculum according to Islam cannot be limited to the teachings of Islamiyat or Diniyat alone. Moreover, Islam does not admit any dichotomy between the religious and the secular.

Preferences operate in the selection of content in any society; quite often these are actually the biases legitimized on the basis of the world-view considered valid in that society. Professed aims are often denied in practice by the inadequate ability of educators to select relevant content which could help to realize their aims.

In any discussion of curriculum principles, it needs to be remembered that the subject-matter is generally of two kinds: (a) the “descriptive” and (b) the “normative”.

a) Descriptive Subject-Matter

This category deals with facts, rules and laws derived from facts. It deals with the tangibles of life around us the immediate, the observable, the utilitarian and the mundane. Descriptive subject-matter is generally what man, after centuries of experiences, has learnt about different aspects of disciplines of knowledge such as mathematics, agriculture, biology, health and the like. Most of the curriculum consists of facts selected from the vast stock of knowledge in each subject area. Factual information keeps on changing through research. Thus continued efforts to discover new facts keep on adding to descriptive subject-matter.

b) Normative Subject-Matter

This is directly related to norms or standards by which individuals make moral and aesthetic choices. It concerns the aims and objectives of education, the moral and social contracts, the ideals operating through the entire socio-cultural and political system. This subject-matter has to be drawn from the Holy Quran, the traditions of the Holy Prophet (Peace Be Upon Him). The values stem from these sources specifying the standards of right and wrong good and bad, beautiful and ugly: upon these rest the choices. Normative subject-matter provides basic guidelines for institutional procedures and practices. Conduct is intended to be shaped through effective teaching of normative content.

Islam prescribes no bar on the discovery of new information and facts. In fact the continued prayer of “My Lord, increase my knowledge” reflects the desire of a true Muslim to always know more. The search for new knowledge and new facts has traditionally been a matter of great pride for Muslims for centuries. That is why Muslims became the pioneers in a number of disciplines such as medicine, chemistry and mathematics. Even social sciences owe a lot to the contributions of great Muslim thinkers. If Islam had predetermined the limits of knowledge in different subjects, Muslims would not have been urged to keep on praying for more knowledge. They would have been satisfied with little man had known to describe the phenomena of nature. Islam

prescribes no restrictions on extending the horizons of knowledge by discovering new facts. On the contrary, it encourages the spirit of enquiry and research. This fact makes it imperative that in Muslim society, curricular contents should be selected in such a way that they develop a scientific attitude on the part of the students. He should not accept the things blindly; rather he should test the validity of things through research.

Islam lays great emphasis on the moral education of Muslims. There are a number of characteristics that Muslims are expected to possess. Reference to a few verses of the Quran should give some idea of qualities of character a Muslim is expected to exhibit: Say: "Come, I will recite what your Lord has forbidden you: that you associate not anything with Him, and be good to your parents, and do not slay your children because of poverty; We will provide for you and them; and that you approach not any indecency outward or inward, and that you slay not be soul god as forbidden, expect by right...

Apart from above, there are a number of other orders that Muslims have to obey. Only few orders are given below:

"But help ye one another unto righteousness and pious duty. Help not one another unto sin and transgression, but keep your duty to Allah. Lo! Allah is severe in punishment." (Parah 4, Raku 1, Ayat 2).

"Ye who believe! Be steadfast witness for Allah in equity and let not hatred of any people seduce you that you deal not justly, Deal justly, that is nearer to your duty. Observe your duty to Allah. Lo! Allah is informed of what ye do". (Parah 6, Raku 2, Ayat 8).

"So fear mankind but fear Me. And barter not My relations for a little gain. Who so judgeth not by that which Allah hath revealed. Such are disbelievers. And we prescribed from them therein. The life for the life and the eye for the eye and the nose for the nose and the ear for the ear and the tooth for the tooth and for wounds retaliations. But who-so forgiveth it (in the way of charity) it shall be expiation for him. Whose judgeth not by that which Allah hath revealed. Such are wrongdoers". (Parah 6, Raku 7, Ayat 44,45).

"There shall be no sin (imputed unto those who believe and do good works for what they may have eaten (in the past). So be mindful of your duty (to Allah) and do good works and again be mindful of your duty (to Allah), and do good works and again be mindful of your duty and believe and once again be mindful of your duty and do right. Allah loveth the good." (Parah 7, Raku 12, Ayat 93).

"Children of Adam We have revealed unto you raiment to conceal your shame and splendid vesture but the raimed of restraint from evil, that is best. This is of the revelation of Allah that they may remember.

“And obey Allah and His messenger, and dispute not with one another lest ye falter and your strength departs from you: but be steadfast! Lo! Allah is with the steadfast.” (Parah 10, Raku 6, Ayat 46).

“That is because Allah never changeth the grace He hath bestowed on any people until they change that which is in their hearts, and (that is) because Allah is Hearer, Knower, (Parah 10, Raku 7, Ayat 53).

The above summary of the qualities of character desirable in a Muslim points to the necessity of selecting content which enables him to develop his personality, accordingly. The curriculum content and the methods have, therefore, to be such that the output of the educational system becomes truly Islamic in orientation.

Such an emphasis on the normative subject-matter of Islam should not, however, lead one to the conclusion that Islam is a state religion which restricts its teachings to the dead matter of knowledge; and that nothing new can be discovered and made use of. The Quran does not stop Muslims looking for new knowledge. Indeed, research and the spirit of inquiry are great hallmark of an Islamic society. Already have we urged unto hell many of the jinn and humankind, having hearts wherewith they understand not, and having eyes wherewith they see not, and having ears wherewith they hear not. These are the cattle – nay, but they are worse. These are the neglectful.” (Parah 9, Raku 22, Ayat 179).

Islam does not impose any restrictions on gaining new knowledge in order to gain control over not just the immediate environment but the sun, the stars and the sky: “And both made of service unto you whatsoever is in the heavens and whatsoever is in the earth; it is all from Him. Lo! Herein verily are portents for people who reflect.” (Parah 25, Raku 2, Ayat 13).

5.3 The Derivation of Principles

A Muslim cannot be satisfied with impartial treatment for the reasons that he must choose among divergent principles. The criterion of preservation of the teachings of Islam has to be a primary basis of content selection. This is practical judgment based upon values preferred by Islam. A number of principles of curriculum development in an Islamic society can be deduced.

a) Education as a Goal-Oriented Activity

The content of education must be consistent with the aims of life (and hence of education) as laid down in the Holy Quran and sayings of the Holy Prophet Muhammad (Peace Be Upon Him). In accordance with the verse: “I created the jinn and humankind only that they might worship Me.” (Parah 27, Raku 3, Ayat 56). The content of education should help Muslims to submit themselves completely to the Almighty. In keeping with this goal of serving Allah, the content should be such that it does not develop vanity, a false sense of pride and a self-conceited personality. The curriculum of educational institutions in a Muslim society should, therefore, enable the students to become true Muslims, believing in

the unity of the Almighty Allah and rejecting the concepts of atheism of pluralism of gods.

b) An Integrated Approach to Life

Since Islam does not recognize compartmentalization of a Muslim's life into the religious and the secular, the content of education should be so selected that it promotes an integration of belief patterns and actions flowing from the unified set of beliefs. Conversely stated, the curriculum content should not develop a dichotomy between the expectations of religious and mundane requirements.

c) Knowledge as a gift of the Almighty

The concept of knowledge as laid down in the Holy Quran should form an important basis for the selection of the descriptive as well as normative subject-matter. It should be recognized that all knowledge is not acquired. Knowledge should be considered to be a gift of Almighty; the extent of one's possession of knowledge being determined by God Almighty.

d) Man is Born Innocent

One of the basic concepts conditioning the development of the curriculum for children is related to whether or not they are "born sinner" or are "clean slates". The Quranic verdict that: "Surely We created man of the best stature" (Parah 30, Raku 1, Ayat 4) should be the guiding principle in determining human nature for curriculum formulation purposes. The curriculum should be properly sequenced knowing that "at the time of birth, children know nothing. "And Allah brought you forth from the wombs of your mothers knowing nothing, and gave you hearing and sight and hearts that haply ye might give thanks." (Parah 14, Raku 11, Ayat 78).

e) No Human Being is Omniscient

As persons expected to transmit true knowledge, teachers must remember that they do not necessarily possess all the wisdom; nor are the final authorities in interpreting the principles of Islamic morality. The teacher must recognize limitations of the extent of his knowledge and follow the principles: (O man), follow not that whereof thou hast no knowledge. Lo! The hearing and the sight and the heart – of each of these it will be asked." (Parah 15, Raku 4, Ayat 36). "And if any tidings, whether of safety or fear, come unto them, they noise it abroad, whereas if they had referred to it the messenger and such of them as are in authority, those among them who are able to think out the matter would have known it. If it had not been for the grace of Allah and His mercy we would have followed Stan, save few (of your). (Parah 5, Raku 1, Ayat 83).

f) The Encouragement of Inquiry

In order to continue to extend the horizons and the scope of descriptive subject-matter, the teacher should not impose restrictions on fact-finding and should facilitate analysis of facts, research and critical thinking. Descriptive subject-matter should not be presented in the curriculum or the textbooks as final knowledge or as

“dead matter”. The format of curriculum presentation should facilitate students’ observation, hypothesizing, analysis of data and arrival at tentative conclusions.

g) The Supreme Reality is Multi-Dimensional

As Muslims, we should recognize that the Supreme Reality is too being to be fully understood with the help of logic and the scientific method of inquiry alone. As such, the curriculum should not limit truth only that which is verifiable and repeatable. However, the methods of Islamic education should not be considered as essentially inimical to the scientific method of inquiry. The curriculum content should encourage critical thinking so that, as far as possible students’ beliefs about Islam are based on a full comprehension of basic premises. They should not be encouraged to believe like “falling on the signs of Allah dumb and blindfold”.

5.4 Self Assessment Questions

1. Explain how seeking of knowledge has been encouraged in the teachings of Islam?
2. What kind of contents has been recommended for inclusion in the curriculum to suit a Muslim society?
3. Discuss the basic principles of curriculum planning in a Muslim country.
4. Identify True/False of the following statements:
 - a) Kerr identifies four interrelated components of curriculum. T/F
 - b) The traditional concept holds that curriculum should mostly include the rules of grammar, logic and the “great books” of the world. T/F
 - c) By diagnosis we mean a deep analysis of the sources of educational objectives. T/F
 - d) Facts, rules and laws fall under the category of descriptive subject matter. T/F
 - e) “Everybody is guilty unless proved otherwise” is one of the fundamental principles of Muslim society. T/F
5. Match items given in column ‘A’ with those given in column ‘B’.

Column A

1. Essentialist concept of curriculum
2. Business and industry
3. Normative subject matter
4. Appraisal in which we make judgments
5. Teaching methods

Column B

1. Elements of curriculum
2. Evaluation
3. Bestor
4. Socio-cultural system
5. Forces affecting curriculum change

For answers to the essay type self-assessment questions consult the relevant sections of the unit.

5.5 Answer to Objective Type Questions

1.
 - a) True
 - b) False
 - c) False
 - d) True
 - e) False

2.	Column A	Column B
1.		3
2.		5
3.		4
4.		2
5.		1

5.6 Bibliography

- Alcorn, Marvin D. and Jinely, J.M., *Issues in Curriculum Development*, World Bank co., New York, 1959.
- Beauchamp, G.A., *Curriculum Theory*, Chicago University, Chicago, 1961.
- Billett, Roy O., *Improving the Secondary School Curriculum*, a guide to effective curriculum planning, Atherton Press, New York, 1970.
- Bloom, Paul C. (ed) *Modern Viewpoints in Curriculum*, McGraw Hill Book Co., New York 1964.
- Dewey, J. (1902). *The Child and the Curriculum*. Chicago: University of Chicago Press.
- Ellis, A.K. (2004). *Exemplars of Curriculum Theory*. Larchmont, NY: Eye on Education.
- Inflow, Gail M., *The Emergent in Curriculum*, John Wiley, New York, 1966.
- Jenkins, David, *Curriculum Evaluation*, The Open University of the U.K. Open University Press, 9, 1976.
- Kelly, A.V. (1999). *The Curriculum: Theory and Practice* (4th Ed.). London, UK: Paul Chapman Publishing Ltd.
- Kerr, J.F., (ed), *Changing the Curriculum*, Hodder and Stoughton, London, 1976.
- Lawton, Denis, *social Change Educational Theory and Curriculum Planning*, Hodder and Stoughton, London, 1975.
- Lewy, Arie, *A Handbook of curriculum Evaluation*, UNESCO, Paris Longman Inc., New York, 1977.
- Marsh, C.J. (2009). *Key Concepts for Understanding Curriculum*.
<http://qzabansara.com/News/NF23256.pdf>
- Macien, E.S., *Curriculum Theory and Policy*, Educational Theory Centre, Ohio State University, 1976.
- Mukhtar Ahmed Bhatti, *Principles of Curriculum Development in Islam*, an article in papers on the seminar Vol. II, Second World Conference on Muslim Education, Ministry of Education, Islamabad 1980.

- Neagley, R.I. and Evans, N.D., *Handbook of Effective Curriculum*, 1967.
- Okon, Wincenty, “*Educational Advancement and the Well-Rounded Man*, UNESCO Quarterly Review of Education, vol. II. No. 3, Paris, 1972.
- Oliver, Albert, *Curriculum Development*, Dodd Mead and Co., 1965.
- Rohdhaver, M.W. Axtell and Gross, *The Sociology of Education*, Thomas Y. Crowell Co., Paris, 1957.
- Stenhouse, Lawrence, *An Introduction to Curriculum Research and Development*. Heinemann, London, 1975.
- Sockett, Hugh, *Designing the Curriculum*, Open books, London, 1976.
- Taba Hilda, *Curriculum Development*, Harcourt, Brace and World Inc., New York, 1962.
- Tanner, Daniel and Tanner, L.N. *Curriculum Development*, Macmillan Publishing Company, New York, 1975.
- Tyler, Ralph W. *Basic Principles of Curriculum and Instruction*. The University of Chicago, Chicago Press, 1949.
- UNESCO, *Educational Planning*, Paris, 1975.
- Wheeler, D.K., *Curriculum Process*, University of London Press Ltd. 1967.

Note: *The English translation of the verses of the Holy Quran has been taken as such from the translation of the Holy Quran by Muhammad Marm Duke Picthal.*

UNIT 2

Foundations of Curriculum

Written by: Dr. Ahmed Ali Arain
Reviewed by: Dr. Afshan Huma

CONTENTS

Introduction.....	36
Objectives	37
1. Philosophical Foundations	37
1.1 Educational Aims, Goals and Objectives.....	38
1.2 Subject-Matter.....	39
1.3 The Nature of the Curriculum: Fixed or Flexible?	41
1.4 Self Assessment Questions	41
2. Psychological Foundations	41
2.1 The Nature of the Learner.....	42
2.2 Developmental Tasks and Needs	42
2.3 Intelligence and Mental Development	44
2.4 Learning	45
2.5 Thinking and Problem Solving	45
2.6 Concept Building	46
2.7 Attitudes, Ideals and Values	46
2.8 Transfer of Learning	46
2.9 Motivation.....	48
2.10 Self Assessment Questions	49
3. Sociological Foundations.....	49
3.1 Values and Beliefs in Our Society	50
3.2 The Nature of Pakistani Culture	51

3.3	Major Changes and Problems	51
3.4	Self Assessment Questions	53
4.	Historical Foundations	54
4.1	Self Assessment Questions	54
5.	Economic Foundations.....	55
5.1	Manpower and Education	55
	Activity	57
5.2	Self Assessment Questions	57
5.3	Conclusion	57
5.4	Bibliography	58

Introduction

Curriculum development is a complex and highly specialized field which requires technical competence, the ability to comprehend curricular problems and an understanding of multifarious curricular developments in different countries of the world. Those who are involved in the process of curriculum development need to look closely at the path they have been following in order to see clearly where it is leading. They should make certain that they are not going towards unknown and unwanted destinations, but they are working in accordance with national goals, ideals and aspirations.

To achieve this, it becomes imperative for curriculum developers to have a sound knowledge of the theoretical aspects of their work which in other words refers to foundations of curriculum development. The foundations of curriculum development can be analysed in terms of:

- a) Philosophical considerations
- b) Psychological aspects
- c) Social/cultural factors
- d) Historical factors
- e) Economic considerations

Philosophy provides systematic procedures for use in clarifying issues and problems and making decisions in many points in curriculum planning. While psychology give use insight into child development and learning, it also provides various techniques of inquiry for use in the curriculum area. A consideration of the social foundations is also necessary to give us information on societal values, problems and conditions that is required in programme planning. In addition, an analysis of historical factors provides an understanding of past developments, which is needed to comprehend certain features of the present curriculum. Finally, consideration of economic factors is valuable in shedding light on national planning and quality control in education.

In this unit, an attempt is made to examine all the above foundations of the curriculum. Since this course is meant for study through correspondence, without involving help from teachers, the various complex concepts, ideas and issues involved have been explained briefly and as lucidly as possible.

Objectives

After studying this unit, you should be able to:

1. Mention the various forces and factors which influence the lives of children.
2. Narrate the philosophical, psychological, sociological, historical and economic foundations of the curriculum.
3. Plan changes in the curriculum and instructional techniques based on such philosophical viewpoints, psychological principles and socio-economic demands.
4. Implement the plans in the process of curriculum development.

1. Philosophical Foundations

Philosophy is the pursuit of wisdom and knowledge, the study of realities and general principles. It is concerned with a search for eternal truths. A man who searches into nature of things; who tries to arrive at certain general principles; and who applies those principles to the daily conduct of his life is consciously or unconsciously behaving like a true philosopher.

Philosophy is concerned with the classification of concepts and preparations in terms of which our experiences and activities are intelligible. It seeks answers to questions about the meaning of terms and expressions by examining the logical relation and presuppositions in the terms and expressions involve. Philosophy is not a speculative super-science that tries to answer questions about some ultimate reality; it is not the pursuit of moral knowledge; it is not the great integrator of all human understanding into a unified view of Man, God and the Universe. Rather, it is a distinctive type of higher order pursuit, an analytical approach with the aim of understanding the concepts used in all other forms of lower-order knowledge and awareness. It is, therefore, a second-order area of knowledge; concerned with the necessary features of our primary forms of understanding and awareness in the sciences, in moral, in history and the like.

Thus philosophy helps us in answering the questions like “What is the larger goal of schooling?” and “Which content areas to be studied?”, “How it should be learnt and evaluated?”

The four major philosophies of curriculum planning are the following:

1. Perennialism

According to this philosophy the aim of education is to develop rational person to uncover universal truths.

2. Essentialism

Is grounded in the conservative approach that believes that education aims to transmit traditional moral values and intellectual knowledge.

3. Progressivism

Argues that role of education is to prepare young people for later life. These it focuses more on intellectual intentions and experimentation.

4. Reconstructionism

Is more concentrated about issues of race, gender ethnicity and socio economic status. The new paradigm of critical pedagogy emerged through Reconstructionism.

Philosophical work can aid curriculum planning in many ways, but it is particularly useful in helping us to understand:

- a) The nature of educational objectives
- b) The structure, or inter-relatedness of the objectives
- c) The nature of curriculum activities
- d) The structure of curriculum plans, which are dependent upon both the content and the methods which we wish to employ.

1.1 Educational Goals, Aims and Objectives

Perhaps you tend to use the terms ‘goals’, ‘aims’, and ‘objectives’ interchangeably. But, in fact, these terms express different concepts. Therefore, we should be clear about the main distinctions at this stage, although they are treated in much more detail in unit 4.

Educational aims refer to the overall purposes of education which represent the needs and aspirations of a society as manifested in its educational policy. Goals are the general purposes of education that are normally prepared for particular stage or level of the education system; whereas objectives refer more precisely to the changes in behaviour which we hope will result from studying particular courses. While goals are less general than aims but less specific than objectives.

The very first question one must face in developing a curriculum is “what are its aims and objectives?” There must be some point to planning activities, some intended educational outcomes, however vague they may be.

When we consider the future of aims and objectives, we come across many conflicting views about issues like “Why do we teach?” “What should be the purposes of education?”. For example, is the major purpose of education to change people or to prevent them from changing? Is it to develop initiative and critical attitudes, or is to train them to become docile members of an organized society? Is it merely to give knowledge or to develop the power which comes with the ability to use knowledge for useful ends? Is education mainly to benefit the individual or society? Should education be a preparation for living or for dying? For this world or the next? All these questions are philosophical in nature. Those who are involved in curriculum development have philosophies of education of their own, even though they may not have engaged in the formal study of the subject. The moment we express our views on these questions, our

philosophy becomes evident. This is so because our philosophy serves as a general framework for decision-making.

The philosophical problems mentioned above relating to education and the curriculum has confronted every civilized society. Each society evolves its own aims and objective of social philosophy.

For example, what would you say should be the aims of education in Pakistan? Naturally your answer would be that they should relate to our ideological demands; and, since Pakistan is an Islamic state, the aims and objectives must be inspired by the Islamic way of life – its values, ideals, beliefs, attitudes, rights and obligations. However, simultaneously, we would have to take into active consideration the correct conditions inside as well as outside the country. We cannot isolate ourselves from what is happening around us.

How can we know whether the aims and objectives which we have framed are really valid and in the best interests of a nation or country. Different countries may adopt different criteria for judging this. Generally the following criteria are recommended for the validation of educational aims and objectives.

- i) Are they conceived in terms of the demands of social circumstances?
- ii) Do they lead towards the fulfillment of basic human needs?
- iii) Are they consistent with national ideals and values?
- iv) Are they consistent or at least non-contradictory in their relationships with one another?
- v) Are they capable of being reduced to behavioural terms?

These are all philosophical questions which we must answer before any curriculum scheme is put into operation. As teaching and learning moved from objectivism to constructivism, now the learning outcomes are narrated at each level. It is essential to acknowledge the importance of experiential learning and construction of knowledge in a class room setting and in a blended learning mode.

1.2 Subject-Matter

After we have determined the goals, aims and objectives as well as learning outcomes the next important problem is the selection of the subject-matter. Out of the huge amount of ever expanding knowledge, what should we impart to our pupils? What knowledge is of the greatest value to them? Further, should we emphasize process or information? Should a curriculum be fixed or flexible, constant or common to all or differentiated, practical or liberal? It depends upon the benchmarks we have determined.

To a large extent one's answer to these questions depend upon one's system of values as absolute, fixed, objective qualities inherent in the things being valued. For instance, according to such people, a pound of gold has worth because it is a pound of gold. Its real value is always the same. Any fluctuation in the market value merely indicates that we do

not appreciate the gold's real value. In contrast to this view, there are others who are inclined to believe that values are relative, changeable, subjective and instrumental. According to them, the value of one pound of gold depends upon the situation. Value, according to this theory, is not intrinsic but extrinsic and determined by outside influences. Yet other content that values are neither absolute nor determined by outside criteria. Rather value is assigned by individuals. Something may have value to you but not to me, not because of any instrumental value, but simply because you decided it was valuable and I did not. If we wish, we can change our valuation at any time. According to this view, value is a completely personal, individual matter.

Similarly, there are different viewpoints concerning the value of subject-matter. For examples:

- a) Should it be taught for its own sake?
- b) Should it be taught for its usefulness?
- c) Should it merely be a medium for the teaching of intellectual processes, skills, attitudes, ideals and appreciations?

The first of these positions is derived from the philosophical belief that everything has intrinsic value. Therefore, it is believed that each subject has a value in and of itself. Naturally, then, some subjects are more valuable than others, not because they are more useful than others but because they have greater intrinsic value. According to this position, whether or not the pupil will ever make use of a subject does not matter. The important thing is that he studies the subjects that have the greatest intrinsic value.

The second viewpoint holds that the value of a subject depends upon the use that is made of it. This position is derived from the philosophical belief that value is operational. According to this position, in developing the curriculum, priority should be given to those studies that have the greatest practical value.

The progressives favour the third viewpoint. They believe that in this world of changing values, no subject-matter is essential for its intrinsic value: and that it is very difficult to sell which subject-matter is likely to be most functional therefore, the progressives say, it is not the subject-matter but the process of education that is vital. Therefore, the subject-matter is only a medium through which to teach pupils the skills they need to become independent individuals.

We may use the following criteria for the selection of subject-matter:

- i) Is it a significant part of an organized field of knowledge?
- ii) Has it stood the test of time?
- iii) Is it useful?
- iv) Is it likely to be interesting to the learner?
- v) Does it contribute to the growth and development of the society?

All these questions need to be considered before we select the subject-matter.

1.3 The Nature of Curriculum: Fixed or Flexible Common or Differentiated?

There are different opinions on the question of whether we should have fixed or flexible curricula. Some people tend to believe in the need for constant, fixed curricula because they believe that this is world permanence. They admit, of course, the world is full of changes, but they believe that most of these so called changes are merely superficial variations that in no way affect the essence of anything. Others support the view that curricula must be adapted to suit the needs of society which are ever changing in the real sense of the word.

Implicit in the argument that the curriculum should be fixed and unchanging is the notion that the same curriculum should serve all pupils. The progressivists, however, feel that the curriculum should be differentiated so that it can best serve the needs of individual boys and girls.

Activity

Develop a chart of various philosophies that emerged in eighteenth, nineteenth and twentieth century. How do you precise the philosophies modifying in 21st century?

1.4 Self Assessment Questions

1. What knowledge do you think is most useful for the students of secondary schools in Pakistan? Which subjects should have the highest priority?
2. What should be the nature of the curriculum to be followed in schools of Pakistan? Should it be fixed or flexible, common or differentiated? Give reasons in support of your answer.

2. Psychological Foundations

Psychology attempts to describe human behaviour and to explain and predict it. There are various branches of the subject like industrial psychology, criminal psychology, social psychology, general psychology, educational psychology, etc.

Educational psychology is an important branch of psychology which studies human behaviour in educational situations. It describes and explains the learning experiences of an individual from birth through old age. It is concerned with the conditions that affect learning and seeks to explain learning according to scientifically determined principles as a result of numerous research studies on animals as well as human beings.

Since it is relatively new science, it still has many unsubstantiated theories concerning the nature of man and how he learns. However, while discussing the psychological foundations of the curriculum, we shall concentrate on a few well established psychological principles which can be used as basis for curriculum development.

2.1 The Nature of the Learner

Each learner is an individual of his own peculiar type. He is duplicated nowhere in the world; he never has been and never will be. He has his own peculiar abilities, talents, interest, knowledge, attitudes, ideals, appreciations, skills and understanding. All these factors make up his individual personality or self. His self or personality is the result both of the genetic makeup has inherited from his parents and the impact of the socio-physical environment in which he has lived. Clearly, all learners or pupils do not learn equally well. In fact, learning on the part of an individual depends upon his attention, his visual and auditory acuity, his past experiences, his previous understandings, his attitudes, his interests and many other factors. In other words, we can say that the nature of the learning that takes place depends on the personality of the individual.

Not only is each person a unique self; each of us has at least four selves – our real self, the self we think we are, the self others think we are, and the self we should like to be (ideal self). Each of these selves holds implications for curriculum building. One's real self is the sum of one's personality traits. It is somewhat difficult to identify one's real self because our traits are not constant. Circumstances alter people's personalities and one's real self wears many guises.

Implications for the Curriculum

If the curriculum is to be adequate for all pupils, it must provide many different experiences and content, so arranged that each pupil can select the experiences best suited for his particular needs. At the same time, it must also provide common experiences and content, so as to meet the needs that youths have in common. The curriculum must allow pupils to gain common learnings in different ways and different amounts. Furthermore, the curriculum maker must consider the effect of the curriculum on pupil's self-concepts. A curriculum that gives pupils negative views of themselves is a poor curriculum. A good curriculum should help boys and girls to develop selves that are adequate for the performance of their roles in society and establish reasonable concepts of their own worth.

2.2 Developmental Tasks and Needs

The concept of developmental tasks is associated with the name of Havighurst. A developmental task is a task which an individual must be able to complete at specific stages of life. For example, a child of one and half years must be able to walk. This ability to walk is a developmental task for a child of this age. It should be noted here that one should not expect everyone to fully complete every one of his/her developmental tasks. No one ever achieves perfection in these tasks. Rather, each person achieves in some areas at the expense of other and makes progress in different areas at different times. A pupil should successfully carry out the following developmental tasks by the time he finishes his secondary education:

- i) To learn to understand oneself, to live with and compensate for one's inadequacies and to make the most of one's assets.
- ii) To learn what is to be a young man or woman and to learn to act accordingly.
- iii) To develop a suitable moral code.

- iv) To determine, prepare for and become placed in a vocation.
- v) To acquire a suitable philosophy of life.
- vi) To build a system of values
- vii) To establish oneself as an independent individual.
- viii) To learn how to make reasonable decisions in serious matters on one's own without undue reliance on an older person.
- ix) To master the social and intellectual skills and knowledge necessary for adult life.

Closely associated with developmental tasks are the needs of youth. A need is something that one requires to satisfy in order to function well. Every person has many needs. These need vary in number, kind and strength through one's life time. Some psychologists have categorized these needs into basic and derived needs. Food, sex, shelter, protection growth, hygiene, movement and social recognition have been identified as basic human needs. These basic needs give birth to some derived needs; for example, food is one of the basic needs; but the derived needs from this basic need of "food" are agriculture, farm tools etc. These derived needs vary from one social group to another.

Besides this classification of needs several psychologists categorise them into physiological, social or status and age or integrative needs include those essential for life, for example, activity and rest, sexual activity, etc. Social needs include the need for affection, the need to belong and be linked by others. The integrative needs include the need for organization and symbolization of experiences.

Implications for the Curriculum

Both the developmental tasks and needs hold many implications for curriculum building.

At the very minimum, the school should do nothing to make the completion of these tasks unnecessarily difficult. In any case, curriculum-makers must realize that boys and girls will spend much of their time trying to complete their developmental tasks whether the schools provide for them or not, since these matters are really important to them. In building the curriculum, efforts should positively help pupils to complete the developmental tasks successfully.

Similarly, one should consider the needs of the pupils when constructing a curriculum. Our needs are the bases for our actions. They are basic motives and influence in one way or another whatever we do. The skills, understandings, appreciation, values, ideals and attitudes necessary to fulfill these needs should become the material from which one builds the curriculum. The existence of a need makes it necessary that curriculum builders consider carefully whether or not curriculum provisions for the need have been made. If the curriculum fails to allow for the basic needs, or threatens the fulfillment of these needs, the chances of attaining goals like self-realization, a positive self-concept, self-motivation and self-development will be greatly reduced. A school that threatens a child's need for love and affection, self-esteem, recognition and independence, will not be as successful in teaching academic and creative skills as one that provides for the support of such basic needs.

2.3 Intelligence and Mental Development

Traditionally, the concept of mental ability has remained central to the concerns of schools. Pupils are grouped according to measures of intelligence and content is chosen suited to their ability level, as learning is considered to be dependent on the mental maturity of a child. The development of mental or intellectual power is viewed as an important goal of education.

Such an approach is based on a certain conception of what intelligence or mental ability is and how it functions. This concept of intelligence further determines what schools can or should do, such as how subject matter should be taught and what is to be included in the curriculum.

There are many and varied views about what intelligence or mental ability is, how it functions, and how it develops. Despite the fact that much has been written about the subject, there is not even a single generally accepted definition of the concept. There is continuing controversy regarding such as issues as:

- i) Is intelligence a unitary characteristic or is it composed of a series of specific abilities?
- ii) Is intelligence constant or modifiable?
- iii) Are differences in intelligence largely hereditary, or caused mainly by environmental factors?
- iv) What are the dimensions of multiple intelligence?

As regards the first question, some psychologists like Guilford hold that there are at least 55 known factors of intellect, and that even then the total structure of intelligence is not filled in. These primary abilities include divergent or creative ones, as well as those traditionally measured in intelligence tests; and their function differs according to the context with which the individual is dealing.

Several research studies have been conducted which tend to bring to the fore-front the significant role played by environmental factors in shaping the future course of action in the case of twins even. While it is impossible to deal fully here with the issue of heredity versus environment, what is clear is that intelligence is product of the interaction of the two factors, though controversy continues over the relative importance of 'nature' and 'nurture'. It is no longer considered to be purely innate and is, therefore, modifiable, at least to some degree.

Implication for the Curriculum

The analysis of intelligence has many interesting implications for curriculum development and teaching. If one accepts that 'creative' abilities are important, the curriculum should not provide only academic bookish content. It should be organized so that pupils can express themselves in a number of ways and learn through different kinds of experiences. This also implies the need for a non-authoritarian class atmosphere, so that pupils can make the most of their potential. Since the environment can play a

considerable part in the development of intellectual ability, the courses should be designed to encourage original creative thinking rather than mere rote memorization and manipulation.

2.4 Learning

Teaching, if it is to be efficient, must be based on sound principles of learning. It follows that we should clearly understand the nature of learning and its laws.

Learning means “to acquire knowledge of or skill in something. It is a process that results in relatively permanent changes in behaviour on the part of the learner as a result of experience. Acquiring new knowledge and skills can also change our attitudes, values, ideals and appreciations.

Human beings learn through experiences. Each experience involves an interaction with the environment. We learn from what we do to the environment and what the environment does to us. For efficient learning, the experiences should be sufficiently novel, vivid and meaningful to be stimulating for the individual learner.

An essential condition for effective learning is readiness. The attempt to develop, in a pupil understanding and skills for which he is not ready is likely to be waste of time. Thus, in teaching, we should take into account the intellectual level of the child concerned and adjust the level of the material and the nature of its presentation accordingly. This implies that the curriculum must be flexible one, with instruction as individualized as possible, because not all pupils in a class will have reached the same level of readiness to learn the same content and at the same time.

To learn effectively involves not only through education intelligence and aptitude but also skill in learning, which is to a large extent acquired. Pupils must learn to learn. If they spend all their time learning by rote or by passive listening, pupils cannot develop the ability to learn independently or by problem solving. This makes it essential that if we wish to develop critical thinking and independent learning, we must give them an opportunity to develop their skills.

2.5 Thinking and Problem-Solving

Skills in thinking do not come automatically with maturity; it is learned through experience in thinking. Therefore, the development of thinking skills is not a matter of subject-matter but of method. Curriculum builders who believe that simply providing subject-matter in certain areas will result in pupils learning are working under a false premise.

The ability to think creative requires a mind that is free to range among the data, selecting, reorganizing and testing. It requires a mind of rich experience, not one that simply crammed with memorized facts. The pupils must be given the opportunity to discover new relationships and ideas for themselves. Teaching that over-emphasizes facts and drill tends to foster stereotyped thinking.

Threats and anxiety also make it difficult for pupils to see new paths that might lead to the solutions they seek.

2.6 Concept Building

Knowledge, of course, is necessary for creative thinking but this must be made up of meaningful concepts which the pupils can arrange and re-arrange in their minds until they strike promising new hypothesis which they can proceed to test.

The more varied our experiences are, the clearer our concepts become. We can learn a great deal from a lecture, or an explanation in a book, but the development of conceptual clarity is aided greatly by experience. Therefore, in the curriculum we should provide many experiences with the materials and ideas we wish pupils to learn. The process should be one of guidance, not simply telling our pupils. A curriculum based on one-way communication from the teacher to the pupil and the rote memorization of facts which have been taught is likely to result in shallow concepts and empty verbalization rather than true understanding.

2.7 Attitudes, Ideals and Values

Attitudes are emotionalized sets or predispositions that influence our behaviour with reference to all situations or objects to which they are related. Ideals are generalized goals to which we aspire and which we use as genuine guides to behaviour. Values are judgment of worth that result from our attitudes, ideals and concepts.

Attitudes are more often caught than directly taught. To change attitudes, one must provide many favourable associations. Young people tend to imitate the attitudes and behaviour of persons when they can admire and with whom they can identify. Therefore, in the curriculum good examples should be provided. Simply giving information is normally an ineffective way of changing attitudes. However, group discussion can be more effective, because one feels a greater sense of involvement in any decisions reached through a participatory method like discussions etc. Because attitudes are emotionalized sets, methods should be used which involve dramatic and emotional appeal.

2.8 Transfer Learning

Learning is of limited value unless it can be transferred to other situations. Transfer of learning is the act of using in one context something learned in another one. Since no programme, however thorough, can teach everything, one task of all education is to produce the maximum amount of transfer of learning in a variety of situations. The curriculum must always stress those aspects which promise most transfer, which create a mastery and understanding of matters beyond that which is taught directly.

There are three main theories of transfer of learning:

i) Theory of Mental Discipline

According to first, transfer of results occurred automatically from the study of certain subject such as mathematics and philosophy. For many years, it was

thought that transfer was best brought about by training the faculties of the mind. For example, if one practiced reasoning in the study of say geometry, one would be able to reason better, in any area, e.g. investing in the stock market. From these beliefs, educators derived the doctrine of formal discipline which taught that it was not so important what boys and girls learned because the material taught should be sufficient enough to exercise the “muscles of the mind”. The phrase “a disciplined mind” owes its birth to this approach.

ii) Theory of Identical Elements

The work of William James, Thorndike and Woodworth (1901), however, challenged the above assumptions. Their studies demonstrated that transfer is possible only if there are identical elements in the content involved or in the process of training that is, in the method or attitude involved in the training procedure. This theory of transfer lent support to the introduction of practical subject in which knowledge and skills were offered in a context as close to that in which they were to be used as possible. The general effect of this theory was to shift attention away from producing general understanding to the teaching specific knowledge and skills. Training in specific processes was intensified and more abstract subjects were eliminated because their teaching could not be justified on the grounds either of utility or of transfer effect.

iii) Theory of Generalization

However, the above theory in turn was rejected as there were certain inconsistencies observed regarding the way in which transfer actually worked. These inconsistencies led to still another theory of transfer. According to the new theory, transfer occurs not by means of specific identical elements but through generalization either of the content or of the methods employed in learning the content. The experiments of Judd, Hendrickson and Schroeder proved that theory alone was not of much value unless it was backed by practice. Combining theory and practice could lead to effective transfer. Certain other experiments demonstrated that the method of instruction employed can ensure transfer.

iv) The Gestalt Theory

Consequently the most recent studies provide fairly conclusive evidence that the ability to transfer learning is achieved neither by studying a particular subject nor by specific drills and rote learning; but rather by emphasis on cognitive principles, applied either to the methods of learning or to the understanding of content and on ways of learning that stress flexibility of approach and develop an alertness to generalization and their application to new situation. Positive transfer therefore, depends on both how and what an individual learns.

Implication for the Curriculum

This theory of the transfer of learning has several important implications for the curriculum, including the following:

- i) It is unnecessary (and indeed impossible) to build a curriculum that covers every aspect of every subject. Rather it is better to select judiciously to allow a thorough study of relatively small number of topics, as thorough study facilitates transfer and an appreciation of the structure of the subject. In a modern curriculum, courses overcrowded with content with a view to covering the subject should have no place.
- ii) The inclusion of a subject in the curriculum should be on the basis of its being functional or practical. A subject should not be included on account of its alleged disciplinary value.
- iii) Courses should be so designed as to induce the maximum amount of transfer and so should emphasize generalization, application and thorough meaningful learning.
- iv) Finally, curriculum which emphasizes the process by which materials are learned constitutes a more valid curriculum than one which stresses mere information and unrelated facts, although information does have its place.

2.9 Motivation

Motivation causes a person to do something. It is “that force which gives direction and intensity to behaviour”. While there are various theories of motivation, it is clearly a necessity for school learning. Without it little learning takes place; but too much of it may lead to anxiety and have a harmful effect on learning. To create proper motivation in pupils is a difficult task, requiring a high degree of skill on the part of the teacher. The strongest motivation comes when you have to solve a new situation or problem that is important to you. Novelty in itself tends to be motivating. Repetition of the same material or routine soon becomes boring. The key to good motivation is the importance or value of the task to the individual. Interest is another factor in motivation. If pupils are really interested in our classes, they provide their own motivation.

Rewards, threats and punishment are some of the incentives used to promote and to reinforce learning. As the Harvard psychologist, B. F Skinner has shown rewards are particularly effective for this purpose as they tend to motivate pupils to learn and to make learning stronger so that pupils can more readily retain it and use it in future situations.

The effect of punishment and threats, however, cannot be predicted. Sometimes they motivate and reinforce learning well, but on certain occasions they may have quite the opposite effect and may actually bring about the repetition of the very behaviour they were supposed to eliminate. The literature on educational psychology is replete with many studies showing variables of reward and punishment having varying impact on learning by different learners coming from different socio-economic strata.

Implication for the Curriculum

Motivational theories have various implications for the curriculum. For example:

- i) The curriculum needs to be tied to pupils goals and interests;

- ii) The curriculum should be flexible. No single curriculum for all can suffice. We should provide to students differentiated curricula and courses;
- iii) The courses in the curriculum should not be restricted. They should give pupils plenty of opportunity to let their minds range far and wide without fear of reprisals and unreasonable restrictions.

2.10 Self Assessment Questions

1. Select some guideline from learning theories and studies and indicate ways in which they can be put to use in instructional planning.
2. Note the important individual differences among the pupils in any class and consider how the curriculum can meet these differences.
3. List five implications of developmental growth characteristics that you believe to be important for planning instruction for children at a given level.

3. Sociological Foundations

Sociology is the study of society, its origins, development and constitution. It deals with the fundamental laws of social relations and institutions, involving the examination of laws and principles underlying human relations and the interpretation of the phenomena of group life. The subject includes such topics and social structures and organization, the interaction of social groups, the means of social control and the processes of social change.

The importance of the finding of sociology for society in general and education in particular can hardly be exaggerated. Individuals live in society and society has taken upon itself the function of educating them. Therefore, neither the individual nor the educational process can take place in a vacuum. As such, the process of education is influenced by the society. It is because of this fact that in recent times the aims of education have tended to be mainly social. Thus, in order to understand a social basis of the school, it is necessary to study sociology with particular reference to education, which is function of society.

Sociology has contributed principally to the determination of aims, while framing the curriculum. It can also promote an understanding of the curriculum as a social system. But examining the functioning of the curriculum in sociological terms, we are helped in understanding certain obstacles to change and made aware that curriculum development is in part a social problem calling for social solutions.

What should be the role of education in society? This is a question which dates back to the time of Aristotle. Whether we consider its major role as the transmission of culture, the socialization of the individual or the reconstruction of society, we need to analyse the

structure of society in order to determine the goals of education. This is especially necessary in a rapidly changing society like ours.

But it is not an easy task to analyse society, to determine what demands it makes on education and to assess the contribution education can, or should, make to the culture, especially in a complex society where rapid changes are occurring. Yet a continuous examination of the goals and demands of society and the forces operating in it is necessary in order to keep education reality-oriented; to determine what knowledge is most worthwhile, which skills must be mastered and which values are relevant. These are very important issues which must be considered if education is to be an active agent of social change and to serve social and individual needs.

Unfortunately, in Pakistan, little or no effort seems to have been made to analyse the society on scientific lines before a scheme of education is prepared. Education always has been planned without giving due attention to this important aspect.

In order to examine the social foundations of the curriculum in Pakistan we need to keep in mind the following factors:

- i) Our values and beliefs
- ii) The nature of our culture
- iii) Social changes and problems in our country

3.1 Values and Beliefs in Our Society

Pakistan is an ideological society; and Islamic state. It came into being because the Muslims of the Indo-Pakistan sub-continent felt that they were a separate nation, different from Hindus in all aspects of life. They wanted a separate homeland where they would order their lives in accordance with the injunctions of Islam. Therefore, Islam and its values are the very basis of this country.

Islam is the common factor binding the people of the various regions of Pakistan. The spiritual, moral, intellectual and cultural heritage of Islam is the common property of them all. Islam is not only a religion but a complete code of life and conduct. It has influenced and molded the cultural life of the people; has set ethical standards and provided a framework for economic and social relationship; and has set goals for excellence in personal cleanliness, dress, speech, dining, recreation and all other aspects of life. In short, it has set the basic code for good and useful personal conducted and community life.

The following are the distinctive features which are emphasized in Islam;

- i) Faith in the Almighty Allah which is the fundamental basis of our conduct and beliefs.
- ii) The dignity of man in order to give meaning to this principle, the equality of human beings, irrespective of race, sex and status has been emphasized. All are

- equal because all belong to the human species. The worth of a man does not depend upon his economic status but upon his righteousness and his degree of moral and spiritual achievement. This fundamental principle of the dignity of man must be established through emphasis on the democratic values of the brotherhood of man, tolerance and social justice, implying equality of opportunity and social democracy.
- iii) Lasting peace throughout the world, for the achievement of which scientific foundations are laid down.
 - iv) Creative and reflective thinking, Islam promotes creative and analytical thinking and advocates a critical, reasonable and balanced approach towards the multifarious problems of life.
 - v) Liberalism and dynamism; Islam is very liberal and dynamic in spirit. It is a great social faith underlining the spirit of a world community (Ummah) and universal brotherhood.
 - vi) Community life; Islam provides for a social order based on the concept of corporate community life. Islamic ways and ceremonial aim at actively promoting a healthy social life based on social interaction.
 - vii) Social justice; In an Islamic society it is a privilege to every individual that she/he has equal rights. Even a non Muslim can live a life according to his/her own beliefs. There is no discrimination allowed on any basis such as cast, creed, religion, socio economic status or gender.

3.2 The Nature of Pakistani Culture

Basically the culture of Pakistan is much the same as that of any Muslim country. Islam as a religion and as a code of conduct sets the basic pattern of life for a Muslim wherever he may be.

It is for the reason that we find an essential unity in Pakistan despite its being a land of different linguistic regions and races. Within its overall ideological and cultural unity, Pakistan presents a kaleidoscopic pattern of regional cultures and sub-cultures. The people living in different parts of Pakistan may be different in their respective languages, historical backgrounds and traditions; yet they are linked by the unbreakable ties of one common religion which binds them together.

3.3 Major Changes and Problems

While involved in the process of curriculum development, we must keep abreast of societal changes, problems and the overall situation obtaining in Pakistan. Though changes have always characterized society, never in history has it been so swift or revolutionary. We must focus our attention on these changes, particularly those which are related to the future of students, to areas of the curriculum and to the resources available to students and teachers. Among the most important developments to consider are:

i) Population Increase

The population problem is a universal phenomenon. The rate at which the world population is increasing is alarming and poses a threat to the world prosperity as a whole. In 1650, the population of the world was half a billion. It was one billion in

1850; two billions in 1925; and four billions in 1975. In the year 1990, it has already crossed the figure of six billion and it is expected to be eight billions in 2010, if it is allowed to continue at its growth.

So far as Pakistan is concerned, in 1947, the population of West Pakistan (now the whole of Pakistan) was 32.5 millions. It was 65 millions in 1972 and according to the Census of March, 1981, the population of Pakistan was 83.7 million. Mid 1990 estimate of population of Pakistan is around 120.00 million and it is increasing at the rate of 3.1 percent per annum. This rapid growth can only be regarded as disturbing and calls for our immediate attention. Otherwise it may pose a serious threat to the existing supply of food and facilities for housing, transport, health and education.

ii) Urbanization

The problem of population increase has another aspect which is known as urbanization. There is a tendency on the part of the rural population to shift from the rural areas to urban areas in search of jobs and other facilities. In 1947, approximately 85% of Pakistanis lived in the rural areas, the remaining 15% in the urban areas. In 1972, 25% lived in the urban areas with 74% remaining in the rural areas. While in 1981, the percentage of urban population increased still further from 25 to 28%. For example, Karachi was a small town of about 3 lacs people at the time of independence in 1947, but now its population (according to the Census of March, 1981) is more than 5 millions. Our other big cities like Lahore, Faisalabad, Rawalpindi, Hyderabad and Multan, Peshawar and Quetta have also increased greatly in population. More than 42% of our urban population is living in three big cities viz. Karachi, Lahore and Faisalabad.

This haphazard increase in the urban population has spawned many serious problems. Our big cities now face the problem of traffic congestion, beleaguered areas with physical and health hazards, inadequate recreational and educational facilities, and a general lack of coordination of civic activities. Such a situation has resulted from haphazard governmental, business, industrial and residential developments.

As regard education specifically, we are faced with the problems of expanding enrolment; the need for more physical facilities, and teachers; and better curriculum offering to meet the needs of the present population.

iii) Other Important Developments

It is also important to examine changes; for example,

- a) The use of land and natural resources.
- b) Science and technology, and their impact on the way of life and the environment.
- c) Transport, with accompanying problems of congestion, mobility of people and the use of energy.
- d) Communication, with special attention to the influence of the mass media.

- e) The environment, in relation to social, economic and political, as well as ecological forces and factors.
- f) Institutions such as the family, the courts and their administration of justice and government at local, state and national level.
- g) Health and welfare and their impact on children, their families and others.
- h) Art, music, architecture, literature and other art forms.
- i) Language.

Implications for the Curriculum

Analysis of the above areas of change suggests a variety of complications for the curriculum in schools. Among them are the following general points;

- i) The curriculum should be based on the nature of society as it exists today and will emerge in the future.
- ii) Our society is changing very rapidly. Much of curriculum becomes out-of-date without continual revision. The changing pattern of our economy and employment practices makes it necessary to re-evaluate our provision for general, professional and vocational education.
- iii) Major changes in the community and the home make it necessary for curriculum builders to re-appraise the role of instruction in home and family living and community responsibilities.
- iv) There is growing violence and lawlessness in our educational institutions which is obviously in part a reflection of the unrest prevalent among our youth in general. The curriculum worker should ensure that schools are prepared to meet the changing needs of their pupils. The curriculum should always be relevant to pupils living needs, problems and interests with a look ahead in the future.
- v) Pakistani society is faced with many problems. The most prominent among them are mass illiteracy, conservative and rigid attitudes towards life and its problems, poverty and the issue of national integrity. In building the curriculum, we should take care that we do not aggravate old problems or create new ones. Our people have to learn to be fair, honest, tolerant and well-disciplined. The curriculum builder has an important part to play in developing these attitudes in our students.
- vi) Lastly, although education can be a major force for change in society, progress is likely to be slow as social influences such as customs, folk values and pressure groups can have a strong conserving influence.

3.4 Self Assessment Questions

1. Make a brief survey of the varied needs of the community with which you are familiar. If possible, collaborate with some of your class-fellows in carrying out this task.
2. Which of the major changes and problems discussed do you consider to be most critical in curriculum development at the present time? How might the ones you selected be included in the curriculum?

3. In what ways do values and beliefs operate as a (a) conservative influence (b) an influence for change? Which values do you believe to be most important in planning the curriculum and instruction?

4. Historical Foundations

Views on the value of historical study vary greatly. Sceptics have branded it as, for example, “the most dangerous poison distilled in the crucible of the human mind”, the vast Mississippi of Falsehood” or “just bunk”. Napoleon regarded it as “a fable agreed upon”.

While history may always contain some elements of subjective interpretation, nevertheless good historical scholarship can be extremely valuable. It is a mine of life experiences, a study of man’s evolution on earth. As such, history is a link between the past and the present, which gives us a sense of continuity and progress.

To study the past can enrich immensely the meaning of the present. We have to not only study the past but to reconstruct its fabric since it was broken and distorted, by foreign domination. Our task is two-fold one is to unfold the history of the nation in order to enrich and invigorate its present; and other is to reconstruct our educational tradition in the light of the contemporary life.

Inter-cultural contacts provide opportunities for thoughtful and consistent change in our traditional ways and conventional modes of life. We can claim to have become wiser only when we have incorporated judicious changes, thereby keeping pace with the marching advance of time.

However, the history of Islamic civilization in general and of Islamic education in particular should provide the broad foundation for our curriculum, with the possibility of some changes as determined by new circumstances.

More specifically, the study of the history of the curriculum can help us greatly in theorizing about curriculum of the present and future. For example, when we try to change or modify a curriculum scheme, the history of curriculum development can serve as a good guide to the solution of our current problems, helping us to devise a curriculum in accordance with our present situation and future aspirations. It can make us more aware of the possibility of change, and of its complexity.

4.1 Self Assessment Questions

1. In what ways can the study of curriculum development in the past help in planning the curriculum and instruction at the present time?
2. How can the history of Pakistan serve as one of the foundations of the curriculum at secondary level?

5. Economic Foundations

Economics is the scientific study of the production and distribution of wealth. It is concerned with problems resulting from unlimited needs and limited resources. The economics of education is a relatively new branch of the subject but is a rapidly growing area.

Some examples of important educational questions which involve economic considerations are:

- a) How far can education be used to accelerate the economic development of a country?
- b) To what extent can economics contribute to educational policy when the objectives of education so frequently include non-economic considerations?
- c) How best can the efficiency of an educational system be analyzed?

There are strong arguments for suggesting that education, next to the natural resources, is the most important foundations on which to build economic growth. Human resources are the main elements in a productive economy. There are countries in the world which have few natural resources, but have a high standard of living. Similarly there are countries which have many natural resources, but still have a poor standard of living. For example, Denmark, with its scant natural resources, has one of the highest standards of living in the world. While Venezuela, with some of the richest resources in the world, has one of the lowest standards of living. The explanation for these discrepancies is, of course, education. Economists are, therefore, increasingly recognizing the value of human resources in economic development of a country.

Education is now considered to be an essential instrument through which commerce, industry and agriculture can be expanded. The cost of an adequate educational system is an investment producing high returns to the community and to the individual. Some of the recent studies in the developing countries have shown that the return on the investment in education, measured purely in terms of the individual's receipt of income, is the highest possible rate of return that one can achieve in such a society (unless one is involved in illegal financial dealings).

5.1 Manpower and Education

The period during which an individual obtains his basic education overlaps with the period during which he is preparing for the world of work, after schooling. But there is often an implicit conflict between these two goals. To resolve this means that school children should be prepared for at least certain types of work. Education should not be just an abstract endeavour. It is important to remember that children born in one decade become the children who must be educated in the next; and they become members of the labour force in the third decade. Therefore, in school we should prepare students for suitable work for the third decade.

The present age is one of accelerated obsolescence of knowledge and skills. It has been estimated that in a decade or even less, human knowledge doubles, making previous knowledge out-of-date. What people have learned before is quickly superseded by new knowledge.

What has been said above suggests that education must be transferred from a onetime undertaking to a continuous process throughout life. What student must acquire in school is a foundation on which new skills can later be acquired and required. The curriculum should, therefore, be so designed that it becomes more interesting and meaningful to young people who have a greater aptitude for applied than for theoretical work. Many young people would become more interested in school work if they see the relevance of knowledge and skills gained, to the world of work.

Activity

Discuss with young colleagues/fellows the major foundations of curriculum in the context of Pakistan.

5.2 Self Assessment Questions

1. What contribution can education make to economic development in Pakistan?

5.3 Conclusion

In this unit, we have looked briefly at philosophical, psychological, sociological, historical and economic factors which influence curriculum planning and implementation. We hope that your reading must have made you aware of the complexity of the issues involved; and that any benefits you may have gained will not remain simply at an intellectual level, but will influence your work in practical terms.

5.5 Bibliography

- Blaug, M (1970), *An Introduction to Economic of Education*, Penguin Books Ltd., Harmondsworth Middlesex, England.
- Clark, L.H., Kloin, R.L., Burks and J.B. (1976), *The American Secondary School Curriculum*, The Macmillan co.
- Faunce and Bossing, (1951), *Developing the Core Curriculum*, Prentice Hall Inc., Engloweed Cliffs, N.J.
- Khan, s. (2007), *School Curriculum*, APH Publishing Corporation, New Delhi.
- McNeil, J.D. (2014) *Contemporary Curriculum in thought and Action*, John Wiley of sons Augetes.
- J.F. Kerr, (1968), *Changing the Curriculum*, Holders and Stoughton, London.
- Michaelis, J.U, Grossman, H.U., Scott and L.F (1975), *New Designs for Elementary Curriculum and Instruction*, McGraw Hill Book Co., New York.
- Richmond and W.K, (1971), *The School Curriculum*, Mothuen and Co.
- Rosen Bloom and P.C. (1964). *Modern Viewpoints on the Curriculum*, McGraw Hill Book Co., New York.
- Sheeharn and J., (2011), *The Economic of Education*, George Allen and Unwin Ltd.
- Smith, Stanely and Shores, (1957), *Fundamentals of Curriculum Development*, World Book Co., New York.
- Taba and H. *Curriculum Development*, Harcourt, Brace and World Inc., New York.

UNIT 3

Conceptual Framework of Curriculum Development

Written by: Dr. Khawaja Nazir Ahmad
Reviewed by: Dr. Afshan Huma

CONTENTS

Introduction.....	63
Objectives	63
1. Need for Conceptual Framework of Curriculum Development	64
2. Models of Curriculum Development	64
2.1 Conceptual Model Proposed by Ralph Tylor.....	64
2.2 Curriculum Model of the General College at the University of Minnesota	65
2.3 Conceptual Model Developed by Neagley and Evans.....	66
3. Relationship among the Elements.....	68
4. A Proposed Conceptual Framework	69
4.1 Self Assessment Questions	69
5. Process of Curriculum Development	70
5.1 Formulation of Objectives	70
5.2 Selection of Content.....	71
5.3 Approaches to Content Organization.....	71
i) Organization Focused on Discipline/Subjects	72
ii) Organization Focused on Specific Competencies.....	73
iii) Organization Focused on Special Activities & Problems ...	74
iv) Organization Focused on Process Skills.....	75
v) Organization Focused on Individual Needs & Interests.....	76
5.4 Self Assessment Questions	78

6.	Selection and Organization of Methods.....	79
6.1	Lecture and Verbal Presentation Methods	79
6.2	Discussion-Questioning Methods	79
6.3	Practice and Drill Methods	79
6.4	Viewing, Listening, Answering Methods	80
6.5	Heuristic Problem-Solving and Discovery Methods	81
6.6	Laboratory and Inquiry	81
6.7	Role Playing, Simulation and Games	82
6.8	Instructional Methods for Unstructured Situation	82
	a) Playing, Manipulating, Acting.....	82
	b) School Activities Programme	82
	c) Independent Learning and Self-Instruction	83
	d) Community Activities.....	83
7.	Bases for Selecting Instructional Methods	83
7.1	Achievements of Objectives	83
7.2	Principles of Learning.....	84
7.3	Individual Learning Styles.....	84
7.4	Self-Fulfilling Prophecies and Educational Stratification	84
7.5	Facilities, Equipment and Resources	84
7.6	Accountability.....	84
8.	Curriculum Evaluation.....	85
8.1	Meaning and Significance.....	85

8.2	Designs for Curriculum Evaluation	85
8.2.1	Formative Evaluation.....	85
8.2.2	Summative Evaluation	86
8.3	Self Assessment Questions (<i>Exercise No. 3</i>)	87
8.4	Self Assessment Questions (<i>Exercise No. 4</i>)	88
9.	Bibliography	90

Introduction

Education is a purposeful activity which schools organize and arrange to achieve some pre-determined objectives specifically assigned to them. Such activities which take place inside or outside the school under the direction and control of the teachers are known as “the curriculum”. How to develop a curriculum is a question of great importance and concern. Conceptual frameworks help determine relationships among various elements of the curriculum. The conceptual frameworks also help in evaluating the outcomes of curriculum, and make it possible to modify or change the curriculum in a systematic way. In this unit we will discuss the various conceptual frameworks of curriculum development and then develop a model of our own.

Objectives

When you have gone through this unit, you should be able to:

1. Discuss the need of conceptual framework of curriculum development.
2. State the various models of conceptual framework for curriculum development.
3. Explain the elements of curriculum development and relationship among them.
4. Describe the following stages in the process of curriculum development:
 - a) Formulation of objectives
 - b) Selection and organization of content.
 - c) Selection and organization of methods
 - d) Curriculum evaluation
5. Discuss the criteria of content selection.
6. Reason out the merits and limitations of the various approaches to content organization.
7. Discuss the major characteristics, usefulness and applicability of the various instructional methods to achieve different specific as well as general objectives in structured and unstructured situations.
8. State the bases for selecting instructional methods.
9. Explain the concept of accountability.
10. Discuss the necessity of evaluation for the improvement of curriculum.
11. Describe the functions of (a) formative evaluation, and (b) summative evaluation.

1. Need for Conceptual Framework of Curriculum Development

Curriculum development is a complex undertaking that involves many kinds of decisions. Decisions need to be made about the general aims of education and the specific objectives of instruction. The major areas of the curriculum along with the specific content of each must be selected. Choices must be made about the learning experiences which would ensure the achievement of content, understandings and other objectives. Decisions are needed regarding how to evaluate student learning and the effectiveness of the curriculum in achieving the desired goals and objectives. And, finally, a choice must be made regarding the over-all pattern of the curriculum. The decisions are made on different levels.

Generally speaking, curriculum is socially and historically located, and culturally determined. The curriculum does not develop in a vacuum but it is based on the beliefs such as, about how people learn, what they should be like, what society is. The curriculum is, therefore, interwoven with the social fabric that sustains it.

The decisions regarding curriculum development are based on consideration of many issues. If curriculum development is to be adequate, all these decisions must be made competently, on a recognized and valid basis, and with some degree of consistency. The very complexity and multitude of decisions and the fact that they are made on several different levels make it all the more important that there must be an effective conceptual framework of curriculum development. It needs to be ensured that while making decisions certain considerations are not underemphasized or others over-emphasized.

A conceptual framework is, therefore, like a light house at the sea. It does not tell where to go or restrict movement, but it is necessary to guide movements and warn of the danger spots. As described by Hilda Taba, “the conceptual framework is a way to organize thinking about all matters which are important for curriculum development”. “A framework”, she further elaborates, “is a statement which identifies the elements of the curriculum, states their relationship to each other, and indicates the principles of organization and the administrative conditions under which it is to operate.

A conceptual model must be based on a rationale which establishes the sources to be considered and principles to be applied. Both are needed to make consistent decisions about the curriculum.

2. Models of Curriculum Development

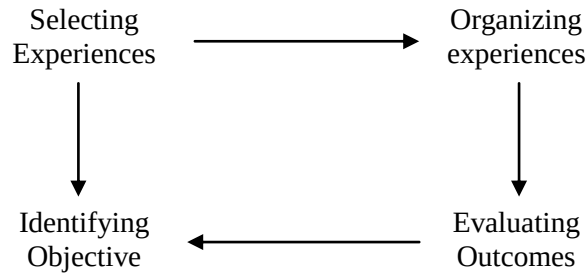
2.1 Conceptual Model Proposed by Ralph Tyler

The conceptual model proposed by Ralph Tyler (1949) for analyzing and developing a curriculum answers the following four fundamental questions.

- i) What educational purposes should the school seek to attain?
- ii) What educational experiences can be provided that is likely to attain these purposes?

- iii) How can these educational experiences be effectively organized?
- iv) How can we determine whether these purposes are being attained?

Tyler's questions represent a four-step sequence of (1) identifying objectives, (2) selecting the means for the attainment of these objectives, (3) organizing these means, and (4) evaluating the outcomes. Starting from the purposes and assuming the cyclical nature of the process, we may present this model graphically as under:

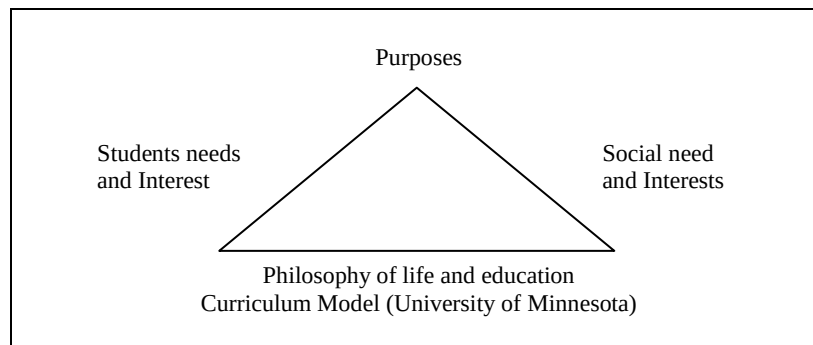


Ralph W. Tyler's Model of Conceptual Framework of Curriculum

Tyler proposes that education objectives originate from three sources: (1) the studies of a society, (2) the studies of the learners, and (3) the subject-matter specialists. However, it might be asked from what sources do the society and those who study learners, and the specialists in subject matter receive their objectives? Is there some underlying base that ties the three sources together? Tyler's linear sequence of questions appears to be faulty because it fails to show this underlying base.

2.2 Curriculum Model of the General College at the University of Minnesota

The curriculum model of the General College at the University of Minnesota indicates a framework represented by triangle. The apex of the triangle represents the purposes. On the base is the philosophy of education and life. On one side of the triangle are the needs and interests of the students while the other side of the triangle is based on the needs of society and resources of the school. This model points out that a curriculum is based on beliefs, the purposes which provide direction to the needs of students, and the individual as a part of the society.



As we can see from the model, it does not seem to articulate the crucial significance of the means/experience etc. that may be employed for attainment of the purposes.

Another model is proposed by the Thirty-School experiment. The model describes four inter-related elements: (1) objectives, (2) subject matter, (3) method and (4) organization and evaluation. It seeks answers to the questions: (1) what is to be done, (2) what subject matter is to be employed, (4) how are the results to be appraised? These questions suggest the step which are not sequential but which are closely inter-related. However, the model does not indicate the bases from which decisions regarding them are made.

Hilda Taba (1962) suggested an orderly procedure for a more dynamically conceived curriculum. According to her, following steps are required to be taken to frame a curriculum:

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

The model developed by Taba offers statements of the basic principles involved and an exposition of the relation of those principles to the practice of curriculum development. Much of the literature on curriculum development is concerned with this model.

2.3 Conceptual Model Developed by Neagley and Evans

The conceptual model developed by Neagley and Evans (1970) encompasses the following procedure for a thoughtfully planned curriculum:

- i) Organization of the curriculum committee(s)
- ii) Selection of objectives, aims and goals of instruction
- iii) Designation of appropriate content, learning experiences and teaching aids.
- iv) Choosing the best methods of instruction.
- v) Selection of the evaluation procedures commensurate with the designated objectives, aims and goals.
- vi) Trial and evaluation of these materials, learning experiences and methods.
- vii) Development of appropriate curriculum guides.
- viii) The provision of procedures for continuous study, evaluation and improvement of the curriculum.

A careful study of the conceptual frameworks given above can help us in developing a model containing the basic elements of curriculum development. A curriculum model makes and clarifies the bases of selection and emphasis on the various elements, as well as the sources from which these criteria are derived. It should, furthermore, indicate as to

what criterion applies to which element. Because selection involves values and opinions this is where the disagreements and controversies begin.

Oliva Model

The curriculum development model proposed by Oliva (1992) can be considered as the combination of product and process models. Here the needs of society, the learners are focused along with the basic principles suggested by Tyler or other product models. This is the most comprehensive model which includes almost all the aspects required to serve the needs of curriculum development at higher education today.

This model can be broken into following steps.

1. Specify the needs of students in general
2. Specify the needs of society
3. Write a statement of philosophy and aims of education
4. Specify the needs of students in your school(s)
5. Specify the needs of the particular community
6. Specify the needs of the subject matter
7. Specify the curriculum goals of your school(s)
8. Specify the curriculum objectives of your school(s)
9. Specify instructional goals
10. Specify instructional objectives
11. Specify instructional strategies
12. Select instructional strategies
13. Begin selection of evaluation techniques
14. Implement instructional strategies
15. Make final selection of evaluation techniques
16. Evaluate instruction and modify instructional components
17. Evaluate the curriculum and modify curricular components

Looking at this much comprehensive and holistic model we can not only see the gaps we have in our current practices of curriculum development but also that how the curriculum needs to be developed further with a futuristic approach.

From an analysis of the various models of curriculum it could be inferred that the basic elements of curriculum development include:

- i) Objectives
- ii) Contents
- iii) Methods
- iv) Evaluation

Objectives are dependent on such factors as values and needs of the society, the nature of knowledge and culture and the needs of the learners. On the other hand, decisions about content or subject matter derive from an analysis of the characteristics of the knowledge

represented by school subjects and the learning process. Epistemology and psychology are brought into relationship to develop concepts.

The primary consideration in selecting and organizing the methods of achieving curriculum objectives is, “how the pupil learns”. Here, theories of learning, principles of pedagogy and psychology help in the selection and organization of learning experiences.

The fourth element of curriculum evaluation depends on the first element – “the objectives”. Without defining the objectives, the evaluation is not possible. Evaluation must encompass the objectives of the curriculum and provide continuing feedback for improvement of the curriculum.

The basic elements for the curriculum enable us to construct a model for developing a curriculum which aims to answer the following questions.

- i) What is the purpose of curriculum?
- ii) What subject matter is to be used?
- iii) What learning experiences and school organization are to be provided?
- iv) How are the results to be assessed?

The criteria used for answering the questions should be made explicit.

3. Relationship among the Elements

As already discussed, the elements of curriculum are closely inter-related and interdependent. Taba observes that a decision made about any one element out of relationship to others is bound to be faulty. Each element of curriculum acquires meaning and substance in reference to the other elements. For example, the specific objectives derive their meaning from the general aims of education. If the general aim is to develop intelligent citizenship, the development of ability to think critically becomes important. The fact that critical thinking is an important objective imposes certain requirements on the selection and organization of learning experiences, and this, in turn, make it essential to include the evaluation of thinking in the evaluation programme. The type of content organization adopted puts restrictions on the learning experiences which are possible. The consideration of the nature of students and their backgrounds help determine the appropriate content and effective learning experiences. But, if these elements are seen as mere components or as organically interacting factors in curriculum development, their treatment, too often, becomes mechanical. Then the task of curriculum development tends to be regarded as merely technological.

A good conceptual model also describes the elements and the relationship among them and their supporting principles in such a way as to indicate priorities among the elements and principles to be considered. It should, however, be noted that not all criteria and principles have equal significance in developing the curriculum. Often criteria of least significance have a priority over criteria of greatest significance.

4. A Proposed Conceptual Framework of Curriculum Development for Pakistan

The study of different conceptual frameworks of curriculum development, elements of curriculum and their independence presents vivid picture of an effective curriculum model and enables us to propose one which will not only fulfill our societal needs but will also meet our ideological requirement. In the conceptual framework presented below, values are given the central role, whereas in the frameworks discussed so far, values are either ignored or only implied. This framework shows their essential importance for the determination of objectives, selection of content, methods and evaluation. The influence of philosophy and beliefs has been recognized in the models already discussed, but little specific consideration has been given to the concept of values although they reflect beliefs and philosophies and influence the selection of desirable behaviour.

Values must be in harmony with the physical environment, the learner, educational objectives, and the content, learning experiences and evaluative procedures in order to bind together the elements of curriculum. Throughout the model, values are transposed and appear in modified forms.

As we all know, Pakistan being an ideological state, we have certain hard core values like virtue, truthfulness, honesty etc. which do not undergo any change over a given period. These values provide the overall framework for determining objectives of education of course, taking in to account other requirements of a society. Then from objectives we go to determine content, method of teaching and finally the evaluation. After evaluation, in case of need, we refer back to methods, contents, objectives, etc. and then finally to the values. But here referring back to the values means referring only to their periphery and interpretation side and not their core spirit.

Activity

Discuss the main points of different conceptual models amongst your fellows/colleagues and try to develop a model of your own which you think is appropriate for Pakistan.



4.1 Self Assessment Questions

1. Why is curriculum development a complex undertaking?
2. What kinds of decisions does a curriculum developer require to make?
3. What is Tyler's model of curriculum development?

4. What steps does Hilda suggest for developing a curriculum?
5. What is the difference between the conceptual frameworks developed by Hilda Taba and Neagley and Evans?
6. You have read about various models of curriculum development. Which one do you prefer to be adopted for developing curriculum in Pakistan? Give reasons.

5. Process of Curriculum Development

The elements of curriculum constitute four stages in the process of curriculum development:

- i) Selection of objectives
- ii) Selection and organization of content
- iii) Selection and organization of learning experiences (methods)
- iv) Curriculum evaluation

Curriculum development is not an activity which is undertaken once and then it is finished; it is rather a continuous process. Knowledge and insight gained from evaluation are used as a feedback for providing a fresh starting point for further development.

Let us briefly describe each one of these steps as under:

5.1 Formulating Objectives

Given the values, the first stage in curriculum development is formulation of objectives. Objectives determine the structure for building the curriculum. The scope of entire education programme, and the nature of the learning activities provided, are embodied in them. If the objectives are expressed precisely and clearly, the selection and organisation of learning activities become easy. But if they are general and vague it becomes difficult to select the content and learning experiences and to evaluate the outcome of instruction objectives may be classified as under:

- i) **Short and Long-term Objectives**
Objectives are short or long-term. The former are achieved in a fairly short period of time, while long-term objectives usually cover the entire period of education of an individual.
- ii) **Specific and General Objectives**
Specific objectives are related to a particular area of the curriculum, whereas general objectives are not related to any subject area at all.
- iii) **Behavioural and General Objectives**
Objectives are either expressed in behavioural terms or in more general and non-explicit terms. The movement to state objectives in behavioural terms is often

credited to Tyler. He emphasized that the purpose of a statement of objectives is to indicate the kinds of changes in the student to be brought about so that instructional activities can be planned and developed in a way likely to attain these objectives; that is, to bring about these changes in students. Behavioural objectives are expressed in the form of what the students are expected to be able to do at the end of a course.

5.2 Selection Content

The hierarchy of aims, goals and objectives has been discussed under the unit “Aims, goals and Objectives of Education” by Dr. Mushtaq Ahmad Goraha. Selection of content and its organization involve moving from the general objectives to specific objectives that are considered to be achievable by a particular population (say students of class VIII). Specific objectives need not be narrowly stated; they may be open-ended statements of desired outcomes broadly defined. For example, if the general objectives are to help students to attain skills of continued learning, the specific objectives, related to it, would be to develop skills of reading, listening, questioning and organizing information.

The next step is to identify the possible types of content in each subject area which will help in achieving the specific objectives. Then raises the question of how to organize the content. Taba suggests that content must be organized with a view to getting adequate scope, sequence and integration. Scope means identifying what is to be covered and learned in depth. A more extensive coverage of the subject is confused with depth of understanding and mental processes learnt. Sequence is concerned with the order in which content and processes are presented to the students. “Much of the confusion and difficulty in developing cumulative and continuous learning comes from the fact that in setting up sequence in curriculum design, only the sequence of content is considered, while the sequence of the powers and competencies is largely overlooked”. Integration is associated with the relationship between the learnings in various areas of the curriculum which takes place at the same time.

Selection of content must be made on the basis of certain criteria, some of which might be considered more important than others. Before a particular type of content is included in a course, it should satisfy the criterion of significance, criterion of interest, and criterion of learn-ability. These criteria have been discussed under the unit. “Principles and Criteria of Content Selection: by Dr. M. R. Siddiqui and also in unit “Curriculum Change” by Dr. A. R. Saghir.

5.3 Approaches to Content Organization

In order to serve educational objectives, content needs to be organized. The type of content organization followed is perhaps one of the most important factors in determining how learning proceeds. Often the curriculum is ineffective not because its content is inadequate but because it is organized in a way that makes learning difficult. As Taba observes, chaotic content is usually not effective in attaining any important educational objectives.

Content organization is both difficult and complex. It requires an application of all we know about the nature of knowledge, about child growth and development and about learning. Following are the approaches to content organization:

- i) Organization focused on disciplines/subjects
- ii) Organization focused on specific competencies
- iii) Organization focused on social activities and problems
- iv) Organization focused on process skills
- v) Organization focused on individual needs and interests

i) Organization Focused on Disciplines/Subjects

The dominant concept of curriculum, historically and currently, is that of school subject taught by teachers and learnt by students. The most characteristic and comprehensive feature of the subject organization is the relative orderliness of this pattern. The curriculum plan appears neatly divided into subjects which are further sub-divided into divisions corresponding to school grades. The orderliness is the inherent principles or structure of a discipline. The structure of a discipline, according to Saylor and Alexander, is:

“The set of fundamental generalization that binds a field of knowledge into a unity, organize this body or knowledge into a cohesive whole, fix the limits of investigation and inclusion of knowledge for the discipline itself and provide the basis for discovering what else exists within the field”.

Thus, each of the traditional school subjects such as mathematics, chemistry and physics has its own distinct organization, and the curriculum planner has only to determine what of this organization to use, and when and how. But the structure of other subjects is very unclear if not completely lacking. For example, in Pakistan, materials for Pakistan Studies are drawn from more than one basic discipline like History, Civics, Geography etc. Amalgamation of these materials necessitates special organization of some order of the content. Similarly in many cases the established disciplines do not offer students opportunities to learn to deal with problems of living. Therefore, new organizations of content that are basically extra disciplinary or perhaps interdisciplinary have been created and classified as subjects. Business education, environmental education, health education, industrial arts education and physical education are just a few of the many invented subjects. Thus while the established disciplines and the subjects clearly derived from them have an order or structure, many so called subjects have no inherent organization. This makes the total curriculum design appear as confused.

The literature on curriculum is full of arguments for and against a curriculum organization based on subjects. One of the most persistent argument given in favour of disciplines/subjects organization is that of educational convenience; that is, since knowledge is organized into disciplines, the easiest way to set a school curriculum is to use these subjects. The agreement of convenience assumes that schools, teachers, parents and citizens in general, are geared to the subject-centred curriculum and support wholeheartedly this organizational plan.

In 1960, Jerome Bruner favoured disciplines/subjects approach by advancing the case of teaching the structure of the subjects. He writes:

“The curriculum of a subject should be determined by the most fundamental understanding that can be achieved of the underlying principles that give structure to that subject. Organizing facts in terms of principles and ideas from which they may be inferred is the only known way of reducing the quick rate of loss of human memory.”

Emphasis on structure, Bruner argued, would help each student to achieve his optimum intellectual development “and provide a general picture in terms of which the relations between things encounter earlier and later are made as clear as possible.

1. The subjects tend to become fixed and the curriculum turns out to be inflexible.
2. There is lack of direct relation of the organized subject matter to the problems and interests of the student.

It may be pointed out that in view of these limitations of the discipline/subject centred organization approach, over Bruner himself in 1971 reconsidered his emphasis on structure of knowledge expressing doubts on the usefulness of disciplines/subjects approach in the modern world of today, and called for a re-emphasis on structure of the subject in favour of attention to more urgent problems.

ii) Organization Focused on Specific Competencies

The competency-based content organization assumes a direct relation among objectives, learning activities and performance. In it the desired performances are stipulated as behavioural objectives or competencies; learning activities are planned to achieve objectives, and the students performance is checked as a basis for his/her moving from one objective to another. Thus in Pakistan Studies the student learns how to read a map and demonstrates this competency before he learns about and demonstrates his knowledge of particular geographic location and relations. Therefore, an organization based on specific competencies is characterized by specific, sequential and demonstrable learning of the tasks, activities, or skills which constitute the acts to be learned and performed by students.

The advocates of competency-based curriculum place objectives before subject matter and call for a curriculum plan which would be built around specific life activities of adults. They insist that the objectives should be focused on what the student is to learn or to do, not what he is to study or to experience or even to know. Moreover, they view the objectives, though pointed to performance, as more general guidelines for instruction.

A somewhat specialized aspect of the competency-based organization is the job analysis procedure which involves specification of the basic skills of a trade or occupation and development of specific training activities for skills in a sequential arrangement. To the extent that the school trains its students for particular jobs, a job analysis basis for specific job

training is essential. This curriculum organization contributes efficiently to the development of a job competency. Motivation on the basis of job aspirations is high in this phase of the curriculum, and it contributes to the development of talents and capabilities not fully provided for in other curriculum organizations. Furthermore, specific job training utilizes, to the fullest, the maximum that learning result, from experience, and the more meaningful and significant the experience, the more the learning.

Limitations: Following are the limitations to the competency-based approach to content organization:

1. The competency-based approach to curriculum development has much utility for some objectives. It has maximum utility in the learning skills, but has failed to develop critical reading, listening and discussion.
2. Performance can be contrived and falsified, especially when it becomes a basis for marks, rewards and punishment. In the affective domain and even in many cognitive areas one soon encounters insurmountable difficulties in shaping one-to-one matches of specific competencies and learning experiences.

iii) Organization Focused on Social Activities and Problems

This approach includes three organizing patterns:

1. The social function or areas of social living or persistent life situation approaches that are based on the belief that the curriculum design should follow the persistent functions, areas, or life situations in man's existence as social being;
2. The theory that the curriculum should be organized hold the improvement of society through direct involvement of the schools and their students to be a major goal of the curriculum. The common denominator of these theories is a curriculum design that features social activities and/or problems rather than subjects or objectives or other organizing elements. Such a content organizing based on social activities or functions exhibits an organizational pattern derived from studies of group life. Some of the major functions of social living are listed below:
 - a) Protection and conservation of life, property and natural resources.
 - b) Production of goods and services and distribution of the returns of production.
 - c) Consumption of goods and services.
 - d) Communication and transportation of goods and people.
 - e) Expression of aesthetic impulses.
 - f) Expression of religious impulses.

A design based on community activities or problems might employ a similar list but uses only those functions that are important in the community concerned, as for example, food clothing, shelter, health religion and work.

The social reconstruction theory has been less developed as curriculum design than as an educational philosophy. However, recently some educational reformers insist on building

social action into the curriculum. The organizing element under this approach is a cluster of social activities and/or problems. In the broader design of social functions these elements are universal and timeless; in the community school the selection criterion is local significance; in the social action programme the criterion becomes problems areas or realities in which students can participate effectively.

In summary, the socially central curriculum approach has its central elements as focus on social activities and/or problems. These activities and problems may be the centres around which instruction is organized or they may serve primarily as criteria for the selection of content within the subject or other organizational unit.

There are two primary arguments for socially centred content organization approach:

1. It can directly contribute to the needs of society for continuing improvement;
2. It is relevant to students' needs and concerns and is, therefore, of great significance and interest to the students.

Limitations: The limitations of the social-centred approach are indicated by its use generally for only a portion of the curriculum.

iv) Organization focused on Process Skills

The "process skills approach" is more characteristic of instructional methodology than of content organization. It is difficult to separate instructional process and curriculum organizing centres of a process type. Thus problem-solving procedures may be methods used within an instructional programme organized around the learning process of problem solving. The procedures can also be used in a programme organized around the traditional subjects or around social problems. Hence the process skills approach is one where the process skills are clearly defined as organizing centres for the curriculum plan. The approach may be considered a process, only when the process of problem solving, dictates the selection of content in say, social studies and other subjects. Therefore, skills taught in areas such as music, physical education and vocational courses are clearly the competencies of the type discussed under the competencies approach. The process focus is most frequently advocated in terms of learning processes.

The emphasis on process as content is the most significant aspect of the search for relevance. Content then becomes a vehicle for developing process skills such as students' ability to engage in rational decision-making. The stress on process does not derogate assimilation of knowledge as stated by some, but greater importance is attached to the methods of its acquisition and to its subsequent utilization. Therefore, a distinction must be made between knowing something and knowing what is good for. Knowledge becomes the vehicle rather than the destination.

The process approach of content organization consists of three interacting operations:

1. The student must take in data.
2. He must manipulate it.
3. He must apply it.

Some curriculum theorists focus on valuing processes. The purpose of value judgment is to develop increased commitment to a set of values, and to offer opportunities to examine the conflicts among the many sets of values and viewpoints held by the members of the society. If the citizens are not able to understand and apply the values they accept, there is every possibility that the social structure will disintegrate.

Some theorists stress that the aim of education is produce “process-oriented” persons who are able to handle themselves and the situation of which they are a part with adequacy and ease. They describe eight process skills”

1. Perceiving
2. Communicating
3. Loving
4. Decision-making
5. Knowing
6. Organizing
7. Creating
8. Valuing

In summary, there is no single approach and set of characteristic features that include all of the theories indentified as focusing skills. One group of theories places major emphasis on learning processes. Some give problem-solving activities a separate and significant role. Others focus on valuing processes as a major component of the curriculum organization. Still others view process skills more generally and as significant as to permeate the subject organization or even to replace it. The common element in them is their emphasis on process as more dynamic curriculum elements than more fixed structure of knowledge. Their focus on process skills is based on the following arguments.

- a) Since the most significant objectives of education is the development of life-long learning skills and interests, curriculum plans should make these skills and interests central.
- b) Curriculum should be planned and organized so as to have maximum carryover into life processes and skills. Greater carry-over is likely when the curriculum organization directly reflects these processes and skills.
- c) The process of valuing, other processes having a high effective elements as well as essential cognitive skills can be taught. Both should be included in the curriculum.

v) Organization Focused on Individual Needs and Interests

This approach was used in the eighteenth century by Rousseau in the education of Emile and later on by Pestalozzi and Dewey. It is variously called as child-centered, experience centred, and progressive education and, more recently, open, alternative and humanistic education. This approach more strongly reflecting the influence of Dewey, uses student needs and interests as a base for content organization. There is, however, tendency on the part of curriculum planners to interpret these needs and interests as common needs and interests of the particular population to be served. Reflected in curriculum plans, this

interpretation has become the rationale for teaching what has been taught before without studying the genuine needs and interests of students. The approach has following characteristics features?

- a) The curriculum plan is based on knowledge of students' needs and interests in general and involves diagnosis of the specific needs and interests of the population to be served by the plan.
- b) The curriculum plan is highly flexible, with built-in provisions for development and modification to conform to the needs and interests of particular students with many options available to them.
- c) The student is consulted and instructed individually at appropriate points in the curriculum and instructional process.

The key to learning, in this approach, is what Kilpatrick termed as the "project method". The idea behind this was that students would learn to think, if they worked on problems of genuine interest to them. Thinking, Dewey stressed, is problem solving. To Dewey, thinking was the key to intelligent action as opposed to routine action.

The most common approach to meeting the needs and interests of students has been their grouping for special programmes believed by the planners to match the needs and interests of students concerned. Ability and other forms of homogeneous grouping are provided for curriculum individualization.

Predominant use of needs and interests in curriculum planning necessitates the provision of options for individual students. The options concept has the following three features:

1. The options are based on knowledge of students' characteristics;
2. Scheduling and other arrangements facilitate ready selection and choice of options;
3. Students are actively involved in planning and evaluating the options in general and for themselves in particular

Three arguments can be given in favour of this approach:

1. Learning opportunities based on needs and interests are more relevant to the students;
2. The needs and interests organization involves a high degree of motivation and, therefore, success of the students;
3. Achievement of the individual's potential is facilitated by this organization.

The validity of the first argument is obvious if the learning opportunity is truly based on the individual's needs and interests, it surely must relate to them. As to the second argument; it must be noted that motivation is a highly internalized matter and that students are not necessarily motivated for a learning opportunity planned externally. As to the third argument, the diagnosis of student needs and interests and provision for them are essential in good education.

Limitations: This approach also has its own limitations, which are as follows:

- a) The chief limitation of this approach is its possible neglect of social objectives. If the learning opportunities are not based on students' felt needs, there is no assurance that students would participate effectively in social activities, particularly those adulthood involved in work and citizenship. This approach is, therefore, not appropriate for the human relations domain.
- b) It is suspected that the establishment of so-called free and other alternative forms of schooling will continue to meet the needs and interests of the students.

5.4 Self Assessment Questions

1. What are the various elements of curriculum development? How are they inter-related? Give examples for explanation.
2. Why is content of curriculum mostly organized according to disciplines/subjects approach?
3. What are the limitations of disciplines/subjects approach of content organization?
4. What is competencies-based organization of content? What are its merits and demerits?
5. What are the major functions of content organization based on social activities and problems?
6. What is the difference between content organizations based on competencies and practice skills?
7. What are the characteristics of curriculum organization focused on individual needs and interests?
8. As a curriculum developer which approach of content organization would you adopt for organizing the selected content?

6. Selection and Organization of Methods

Teaching methods constitute a significant part of the instructional process. Not all students learn equally by the same type of activity, or by using the same media. While some students are stimulated to the thought by books, others need group discussion to accomplish the same purpose. Different students also need different types of learning activities for their self-development. A shy person needs experience in group participation. A person given to over generalization needs experience in analyzing data and drawing accurate inferences from them. This suggests that different modes of learning are required to provide equal opportunities of learning to all the students. Following are various modes of learning that can be used in structured class situations.

6.1 Lecture and Verbal Presentation Method

These are the traditional modes to transmit knowledge. Talk, address or other type of verbal presentation to students by a teacher are major characteristics. Students' activities are restricted to listening, note taking and answering a test. They make students highly passive. Teacher activity is limited to speaking, reading and illustrating visually. Teaching resources are confined to teacher, chalk board and some visual and auditory aids. They are used to present new information or explain events or things to students. These modes are used to implement all five types of curriculum design discussed above, but they are heavily used in the disciplines/subjects organization.

6.2 Discussion-Questioning Method

Discussions intermingled with the lecture method are widely used in schools. The major characteristics of these modes are questions or answers over assigned material or related topics and discourse among members of the class and the teacher, largely on the topics under study. Sometimes they also include consideration of other matters introduced by the teacher or students. Student's activities vary greatly among members of the class and from time to time, depending on the topic or subject. Some members of the class are quite passive most of the time. Teacher-student interaction is structured except for occasional diversions to other matters. Teacher very much dominates the classroom situation; he talks most of the time. These modes are used;

1. To help students in organizing knowledge, developing concepts and generalizations;
2. To clarify understanding and improve students' ability to speak on a subject;
3. To organize thoughts and to communicate effectively.

These instructional methods may be used in any of the five types of designs. But they predominate in the disciplines/subjects organization.

6.3 Practice and Drill Method

When the purpose is to enable students to acquire a skill or a proficiency in doing some overt act the modes of practice and drill are used extensively. Often it is intermingled with recitation and discussion methods, such as courses in foreign languages. The major

characteristic of these modes is repeated performance of a learning act until a desired level of skill to perform an act correctly is attained. The performance may be verbal, as in speaking a foreign language, written as in spelling, or manual as in physical education, and typing. Students activities include complete students involvement with performance of overt acts; some witnessing of demonstrating of the act or listening to explanation of what to do. Sometimes students are required to use a machine, such as computer or a programmed teaching machine. Teacher activity involves explanation of the nature of the act verbally, visually or both, demonstrating proper ways of doing the act; explaining to students usually, visually or both, demonstrating proper ways of doing the act; explaining the students usually individually, errors in performance and showing how to correct them; supervising students during practice period; observing them during their performance and noting success as basis for further teaching and practice, evaluating performance, skill and competencies. The teaching resources include models, equipment video-tapes, recording, machines, and tools, material needed for the performance, computers and teaching machines. These modes are used to develop a desirable skill to perform an act or to acquire proficiency and to develop an understanding of the principles underlying the operation of a machine, a tool or subject used in the performance of the skill.

6.4 Viewing, Listening, Answering Method

Use of instructional or “educational technology” in teaching is common in the schools of the developed countries of the world. The major characteristics of the modes connected with educational technology are that materials for reading, viewing, listening and observing are used by students individually or in small groups. Machines are used to present questions and elicit answers. Students’ activities range from very passive, as in viewing television or films or listening to tapes or recording, to very active, as in using teaching machines or equipment for practice, making a tape for recording, or making field trips to observe and study actual things or situation. Passivity versus activity varies exceedingly according to kind of resource used and the purpose in using it. Teachers’ activity also varies considerably. He usually arranges for use of equipment and materials; often explains or demonstrates what students should see, or listen to; helps individual students who have difficulty in using equipment properly or in selecting or preparing correct answer; evaluates students’ competencies especially in programmed learning activities.

This method of teaching utilizes the following five teaching resources:

1. Printed books, newspapers, encyclopedias, atlas;
2. Visual often with listening-motion pictures, video-tape, television, charts graphs, maps, globes, models;
3. Auditory recordings, tapes, radio, field trips of all sorts;
4. Manipulative-object for handling, sorting and using;
5. Instructional machines – teaching machines, computers; electronically equipped teaching laboratories, such as for instruction in languages.

These modes are used to provide individual instruction and remedial or catch up work. They are used in the implementation of all types of curriculum design, but they are especially useful in development of concepts among disadvantaged children.

6.5 Heuristic, Problem-Solving and Discovery Method

Heuristic, problem-solving and discovery methods all denote the same method of teaching in the literature of education. Heuristic teaching refers to styles of teaching which emphasize the development of self-initiated and self-directed pupil learning, which stress the pupil's discovering rather than absorbing knowledge; which place the student in the role of the inquirer; which aim at heightening the relevance of school to the pupils' life. They are concerned with the emotional and social development of the pupil as well as with his cognitive growth.

The major characteristics of Heuristic/problem-solving/discovery method are that students are engaged in the processes of problem-solving and rational thinking under various degrees of teacher supervision. The investigate problems, issues and conditions; prepare situations research reports based on empirical data or analysis of the literature and survey actual situations with conclusions and recommendations. This method requires extensive activities on the part of the students – reading, discussions, data collection, survey and interviews, reporting and experiments. Often students themselves determine the problems of a study, the activities in which they would engage themselves. Teacher's role is to guide the activities of the class room discussion, device, or instruction. The teacher assumes a second role in planning the work, and the activities of the group. He advises and guides the students in their participation in independent study programmes and evaluates the activities of each members of the group. In this method library resources are especially useful. The method is used to acquire and refine system of values; develop cognitive knowledge and ability of self-direction in continued learning. It is also used to develop awareness of important social, political and economic problems and issues in a society; and to develop methods of rational thinking and problem-solving. The method is best suited for implementing designs organized on the basis of social activities and problems, process skills and individual needs and interests.

6.6 Laboratory and Inquiry Methods

Laboratory work is traditional and extensively used method of instruction in the sciences, but in recent years the nature of such activities has changed considerably with greater attention being given to the use of scientific method of inquiry as a mode of learning. Laboratory and inquiry methods are distinct from problem-solving and discovery method as the former involve direct work in a laboratory on a regular basis our utilization of an actual situation. The major characteristics of laboratory and inquiry methods are that students are engaged in experimentation in a laboratory using scientific method of inquiry. However, students follow a manual or guide in carrying out investigations, which involve the formulation of hypothesis or hypotheses, collection of data and drawing conclusions. Inquiry in the social sciences follows much the same methodology as discovery, but emphasis is on investigation, data collection and drawing conclusions. Students are directly involved in investigations and preparation of reports. The teacher assigns laboratory activities or investigations and guides

and supervises the student activities. He evaluates and grades reports. Fully equipped laboratory, manuals, charts, official records and instruments needed to collect data outside the school are the resources of learning through these methods. These methods are used to develop cognitive knowledge; attitudes; values; skills in rational thinking and interest in scientific or social researches.

6.7 Role Playing, Simulation and Games

Some teachers use role playing, simulation exercises and games as methods of instruction. These methods introduce an element of reality in teaching and are often effective in achieving the instructional objectives. In these methods students assume roles of persons engaged in real life situation and depict behaviour that they believe should have taken place in an identical situation. The teacher's role is confined to choosing or guiding the choice of the contrived situation. He also supervises the action and leads discussion afterwards. Usually few teaching resources are needed except the materials for the same. These modes are used to develop values, attitudes, feelings, emotions, insight and understanding of basic principles and concepts. These methods are useful to develop skills of speaking and doing something before others. They may be used in any design but they are especially useful in the process-skills type of curriculum organization.

6.8 Instructional Methods for Unstructured Situations

The methods of teaching and learning discussed in the foregoing pages can only be used in a formal class room or other structured situation. But, now let us discuss the methods which could successfully be used in the unstructured situations also.

Activity

Visit some local school and discuss with senior teachers the different modes of learning:

- a) As given in the unit
- b) Some other modes identified by them

a) Playing, Handlings, Manipulating, Acting

This method is used in early childhood year's nursery school, kindergarten and early grades. The method involves:

1. Playing with toys, blocks, devices, equipments
2. Manipulating articles or discriminating among them on the basis of colour, size, weight and shape
3. Solving puzzles or making articles

Normally the whole group is engaged in some sort of activity. Those who are not doing anything at least watch others who are engaged in some activity. The teacher chooses and supervises the activity.

b) School Activities Programme

Co-curricular activities form an important part of the school's efforts to implement the curriculum. The school activity programmes serve to enrich class teaching. It facilitates physical and mental growth and development of the student, and provides opportunities

for personal and social adjustment through in interaction with others. A wide range of these activities are available in secondary schools. They should be planned, directed and carried out by the students themselves. The teacher represents the administration in setting and enforcing rules and limits of the activity. He also serves as a source of ideas and plans for the activities of the group. Any equipment, materials and supplies needed to carry on the activity serve as teaching resources. The school-activities programmes also contribute within the affective domain.

c) Independent learning and Self-Instruction

Learning of something is an individual matter. A student has his own unique method of learning. This principle has led to the system of individualized instruction in the schools also. In recent years independent study has become a very important dimension of schooling and readily identified process of instruction. Under this method, a student proposes to a regular staff member a study project, or production of something which he or she would like to carry on independent of other class work or in lieu of class work in a course. If approved by the teacher, the student carries out the activity under supervision of a staff member. The teacher's job is limited to approving, supervising, and evaluating the project. Libraries, laboratories or shops are the main resources which a student uses. It is used for high level of cognitive and affective development and development of competencies in specific fields of studies at a high level, self-directiveness, and ability to self-learning. It may be used in the implementation of any type of curriculum organization.

d) Community Activities

Community activities provide some of the most important opportunities to attain objectives of education. Student participation in the work and activities of agencies and organizations functioning in a community is the major characteristic of this programme. Students engage themselves in community activities on personal basis. Teacher activity is limited to sponsor and plan the programme and supervise the student work. Community activities are used to assist students in making career choices, to develop understanding of community problems and to develop in them the ability to solve them.

7. Bases for Selecting Instructional Methods

Within this wide array of teaching methods, teachers are faced with the problem of selecting the method or methods which are most suited to a curriculum plan. As it is desirable to use a number of content organizing designs according to the objectives, so it is in the selection of instructional methods. Some important guidelines for the selection of instructional methods are given below:

7.1 Achievement of Objectives

Achievement of the instructional objectives is the first consideration in planning for teaching. The objectives postulated for a course, activity, or unit of work should therefore be the primary factor in planning instruction. A general objective may be attained by a wide range of teaching methods, but specific objectives for instruction once determined narrow the choices considerably.

7.2 Principles of Learning

While selecting a method of instruction the teacher should know the theories and principles of learning which underlie a certain method of instruction. This would help him adapt the method to the individual needs and methods of learning of a larger number of students.

7.3 Individual Learning Styles

Lee Cronbach and Richard Snow believe that most effective learning takes place when the interactive process (teaching) is one that is best suited to the individual student in terms of his learning style. A learning environment that is “optimal for one person is not optimal for another”. The Rand Corporation study (1971) supports these findings by asserting that “teacher, student, instructional method and perhaps, other aspects of the educational process interact with each other. Thus a teacher who works well (is effective) with one type of student using one method might be ineffective when working with another student having different characteristics, or when using another method. The effectiveness of a teacher, or method, or whatever varies from one situation to another”.

7.4 Self-Fulfilling Prophecies and Educational Stratification

Opinion of the teacher about a student’s abilities or capabilities based on performance in the classroom, influence the ways in which the teacher will work with the student, both with regard to interactive process (teaching) and the content of instruction. Psychologists believe that children differ in their learning abilities and processes. On the basis of these differences, educational processes should also be differentiated. But Cronbach and Snow are against this differentiation which is one the basis of contrived tests, observation or past achievement of school programme and that which results in educational stratification. As B.F. Skinner stated “we need to find practices which permit all teachers to teach well and under which all students learn as efficiently as their talents permit”.

The only acceptable prophecy that should be self-fulfilling among teachers today is that every child has precious talents and potentialities that should be developed to the utmost. The school’s responsibility lies in providing the child the opportunities for such development.

7.5 Facilities, Equipment and Resources

Instructional planning is often influenced by the available facilities that may be used, and the administrative organization and structure of the school. Whatever restrictive influence the facilities, equipment and resources may, have on the instructional planning a teacher should be as imaginative and resourceful as possible in using methods that involve student in a highly active role.

7.6 Accountability

Teachers, administrators and other employed to provide education have always been held responsible for the quality of their work in as much as curriculum plans related to accountability.

The term accountability means that someone has to report, explain or justify to someone else. Thus accountability is a master-servant, employee-employer relationship, that is, some party answering to another party. It involves assessment, appraisal and evaluation whichever is appropriate. It is part and parcel of the whole systems approach to educational planning with great emphasis on results, costs of producing these results, and alternative possibilities weighed on the basis of costs. Lessigner observes that we judge a school, or ought to judge it, by whether its students gain certain skills and knowledge that can be measured against some set of standards or judgment, and by the cost of producing these gains.

8. Curriculum Evaluation

Evaluation essentially is the provision of information for the sake of facilitating decision-making at various stages of curriculum development. This information may pertain to the programme as a complete entity or only to some of its components. Evaluation also implies the selection of criteria, the collection of data and data analysis. It includes obtaining information for use in judging the worth of a programme, product, and procedure. It is a comprehensive term and transcends standardized tests covering all means of ascertaining the results of construction.

8.1 Meaning and Significance

Evaluation is an integral and essential part of the whole process of curriculum development. It is a continuous activity and not a “tail-end-process”. Evaluation and planning are complementary processes which occur almost simultaneously and continuously. Planning is made on the basis of evaluation and vice versa. However, as a separate state, evaluation has its own entity.

The significant function of evaluation is determining the value of the curriculum itself. Is the curriculum appropriate for the particular group of students with whom it is being used? Are the instructional methods selected the best choices in the light of the objectives sought? Is the content the best that could be selected? Are the materials recommended for instructional purpose appropriate and the best available for the purpose envisaged?

8.2 Designs for Curriculum Evaluation

According to Scriven there are two forms of curriculum evaluation, viz, formative and summative.

8.2.1 Formative Evaluation

It occurs during the course of curriculum development. Its purpose is to contribute to the improvement of the educational programme. The merits of a programme are evaluated during the process of its development. The evaluation results provide information to the programme developers and enable them to correct flaws detected in the programme. These evaluation results, remarks Scriven, serve as feedback and guide, influencing the shaping of a curriculum through the successive revision of developmental phase.

Three types of evidence are used at this stage of the process of curriculum development:

1. Judgmental
2. Observational
3. Student Learning

1. Judgmental Data: First type of evidence involves judgmental data. In those experts, teachers, supervisors, as well as students (who have made use of the curriculum materials and methods) provide opinions, judgment and reactions to the curriculum materials. This type of evidence is gathered by ratings, questionnaires, interviews.

2. Observational Data: The second type of evidence involves observational data, which trained or untrained observers systematically gather during teaching-learning situations in the classroom or elsewhere. This type of evidence is obtained by direct observations in a free manner.

Observational data are relatively costly to obtain because they require one or more observers to secure reliable and relatively consistent observations over some period. Observational data when added to the judgmental data gives a different dimension to finding solution to some of the problems that emerge from both types of data.

3. Student Learning: This type of evidence approaches the central problems of curriculum development. What kind of student learning takes place when the curriculum materials and methods are used properly? Here the main evidence has to do with student learning that takes place in relation to curriculum. While this may be determined by observations of students, by interviews of students, and by student reports, in most cases it involves the use of structured or semi-structured tests, oral examinations, or other procedures of determining what students can do or feel in relation to particularly kinds of learning experience. This requires that particular instruments or procedures be constructed that are appropriate to the kind of learning intended by the curriculum materials and that evidence be gathered on student responses to these instruments and procedures. One advantage of this type of evidence is that it is the most direct evidence of the effectiveness of the curriculum materials and methods. Therefore, it can serve as a support or deny the evidence already collected.

The best source of evidences for formative evaluation of curriculum seems to be a sort of combined use of all of them to arrive at valid conclusions. It is better to use one source for corresponding the findings of the other two than depending upon just one source of evidences.

8.2.2 Summative Evaluation

In summative evaluation, the final effects of a curriculum are evaluated on the basis of its stated objectives. It takes place after the curriculum has been fully developed and put into operation. Through summative evaluation, the overall effectiveness and quality of a new curriculum is assessed, and further improvement and adjustments are devised and

introduced in the schools. Since evaluation results are obtained only at the stage in which programme development has been completed, they do not have any formative functions.

Summative evaluation is based on tests' results, student reactions to the instruction, teachers' views concerning the effectiveness of instruction, follow-up studies of students who have participated in a programme of instruction, parents' reactions and such other types of evidence of varying degrees of validity.

The role of the evaluator in summative evaluation is very different from that of the formative evaluator. In the latter case the necessity for close-cooperation and interplay between the evaluator and the curriculum developer has been emphasized. In summative evaluation the evaluator must be independent, uninvolved, disinterested, committed only to the production of a dispassionate analysis of success and failure. His task, too, is wider, in that he must not only evaluate the success of the programme in achieving its own stated objectives, but must also consider other objectives which teachers in general might reasonably expect to achieve through such a programme whose objectives are confined to concept mastery and understanding must also be evaluated in terms of achievement of skills in simple computation in the four rules (addition, subtraction, multiplication and division), and in knowledge of unit of measurement such as length, capacity, weight, etc.

See Annex A for process of curriculum development in Pakistan.

8.3 Self Assessment Questions (*Exercise No. 3*)

1. What is the function of curriculum evaluation?
2. What are the two forms of curriculum evaluation?
3. What is formative evaluation?
4. What types of evidence are used for formative evaluation?
5. What is summative evaluation?
6. What types of evaluation techniques are used for summative evaluation?
7. What type of evaluation do you, as a teacher/administrator, use of curriculum development? Do you think your method of evaluation needs changes in the light of the information provided to you in this unit? Discuss.
8. Encircle the most appropriate answer in the following:
By conceptual framework of curriculum we mean:
 - i) The actual curriculum
 - ii) Relationship between various elements of curriculum

- iii) Conceptual foundations of curriculum
 - iv) Non of the above.
9. Which of the evidences are used in formative evaluation of curriculum?
- i) Judgmental
 - ii) Observational
 - iii) Student learning
 - iv) All of the above

Answers to Self Assessment

- Q.1-7 Please see the relevant portion of the unit.
 Q.8 ii
 Q.9 iv

8.4 Self Assessment Questions (Exercise No. 4)

1. Why is a conceptual framework essential for curriculum development? Explain.
2. What should be the rationale of curriculum development?
3. Identify elements of curriculum, how are these elements inter-related?
4. What, in your opinion, is the most important stage in curriculum development? Explain.
5. Discuss the sources through which we derive our educational objectives.
6. What are the various approaches to content organization? Which one, do you think, is best suited for content organization and why?
7. Compare disciplines/Subjects based organization with competencies based organization.
8. Suppose you are asked to plan a curriculum for social studies for classes IX and X. Which design of content organization will you prefer for developing creative and critical thinking among the students?
9. Which instructional method will you use for teaching the curriculum mentioned in question 8? Discuss its strong as well as weak points.
10. What do you understand by heuristic method? What are its characteristics and usefulness for instruction?

11. What are the major characteristics of the following teaching methods?
 - a) Discussion-questioning approach
 - b) Problem-solving approach
 - c) Discovery method
 - d) Inquiry approach
12. What are the various bases for selecting an appropriate teaching method?
13. Why is evaluation necessary? How does it help in improvement of curriculum?
14. How is formative evaluation different from summative evaluation?
15. What are the functions of formative evaluation? What types of evidence are needed in formative evaluation?
16. Suppose you are required to evaluate a curriculum in vogue for the last two years. What form of evaluation you will apply?
 - 1) For answers to essay type S.A.A's see relevant sections of the unit.
 - 2) Answers to objective type questions of exercise No. 3 are as 8. (ii) 9. (iv).

Bibliography

Borich, Gary D., *The Appraisal of Teaching Concepts and Process*, Addison, Wesley Publishing Company, Reading, Massachusetts, 1977.

Brunner, Jerome S., *The Process of Education*, Harvard University Press, Cambridge, Massachusetts, 1962.

Doll, R.C. (1962) *Curriculum Improvement: Decision Making and Process*. Boston: Allyn & Bacon.

Hooper, Richard, Editor, *The Curriculum: Context, Design and Development*, Oliver and Boyd, Edinburgh, 1975.

Pang, V. (2005) *Curriculum Evaluation: An Application in a Smart School Curriculum Implementation*. Kota Kinabalu: University Malaysia Sabah.

Schmidt, W.H., McKnight, C. C., Houang, R.T., Wang, H., Wiley, D., Cogan, L. S., and Wolfe, R. G. (2001). *Why Schools Matter: A Cross-National Comparison of Curriculum and Learning*. San Francisco: Jossey-Bass.

Oliva, P.F. (1992) *Developing the Curriculum*. Third Edition, New York, United States of America: HarperCollins Publisher.

UNIT 4

Aims, Goals and Objectives of Education

Written by: Dr. Mushtaq Ahmad Goraha
Reviewed by: Dr. Afshan Huma

CONTENTS

Introduction.....	94
Objectives	94
1. Conceptualization	95
1.1 The Significance of Aims, Goals and Objectives	95
1.2 The Classification of Aims, Goals and Objectives	96
1.3 The Nature of Aims	96
1.4 Examples of Aims.....	97
1.5 The Nature of Goals.....	99
1.6 Examples of Goals	100
1.7 The Nature of Behavioural Objectives	100
1.8 Examples of Behavioural Objectives.....	102
1.9 Distinctions and inter-Relationships	102
1.10 Self Assessment Questions	105
2. A Brief Review of the Objectives Movement in Pakistan.....	108
2.1 The Origins	108
2.2 Systematic Conceptualizations	111
2.3 Taxonomies of Educational Objectives	112
2.4 Self Assessment Questions	117
3. The Development of Objectives	120
3.1 The Main Approaches to Stating Educational Objectives	120
3.2 Writing Behavioural Objectives	121

3.3	Self Assessment Questions	124
4.	Critique of Models of Objectives.....	126
4.1	Criticisms of the Objectives Model	126
4.2	The Process Model.....	128
4.3	The Humanistic Model	129
4.4	Synthesis	130
4.5	A Proposed Pakistani Model.....	131
	Activity	132
4.6	Self Assessment Questions	132
4.7	Bibliography	133

Introduction

Education is fundamentally a goal-oriented activity. An aimless education spells disaster and plays havoc with the destiny of a nation. Education without aims is like a ship without a rudder pushed on a perilous sea voyage. Aims provide a focus and direction to the entire system of education. That is why governments attach so much importance to the aims of national education.

The Quaid-i-Azam in his message to the First Educational Conference in 1947, stated emphatically that he wanted to establish a viable, productive and sound system of education suited to the needs and requirements of the people of Pakistan, with due regard to Muslim history and ideals. (Qureshi, 1975, p.27). It is regrettable to note that subsequent governments have failed to clearly define and implement the aims of Pakistani education. Speaking from an ideological standpoint, the story of Pakistani education is the story of aimless education. (Qureshi, 1975, pp.49, 60-61, 72).

An understanding of the meaning of aims, goals and objectives is essential for curriculum planners and teachers. Failure to gain this understanding is likely to produce a variety of problems for the various groups participating in educational programmes and activities. This unit is, therefore, concerned with the technical explication of these terms. It is divided into the following four parts:

1. Conceptualization
2. Objectives movement
3. Development of objectives
4. Critique of models of objectives

Objectives

After studying this unit, you should be able to:

1. Classify aims, goals and objectives and understand their significance.
2. Show the distinctions as well as the relationship between aims, goals and objectives.
3. List the major sources of aims, goals and objectives.
4. Indicate the principal sources of current interest in behavioural objectives.
5. Give a brief review of the objectives movement in education.
6. Explain Bloom's Krathwol's and Harrow's taxonomies of educational objectives and mention important points in their favour and against them.
7. Describe the main approaches and different formats in writing behavioural objectives.
8. Develop statements of behavioural objectives.
9. Analyze and evaluate the principal models of curriculum objectives.

10. Develop a sound rationale for, and sketch an outline of proposed Pakistani model of educational objectives.

1. Conceptualization

1.1 The Significance of Aims, goals and Objectives

Aims provide a synoptic view of what we expect from education as a whole. Their major function is to provide purpose and direction to the whole educational system. (national Education Policy, 1979, p.1). Unless aims are first clearly stated, no educational programme can be meaningfully conceived, planned and initiated. Actually aims act as guiding principles and highlight the major emphases for central concerns of any system. Hence, knowledge of aims is indispensable to curriculum planners and other related groups.

The end-products of educational systems are shaped and moulded by the central aims which differ from one national to another. The aim of traditional Muslim education was to produce pious and practicing Muslims. American education is wedded by and large to the production of democratic and pragmatic individuals, while the socialist system endeavours to produce true “socialists”. You can see the typical stamp in the end-products of the various school systems. And different systems may operate even within the same country. This is so because aims help to unify different educational programmes and objectives. Jamia Ashrafia (a religious Muslim University) and Forman Christian College, separated only by the Gulberg Canal in Lahore, represent two different viewpoints. Each entertains a peculiar outlook that is personified in the lives of the youth under their care. This indicates the powerful role of aims in education, be it Eastern or Western, public or the private. These different sets of aims represent different “colour schemes” and curriculum developers and teachers should be alert to the choice and implications of such schemes.

As for the goals of education, they are sharply focused on school-wide educational outcomes. (Zais, 1976, p.306). They are derived from aims and indicate more clearly what the aims actually stand for. In fact, they are the signposts on the highway of educational programmes. Goals, as Davies tells up, help curriculum planners focus their attention on the actual destination. Unlike aims, goals render a practical service in operationalizing the entire educational activity from the elementary to the higher stage. Their role is crucial (Davies, 1976, p.14).

But both goals and aims are not enough in providing immediate direction for classroom instruction and evaluation (Bloom et/al., 1971, p.21). Objectives, on the other hand, present detailed and clear specifications of each goal in terms of knowledge, skills, values, beliefs, ideals and appreciations. Their use to curriculum planners, teachers and learners is all too obvious.

Specific objectives can be of use in many ways. Firstly, they provide clear guidance in the selection of content and learning experiences. Secondly, they classify the types of

powers and capacities to be developed in learner – how the content is to be used and with what purpose in view. Thirdly, they provide a common and consistent focus for varied curricular activities. Hopefully, the multiplicity of subjects and of teaching approaches may be unified through objectives without which they will simply appear to the discrete and disjointed parts of an educational programme. Lastly, they guide us in evaluating the output by providing a relevant and clear set of criteria (Taba, 1962, pp.196-199). Thus aims, goals and objectives render positive service to all concerned, especially to curriculum planners and teachers.

In simplest terms by aims we mean the point, target, direction that is meant to be achieved or a result intended.

Wilson (2004) defines AIMS “as general statements that provide shape and direction intent to educational action”.

Orstein and Hunkins concluded that AIMS serve to:

1. Be general statement that provides shape and direction to the more specific actions designed to achieve future product and behaviour.
2. Be starting point for ideal / inspirational vision of the good future.

1.2 The Classification of Aims, Goals and Objectives

Generally speaking, a vertical hierarchy of three broad categories – aims, goals and objectives – is usually mentioned in books on curriculum and education. However, many eminent writers, particularly in the field of curriculum, prefer to use pairs of terms like ‘aims and objectives’ or ‘goals and objectives’, perhaps, to simplify the process of objectives formulation. Hilda Taba, Bloom and his associates, Michaelis, Grossman and Scott may be cited as writers who exemplify this approach.

Document entitled “Goals and Aims of Education” (Ministry of education, 1977, p.2), treated aims as something intermediary between goals and objectives. Aims being mainly concerned with the major stages of education; while the term goals’ was used to refer to overall general statements of the purposes of Pakistani education. On the other hand, most of the curriculum experts and philosophers accept that aims are more general than goals. Ivor K. Davies (1976, pp.11-14), Robert S. Zais (1976, p.305) and many other writers forcefully represent the latter view, and it is this approach, which considers aims, goals and objectives as hierarchy, which is adopted in this unit.

1.3 The Nature of Aims

Curriculum aims refer to general statements that describe expected life outcomes based on some value scheme borrowed from philosophy, consciously or unconsciously. Their distinctive quality is that they are not directly related to school or classroom outcomes. “Human Survival”, “self-realization” and “ethical character” are examples of a few curriculum aims. Aims are thus remote and long-range and have to be converted into

more immediate and specific school outcomes if they are to be realized in actual practice (Zains, 1976, p.306).

An aims gives shape and direction to a set of more detailed intentions for the future. They are just a starting point – and represent an ideal, an aspiration and a direction which education system should take in general. Thus they act as a guide to action and provide a general framework for the overall educational process (Davies, 1976, p.12). Since they are principally concerned with large ends and purposes that act as unifying threads for different programmes and activities, they are relatively few in number but are broad in scope and applicability.

Aims are inspirational and visionary in character and are, therefore, vague and permanently open-ended (Richmond, 1976, p.175). they have to be clearly defined from age to age as they take on new meanings. For example, the concepts of a “good life” or “educated citizen” admit of several interpretations that vary from age-to-age and from nation-to-nation even during the same period. Thus an aim needs to be clearly defined, interpreted and explained with reference to the national ideology and socio-political climate obtaining in a country (Sharif, 1964, pp.40-45). Besides, an aim has to be analyzed and broken down into its constituent parts for its practical realization and accomplishment.

In brief, statements of aims just provide overall direction and guidance to a school system; but they are not always helpful to teachers in classroom instruction or evaluation. They are basically meant to provide direction to policy-makers at different levels – national, provincial and local. Hence they are not valid for specific and concrete action (Bloom, 1971, p.21).

1.4 Examples of Aims

Harry S. Broudy classified aims under four categories:

- a) Value pattern
- b) Social organization
- c) Social roles
- d) Life style. (Zais, 1976, pp.307-308).

All these categories must be inter-related with each other to produce the desired results. For instance, it is necessary that aims in other categories should be consistent with the aims and requirements of the central value patterns and display the same spirit. Any inconsistencies in this regard would be damaging to the dominant value pattern.

i) Value Pattern

This is general category which actively influences the character of aims in the other three categories. Aims in this category represent a philosophical position and viewpoint. If the central aim is the development of Islamic character, all other categories would be geared to the realization of this pivotal value.

The students of different educational systems bear the stamp of their typical value pattern. For example, the products of Aligarh, Deoband, Nadva and public schools in Pakistan reflect the different value patterns and characteristics of their institutions. Sir Syed's main concern was to promote western sciences and help the Muslim youth to get jobs in the Government. Deoband aimed at the preservation of a classical religious orientation, while Nadva attempted to modernize religious knowledge and bring it in line with the new demands of modern times. (Ahmad, 1977, pp.72-72). These diverse value patterns shaped the institutions and hence the attitudes and behaviour of their students.

ii) Social Organization

This refers to "patterned relations of individuals and groups" (Broom and Selznick, 1958, p.14). The way people behave is largely determined by their relations to each other and by their membership of different groups. Actually social organization is a network of relationships of individuals and groups that may impede or develop a social philosophy or viewpoint. No set of aims can prove fruitful until it is interwoven into the entire fabric of social organization.

A social organization acts as a social habitat for the development and promotion of a preferred value pattern whether Islamic, democratic or socialist. Given the above value pattern, social organization would be focused on Islamic social outcomes such as unity and social integration, brotherhood, concern for the collective good and a deep sense of respect for all individuals and groups on the basis of intrinsic personal qualities rather than surface qualification, i.e. race, creed, colour, status or geographical location.

iii) Social Roles

Ordinarily value means belief about what is right and wrong and what is important in life. Social value means the norms or forms of behaviour which are widely acceptable and admirable in society.

A social role refers to "pattern of behaviour associated with a distinctive social position" such as the position of a mother, teacher, administrator, employer or students. It indicates what a person ought to do in his or her typical position. Social roles are complementary as well as complex. (Broom and Selznick, 1968, pp. 12-13). Aims specifying preferred social roles would offer a particular set of qualities to be developed in parents, teachers, family members, neighbours, citizens and official which are in consonance with the national ideology. The Prophet of Islam (Peace Be Upon Him) is the best model for the Muslims. The Quran exhorts believers to assimilate this model into their personality.

In Islam, several roles are combined within a single individual and he or she is expected to behave likewise in a given situation during peace or war. A ruler is not simply a head of the state; he is also guardian of public morality, a friend, neighbour and a citizen. This is how Islamic values would influence the social role of individuals.

iv) Life Style

This refers to the way in which one lives one's life. It is the practical manifestation of one's preferred value pattern. You can see a variety of life styles in any society – for example, that of a businessman, a gypsy or a hippy. The Eastern life style is very different from that in the West. However, each ideology attempts to develop, on the whole, a typical life style with reasonable scope for variation and spontaneity within its cultural framework. In brief, the life style must be in consonance with the spirit of central value pattern.

Example of Aims

Statements of aims may be short or long but detailed statements are generally preferred for curriculum building. The examples that follow are taken from the National Education Policy (1998-2010).

- To enable the citizens of Pakistan to lead their lives according to the teachings of Islam as laid down in the Quran and Sunnah.
- To evolve an integrated system of national education by bringing Deeni Madaris and modern schools closer to each stream in curriculum and the contents of education.

Reference: pakiseducatin.blogspot.com/2010/07/edu-policy-1998-2010.html

Goals:

Simply goals are statements that describe the competence, skills and attributes. Goals are may be in amorphous language or in more specific behavioral terms.

According to Wilson (2005), Goals are “the statements of educational intention which are more specific than aim.”

Olive (2001) distinguishes between curriculum goal and instructional goals.

Curriculum goals: a purpose in general terms without criteria of achievement.

Instructional goals: a statement of performance expected of each student.

1.5 The Nature of Goals

Curriculum goals refer to school outcomes as a whole, and they are somewhat removed from immediate classroom assessment (Zais, 1976, p.306). They lie in the middle of the “aims-objectives” continuum and goals actually represent different aspects or major constituents of an aim and thus prove helpful in identifying its principal parts. They clarify and explain what a particular aim is directed at the intent as well as the content.

Goals are derived from aims and must be consistent with them. They attempt to operationalize the thinking represented by an aim, making it relatively clear and practical (Davies, 1976, p.14). They are more explicit than aims and thus indicate the broad pathways to the attainment of over-arching and all-inclusive aims. In short, goals simply facilitate the achievement of aims.

An aim indicates the direction, while a goal points to the actual destination. Rather than being visionary in character, a goal takes on a concrete form and becomes the focus of an activity. It serves as a basis for action and helps us in bridging the gap between the 'ideal' and the 'real'. However, goals are less specific than objectives and are no more than inferred descriptions or hypotheses about the things learners will be able to do at the conclusion of a learning sequence (Davies, 1976, p.14). They do not specify the expected behaviour of learners with precision.

Several goals may be derived from an aim. These goals are then ordered so that priorities can be determined and allocated. Some of the goals may be realized at an early stage in the learning process; others may be taken up in the middle and still others may be accomplished very late (Davies, 1976, p.14).

Goals serve two main purposes. Firstly, they help us put concepts into writing and indicate what the learners must now at the end of a course (terminal goals). Secondly, they help the teachers and others concerned to bridge the gap between an aim and a specific objective (Leonard and Utz, 1974, p.88).

1.6 Examples of Goals

An example of an aim is to develop in students an understanding of how to write research proposals in Education. This statement may be broken down into the following five goals:

1. To acquire a concept of research proposal and its variants, as seen in historical, descriptive and experimental enquires in education.
2. To appreciate the value of writing a research proposal as a basis for clarifying thoughts, analyzing tasks, synthesizing procedures and evaluating possible consequences.
3. To identify an educational problem, appropriate to the interests of the investigator which is capable of investigation by the methods proposed.
4. To prepare an appropriate research proposal, according to generally acceptable standards in educational enquiry.
5. To critically appraise the proposal as a means of determining both its deficiencies and its strengths as a planning document.

It is clear from the above that goals form aspects of an aim and are more explicit than the latter. They however, indicate scope for further clarity and detail i.e. behavioural objectives.

Statements of goals may be long or short. For instance, national progress (as an aim) may be interpreted in the form of goals such as industrial development, agricultural advancement, political stability, elimination of illiteracy and so on. And quite a different set of goals may be generated depending upon the vantage point from what a person looks at the aim.

1.7 The Nature of Behavioural Objectives

Objectives are usually specific statement of educational intention which delineates either general or specific outcomes.

1. Explicit formulation of the ways in which students are expected to be changed by educative process.
2. Intent communicated by statements describing proposed changed in learner.

Objectives can be stated in behavioral terms. According to bloom objective can be categorized as;

- a) Cognitive
- b) Affective
- c) Psychomotor

Behavioural objectives go by several names – specific objectives, performance objectives and instructional objectives. Increasing interest has been shown in them during the last two decades. The educational community is, however, divided with a great many outstanding scholars like Bloom, Tyler, Gagne and Taba considering them a virtual renaissance, while other prominent figures regard them as tool mechanistic and dehumanizing. The debate continues but with current rethinking, some sort of compromise may be reached in the near future.

The current interest in behavioural objectives has arisen from several sources. Among these are the famous works of educational theorists like Tyler, Bloom, Mager and Krathwohl which lay heavy stress on the need for accurate assessment and measurement of learners' knowledge in terms of observable and specific human behaviours. Several educational taxonomies have been offered and a considerable literature is available on the subject. Bloom's taxonomy stands out to the most written about in the realm of education. Another source is industrial economics with its input-output models and techniques such as cost benefit analysis, operational research, systems engineering and job evaluation, all of which require precise, detailed and clear-cut objectives, prior to the formulation of a problem and strategy of attack. These have had a positive impact on education. Combined with some other national and international forces, all the above developments have played an important part in popularizing the use of behavioural objectives.

According to Davies, behavioural objectives are called behavioural because they are stated in terms of overt human behaviour which is both demonstrable and measureable. They describe in unambiguous terms the expected behaviour of a learner at the end of a learning experience. Objectives are very specific and highly explicit with no ambiguity about their meaning, focus and intention. They are short-range, time-bound, quantifiable and operational in form and spirit.

They refer to the most immediate specific outcomes of classroom instruction. The most important thing to note the objectives is that they act as a clear guide and provide

immediate direction to curriculum planning, classroom instruction and evaluation. They are sharply focused on intended learning outcomes and leave no scope for misinterpretation. Precision, clarity, specificity and quantifiable are the principal features of a truly behavioural statement of an objectives

Generally speaking, behavioural objectives are detailed specifications of desired outcomes at the end of a lesson, teaching unit, term, year or programme. And a large number of objectives can be developed from a given set of goals. The actual number depends upon several factors such as purpose, grade level, teacher's convenience and the generative capacity of the goals.

1.8 Examples of Behavioural Objectives

Now look at the examples below and consider their adequacy as behavioural statement:

1. "To be able to write a summary"
2. "To explain the theory of relativity"
3. "To be able to complete a 100 item multiple-choice examination on the topic of Muslim contribution to Science within one hour, with 70 correct answers as the lowest limit of acceptable performance".

You will probably have noted that (1) is an example of an incomplete behavioural objective. It does not mention the related content to be summarized, which could, for example be an English poem, an historical event or scientific theory. As regard (2), both the behaviour and the content are mentioned. However, by far the most comprehensive behavioural statement is (3) which contains all the necessary elements of complete behavioural objectives.

Activities

1. Discuss amongst your colleagues the differences amongst aims, goals and objective with examples.
2. Pick up any three aims of education of each education policy and develop goals and objectives from them.

1.9 Distinctions and Inter-Relationships

If the title of a book is regarded as an aim, its various chapters would be parallel to goals and the countless facts, ideas, concepts, principles and generalizations would resemble objectives. It is obvious those objectives are many and varied and that an aim is simply inexhaustible. For example, thousands of books have been written on Education with different formats and approaches and yet the basic theme continues. This simile may throw some light on the distinctions amongst the term 'aim', 'goals' and 'objectives'.

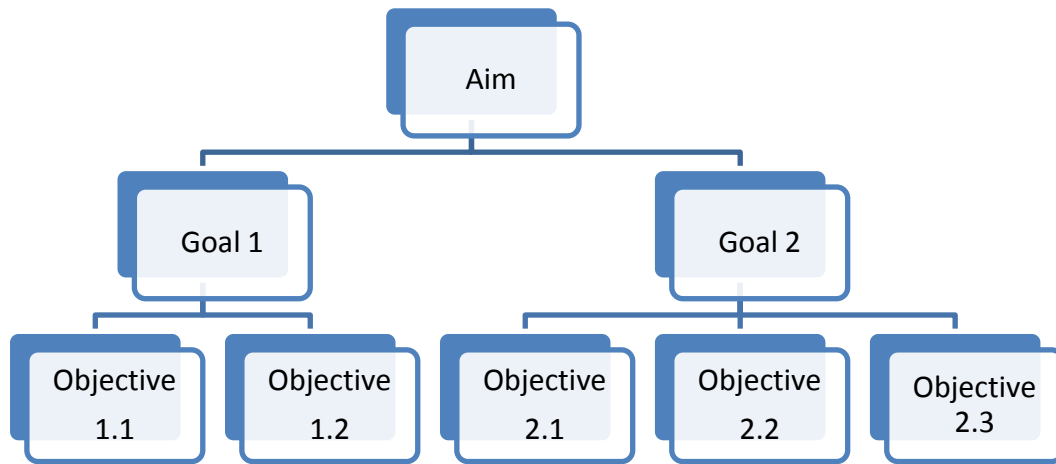
To summarise what has been said earlier, aims, goals and objectives represent different positions in descending order, each with a specific purpose and role to play. Aims reflect philosophy, policy and rationale, while goals stand for strategies and objectives for tactics

in the actual classroom situation. Aims represent life outcomes; goals refer to school outcomes; and objectives stand for specific outcomes of classroom instruction. Again, aims are general in nature, objectives are highly specific and goals which are in an intermediate position have the potential to generate a number of behavioural objectives.

You should note, however, that aims, goals and objectives are relative term. They sometimes overlap and clear distinctions are not always possible. But in any case, they should be consistent with one another. Also their meanings can change in different context. Within the context of a whole curriculum, the goals for each course included in the curriculum could be regarded as objectives of that curriculum. The goals of an instructional unit may become the objectives of a course. Thus the goals objectives continuum is relative and flexible (Leanard and Utz, 1974, pp.88). It is thus sometimes difficult to differentiate goals from aims. Perhaps that is why many writers use them interchangeably. Therefore, these terms should be viewed and differentiated in their interactive perspective, with full awareness of their functional role and potential. Otherwise, what does Peters mean when he speaks of the aim of lesson as being concerned with reaching the end of "Exercise 6". (Richmond, 1971, p.189). Now you may be able to visualize the difficulties entailed in the treatment of these popular terms.

In most cases, Zais points out, the distance between a curriculum objective and a curriculum goal is great; but between an aim and an objective it is enormous. Therefore, the curriculum worker must be vigilant in maintaining congruence in aims through goals to objectives. He should be able to demonstrate the relationship of the required school tasks (goals and objectives) to those of the desired life tasks (aims). But this can be possible only when he possesses adequate knowledge of the philosophical, psychological and logical bases of teaching and learning (Zais, 1976, p.307).

Sequencing Aims, Goals and Objectives AGO



However, it must again be recognized that this inter-active relationship is sometimes very much confusing. At times, they overlap, and it becomes difficult to differentiate goals from aims and objectives from goal – so much so that the very classification becomes doubtful. “At precisely what point in the continuum”, remarks Zais, “an objectives becomes a goal, or a goal an aim, is impossible to specify” (1976, p.307). In spite of these difficulties, these broad categories along with their inter-relationships can be of immense help to all concerned.

1.10 Self Assessment Questions

1. Write T (True) or F (False) in the space provided against each statement below:
 - a) Aims are highly imaginative and visionary by nature.
 - b) Curriculum planning involves aims and goals but excludes specific objectives.
 - c) Goals help us to operationalize educational thinking at a higher level.
 - d) Aims provide an overall direction to the whole system of education.
 - e) Objectives give direct help in classroom instruction.
 - f) The role of objectives is to specify human behaviour in terms of knowledge, skills, values and attitudes.
 - g) Goals are less explicit than aims.
 - h) Goals provide a clearer indication of intended educational outcomes than aims.
 - i) Goals are directly related to classroom evaluation.
 - j) Goals refer to the ultimate ends.
 - k) Statements of behavioural objectives are specific and clear.
 - l) Goals are more operational in form and spirit than objectives.
 - m) Aims, goals and objectives are relative terms.
 - n) Instructional objectives are different from behavioural objectives.
2. Examine the following groups of statements and identify whether each statement is an aim, goal or behavioural objective. Write a (aim), g (goal), o (objective) in the space provided before each statement.
 1. To develop in citizens a deep sense of respect for the constitution.
 2. To make citizens obey rules and regulations in their daily life as enforced by the state.
 3. To enable all groups of people to gain a full understanding of the Constitution.
 4. The college students will be able to differentiate between the law and the Constitution.
 5. To study the implications of the constitution for various sections of the public.
 6. To encourage Pakistani students to become enthusiastic about technical subjects.
 7. The business students will be able to type 50 words per minute with only one mistake for every 200 words.
 8. To expound the view that scientific and technical development is the key to national progress.
 9. To cultivate the spirit of enterprise in the children and youth in all educational institutions.
 10. The Arab students will gain a variety of experiences during this stay in Pakistan.

11. Half of the fifth graders will correctly list the names of the first four Caliphs of Islam.
 12. In a 30-yard pool without competition, the student will swim 60 yards free style in less than 50 seconds.
 13. To develop reflective thinking in philosophy.
 14. Eighty percent of the students on a course in Curriculum Development will be able to differentiate between aims, goals and objectives as outlined above.
 15. Developing Islamic character and abiding love for the principles of Islam.
 16. Students study deeply new movement in the world of Islam.
3. Encircle the most appropriate item each statement in the following:
1. The nature of aims indicates that they are basically:
 - a. Operational
 - b. Practical
 - c. Philosophical
 - d. None of the above
 2. Policy-makers at the provincial level are mainly concerned with:
 - a. Aims
 - b. Goals
 - c. Objectives
 - d. Goals and Objectives
 3. To develop good speech habits among learners is a statement that comes under:
 - a. Aims
 - b. Goals
 - c. Objectives
 - d. Both a and b
 4. School-wide outcomes may be classified under:
 - a. Aims
 - b. Goals
 - c. Objectives
 - d. Both a and b
 5. A statement that is partly general and partly concrete and can be further broken down into its constituent parts belongs to:
 - a. Aims
 - b. Goals
 - c. Objectives
 - d. Non of the above

6. A statement that does not permit different interpretations fall under:
 - a. Aims
 - b. Goals
 - c. Objectives
 - d. Goals and Objectives
7. To gain mastery over a subject is a (n):
 - a. Aim
 - b. Goal
 - c. Objective
8. To classify rocks and describe them properly is a (n):
 - a) Aim
 - b) Goal
 - c) Objective

4.

1. Write four points on the significance of aims goals and objectives and briefly describe each one of them.
2. How are objectives useful to planners and teachers? List four points. (don't explain).
3. The end-products of educational system are shaped by the central aims of that system. Explain this statement in a paragraph by giving one concrete example.
4. Briefly describe the nature of aims under four points and given two concrete examples.
5. Why are aims not valid for guidance in classroom instruction? Explain in a paragraph.
6. Write a paragraph on the nature and role of goals in education in Pakistan.
7. Write a brief note on the nature of behavioural objectives. Also give two examples to explain your answer.
8. Write two points of difference between (a) aims and goals and (b) between goals and objectives.
9. Inter-relate aims, goals and objectives in a paragraph.
10. "Aims, goals and objective are relative terms". Explain this statement with the help of two suitable examples.

2. A Brief Review of the Objectives Movement in Education

A historical review is always instructive as it enables the reader to understand the progressive development of the subject being studied. It is revealing in that it uncovers realities and can help us future pitfalls.

2.1 The Origins

Generally speaking, the organs of the movement for explicit objectives can be traced back to the educational works of Herbert Spencer and Johann Herbart. Spencer proposed a classification of human activities as a basis of educational objectives and developed five major objectives for school curricula – self-preservation, securing the necessities of life, child-bearing, maintenance of socio-political relationship and leisure activities. As for Herbart, he highlighted the significance of a clear statement of aims for writing a lesson plan and proposed five instructional stages popularly known as the Herbartian steps of teaching (Davies, 1976, pp.44-45).

Zais contends the behavioural objectives are neither basically new nor are they a creation of educationists. They rather owe their genesis to the well-known concept of “Operationalism” in scientific disciplines (Zais, 1976, p.311). But why stop at “Operationalism”, why not go further back in the past to uncover the true origins of behavioural statements.

The truth of the matter is that the spirit (clarity of purpose) and general features of the behavioural approach were born with the birth of Islam. If clarity, behaviour specification, action-oriented formulation and criterion-referenced description are accepted as the hall marks of behavioural objectives, then the Holy Quran heralded the beginning of this approach long before the educational writings of Spencer, Bobbit, Tyler, Bloom and Gagne.

The Quranic approach to behavioural statements is unique and distinctive. The set of “desired behaviours” is normally preceded by a general statement of the goal; and the short behavioural statements and with judgmental remarks or motivational inputs of reinforcement or feedback depending upon the situational mood of the verses. The Quran captures life in its entirety and does not tolerate any dichotomy between the material and the spiritual and the objective and subjective aspects. Consequently, the Quranic behavioural statements cover both overt and covert behaviour. Therefore, they are not always behavioural in the rigid sense of the term. Rather, in their typical format, they present a blend of behaviouristic and humanistic approaches with several new additions. They appeal equally to the mind, heart and spirit; and appear to satisfy all the demands of human nature within the general framework of Islam. This is the true essence of the Quranic model.

The behavioural statements are generally short and pithy. But there are long explanatory statements as well. However, these belong to several categories; they are goal oriented, clarificational, explanatory and evaluative. Central themes like goodness, success, Taqwa

(piety), worship, life, faith, man, God and the Hereafter are repeatedly stated in behavioural terms in their manifold dimensions at different places in different context. The Quran avoids all possible detailed specifications of a given goal at one and the same place. Rather it “behaviourises” the concept under treatment on several occasions to unfold its rich potential in new situations. And in the process of behaviour specification, God relies heavily on the common sense of people to understand the terms. This lends freshness, variety and balance to behavioural statements.

Below are given a few examples to substantiate the veracity of our claim. We offer a translation along with the original text from the Holy Quran so that you may appreciate the beauty and style of the Quranic verses and judge the truth for yourselves.

Example No. 1:

“The believers must eventually win through these”:

1. Who humble themselves in their prayers.
2. Who avoid vain talk.
3. Who are active in deeds of charity.
4. Who abstain from sex except with those joined to them in the marriage bond, or the (captives) when their right hand processes, for they are free from blame. But these whose desires exceed those limits are transgressors.
5. Who faithfully observe their trusts and their covenants and
6. Who (strictly) guard their prayers. These are the believers who will inherit Paradise. They will dwell therein forever.

Example No. 2:

“It is not righteousness that you turn your faces to the East and the West; but righteous is he:

1. Who believes in Allah and the last day and the angels and the scriptures and prophets.
2. Who gives his wealth, for love of Him, to his kinsfolk and to orphans and the needy and the wayfarer and to those who ask to set slaves free.
3. Who observe proper worship.
4. Who pay the poor-due.

5. Who keep their treaty when they make one.
6. Who are patient in tribulations and adversity and time of stress.
7. Such are they who are sincere.
Such are the God-fearing.
(The Cow: 177)

Example No. 3:

“Be quick in the race for forgiveness from your Lord, and for the Garden whose width is that of the whole of heavens and of the earth, prepared for the righteous those:

1. Who spend (freely) whether in prosperity or in adversity.
2. Who restrain anger.
3. Who pardon all men, for God loves those who do good.
4. Who having done something to be ashamed of or wronged their own souls, earnestly bring God to mind and ask for forgiveness for their sins. And who can forgive sins except God?
5. Who are never obstinate in persisting knowledge in (the wrong) they have done.
6. For such the reward is forgiveness from their Lord, and a Garden with rivers flowing underneath, and an eternal dwelling: How excellent a recompense for those who work and strive”
The Family of Imran: 133-136).

Note the break-up of general statements into several specific objectives. Also note the use of action verbs, moderate behaviour-specification, necessary clarifications, and both short and long statements of objectives. Other interesting features are the beautiful general statements at the beginning of each example, and as indicated already, the judgmental remarks or motivational inputs at the endings.

Further, it must be recognized that the Quran avoids extremes in action verbs and in behaviour specification. However, the Quran is not a book on curriculum development. It is, rather, a Book of Guidance which is unique in its form, message and approach. Hence the Quran cannot be expected to conform to professional formulations-behavioural, humanistic or any other. It simply transcends them. And transcendence, as Phenix (1974, pp.118-130) appears to suggest is, perhaps, the future hope of education and the curriculum. In brief, the Holy Quran effectively communicates its message to the general reader (and not the professional alone) and effective communication is at the heart of

behavioural approach. (Bloom et. All, 1971, p.36 and Mager 1962, p.12). The Holy Book incidentally embraces several strands of new approaches such as humanism, behaviourism and spiritualism and reintegrates and refashions them into something different which beautifully accommodates “specifics” into its larger “holistic framework”, with a sharp emphasis on the long-range goals of human destiny.

2.2 Systematic Conceptualizations

Franklin Bobbit, writing in 1918, highlighted the need for clearly stated objectives for curriculum building. In a later work, he attempted to derive objectives from activity analysis. However Bobbit’s main emphasis was on the need for specificity, simplicity and clarity in objectives formulation (Davies, 1976, pp.47-48)

In 1924, Werrett Charters put forward his theory of systematic curriculum design, in which he stressed that the first step in curriculum construction should be the delineation of its major objectives. This should then be analyzed into ‘ideals’ and ‘activities’. Thus he classified objectives as ‘ideal’ objectives and ‘activity’ objectives. Ideals like “good citizenship” were determined by the one method and activities like “the duties of a good citizen” by another. However, both should be further broken down into manageable working units, and their relationships exemplified by means of an ‘analysis chart’.

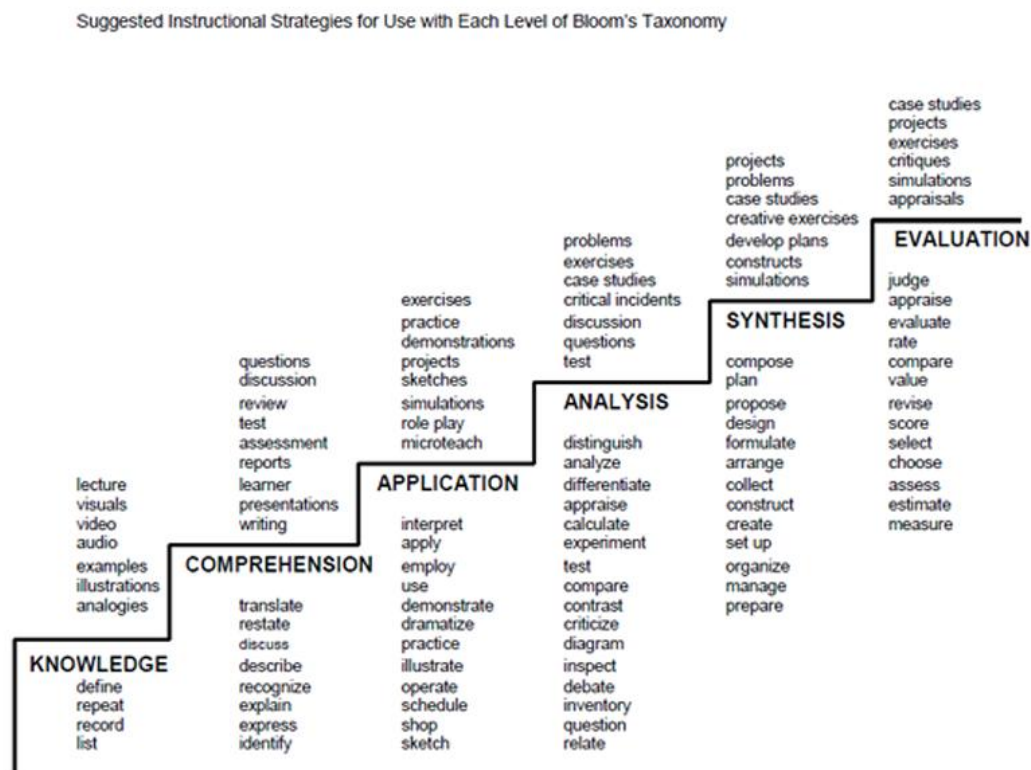
Ralph Tyler improved upon the above work by attempting to produce more systematic and detailed procedure for objectives formulation in his small but revolutionary book *Basic Principles of Curriculum and Instruction* (1969). Among other things, Tyler proposed a two-dimensional matrix (behaviour plus content) for stating behavioural objectives. He insisted that objectives should be expressed in terms of both of the kind of behaviour to be developed in the learner and the content in which the behaviour is to operate. And his emphasis on learning experiences through which to attain given objectives is highly instructive. (Tyler, 1949, pp.46-50, 63). However, Tyler was mainly motivated by the requirements of accurate assessment and evaluation.

Inspired by Tyler’s work on testing and evaluation, Benjamin Bloom and his associates produced an extremely influential book – *Taxonomy of Educational Objectives* in 1956 which dealt with the cognitive domain. Coverage of the affective domain was attempted later by Krathwohl Bloom and Masia in 1964; while Anita Harrow (1972) considered the last domain – the psychomotor. Each of these domains is a large category under which educational objectives are classified in a hierarchical arrangement from simple, low-level learnings to complex high level learnings. These taxonomies attempted a highly sophisticated and detailed treatment of educational objectives and have had a great impact on educational practices at an international level. Their collective influence on objectives formulation and evaluation has been profound. However, you should also be aware of the important contribution of other writers like Mager, Gagne, Taba and McAshan who have contributed immensely to the enrichment and extension of the behavioural approach.

In concluding this review, one must mention the fact that the behavioural approach has come under sharp criticism from several quarters. Perhaps you have formulated some criticisms yourself. If so, note them down and compare them with the views expressed in Section 5 where this issue is dealt with in detail.

2.3 Taxonomies of Educational Objectives

Several taxonomies of educational objectives have been offered by a number of writers and teams of experts. The ones presented by Bloom, Krathwohl and Harrow for the cognitive, affective and psychomotor domains respectively are very popular and have been extensively used by curriculum planners, teachers and learners. The taxonomies represent classifications of objectives in hierarchical order in each domain and thus provide guidance in curriculum development, in test construction and evaluation and in teaching and learning.



The taxonomies serve several purposes of taxonomies. They help in specifying aims and goals in clearer terms, with the result that they no longer remain vague and hazy. Taxonomies also serve as tools in test construction and evaluation, and enlighten teachers and curriculum planners on several possible categories of objectives for different courses, lessons or tests. Moreover, they can also be helpful in the analysis of tests and examinations and can aid teachers and learners to focus their attention on the relative emphasis they have placed on different categories or levels of objectives.

Let us now look more closely at the work done on the three domains (a) cognitive, (b) affective and (c) psychomotor.

i. The Cognitive Domain

Bloom and associates developed this taxonomy which includes six levels or categories of objectives ranging from simple to complex cognitive processes. The levels and their developmental sequence are arbitrary, based on the assumptions of the authors. The same levels may be defined and interpreted differently by other writers. However, bloom's categories are as follows:

1. Knowledge: This is the lowest category of objectives in cognitive domain dealing with remembering facts and information. It treats knowledge as product and includes facts, concepts, principles, generalizations, trends, classification, theories and structures (Michaelis et, al., 1975, p.78). This level does not pre-suppose any understanding and is confined simply to memorization of the elements of knowledge. Corresponding pupil behaviours include recalling, stating, indentifying, listing, describing. An example of an objective at this level would be: to describe the battle of Badr.

2. Comprehension: This is more complex than the first category. It involves interpretation and explanation of what was memorized and stores in the mind; and prediction based on material learned earlier. Corresponding pupil behaviours include paraphrasing, summarizing, illustrating, interpreting, explaining, interpolating, extrapolating, predicting etc.

Examples: to illustrate the concept of Jihad with reference to Muslim conquests in the early days of Islam.

To interpret a population graph.

3. Application: this is the ability to solve new problems using previously learned material, concepts, law, principles and theories in new settings. Corresponding pupil behaviour include solving, modifying, applying, computing, demonstrating, constructing, performing.

Examples: To apply two concepts of civil liberties by stating how they are involved in a recent action taken by the court to protect the rights of minority groups.

4. Analysis: This refers to breaking up the whole into its different components, determining their relationships, distinguishing relevant from irrelevant features and recognizing the underlying theory involved. It is a process of reasoning in its highest form. Corresponding pupil behaviours include distinguishing, discrimination, analyzing, categorizing.

Examples: To analyze the components of the cognitive domain.

5. Synthesis: This refers to the ability to join together different discrete parts to form a new and complete whole. This is a process of reorganization and rearrangement, culminating ultimately in something new and fresh. It involves some sort of creative

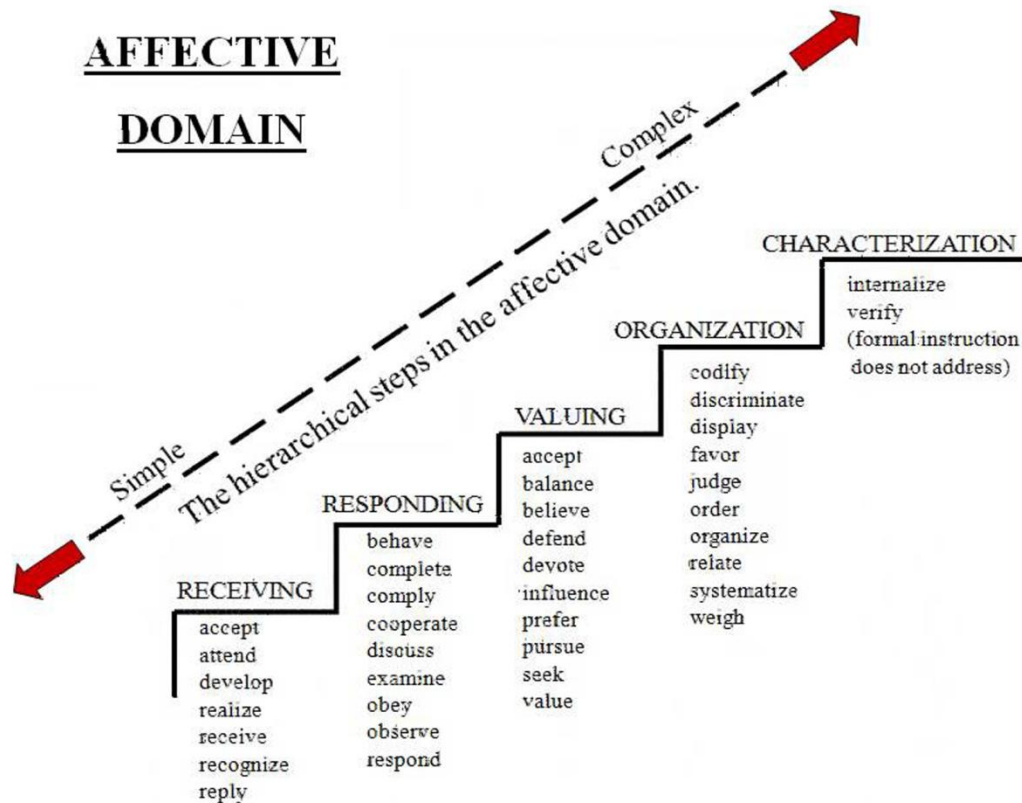
activity, corresponding pupil behaviour are designing, creating, composing, formulating, concluding, generalizing, etc.

Example: To draw a generalization from the data collected in an experiment.

6. Evaluation: This the ability to make judgments based on a given set of criteria. Judgments involve a high level of thinking. This is the highest level of cognitive domain, corresponding pupil behaviours include criticizing, justifying, concluding, evaluating, defending, comparing, contrasting, assessing, etc.

Example: To evaluate the secondary school curriculum in the light of the National Education Policy.

ii. The Affective Domain



Goodhart, F. Verdi P. Kennedy S. *Assuring Quality in Health Education*.
Presented at the Mid-Atlantic College Health Association,
October 25, 1991, Baltimore.
Reprinted with permission from Dr. Susan Kennedy

Krathwohl, Bloom and Masia elaborated on this domain which includes five categories of objectives dealing with values, attitudes, feelings, appreciations and other affective dimensions of learning. The categories are arranged in hierarchical order according to the degree of internalization (Michaelis et al., 1975 p.79). Unlike the cognitive domain

which entails both product and process, the affective domain is mainly process-oriented (Davies, 1976, p.151). The categories are:

1. Receiving: This is the lowest level. It refers to awareness or attention on the part of a learner towards the material being presented. It implies that the communication will be attended to. Corresponding pupil behaviour includes listening, attending, describing, identifying.

Example: To demonstrate an interest in music by listening to it.

2. Responding: The category goes beyond awareness and results in some sort of response on the part of a student, accompanied by feeling of satisfaction. The student not only attends but also reacts. Corresponding pupil behaviours include answering, reading, greeting, performing, complying, following.

Example: To enter the playground to play football.

3. Valuing: This suggests commitment and the worth a student places on a particular object, material or behaviour. Values of students are difficult, but not impossible, to ascertain; clues to one's values may be obtained from one's behaviour. Corresponding pupil behaviours are inviting, justifying, supporting, advocating, preaching.

Example: To demonstrate a conviction by writing a letter to the editor of a newspaper on the need to educate the adult population.

4. Organization: This involves conceptualization of values, clarification of relationships among them and organization of a value system. It involves the ability to bring together different values and an attempt to produce a coherent value system. Corresponding pupil behaviours include altering, combining, generalizing, formulating, and organizing.

Example: to make a judgment on women's freedom in Islam.

5. Characterization of a value complex: this the highest level which is combined with developing a life style that covers a broad range of activities consistently related with one another. This level may be achieved only in adulthood and is indicative of one's philosophy of life. Beliefs, attitudes and ideas are fused into one integrated whole. Corresponding pupil behaviours include performing, believing, qualifying, questioning, influencing.

Example: To support peace activities in the world.

iii. The Psychomotor Domain

According to Simpson (1972) psychomotor skills range from manual tasks, such as digging a ditch, to more complex tasks such as operating a complex piece of machinery.

The major categories are listed from the simplest behaviour to the most complex:

Perception (awareness): The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation.

Set: Readiness to act. It includes mental, physical and emotional sets. These three sets are dispositions that predetermine a person's response to different situations (sometimes called mindsets).

Guided Response: The early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing.

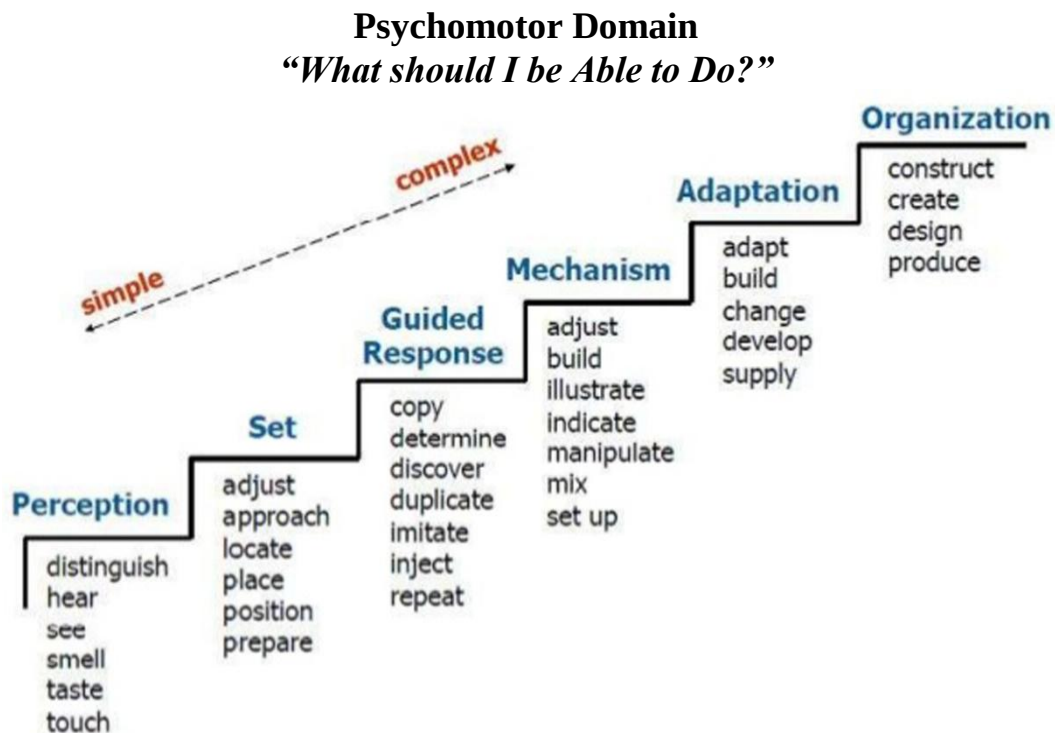
Mechanism (Basic Proficiency): This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency.

Adaptation: Skills are well developed and the individual can modify movement patterns to fit special requirements.

Origination: Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills.

Reference: www.nwlink.com

Anita Harrow developed this taxonomy dealing with psychomotor activities in 1972. It includes six levels ranging from the simplest to the most complex motor activities.



Although the three principal domains of educational objectives have been treated separately, they are fundamentally inter-related to each other. “When a student reviews a poem, he not only uses cognitive analytical skills but also gives his valuing and organization of values by the selection of certain skills and the insistence upon a set of criteria in evaluating and ranking the poem and poet”. Besides, the differences between various levels in the domains and the examples of corresponding pupil behaviours are not inclusive. An overlapping repetition of terms between and across the domains is possible and real (Leonard and Utz, 1974, p.83).

In spite of several limitations, the taxonomic approach is useful in many ways. As indicated before, it is helpful in planning the curriculum and in teaching and evaluation. The various domains make us attentive to the different levels or categories of objectives, some of which might otherwise be ignored in the educative process. These taxonomies have provided a great impetus to thinking in the field of learning and education. However, they should be handled intelligently, with due regard to the nature of the subject, its methodological treatment and other genuine concerns.

Activity

Go through the curriculum of different subjects at, Secondary/Intermediate levels and identify the objectives to be achieved under the following domains:

1. Cognitive Domain
2. Affective Domain
3. Psychomotor domain

2.4 Self Assessment Questions

- i) Re-arrange the following categories of objectives in their proper order from simple to complex.
 - a) i) analysis (ii) application (iii) knowledge (iv) synthesis (v) evaluation (vi) receiving
 - b) i) valuing (ii) organizing (iii) receiving (iv) characterizing (v) responding
- ii) For each of the items on the left hand side, choose the objective category on the right that goes with it, as already mentioned under the three principal domains of objectives classification. Put the letter on the line.

1. deals with explanation and Interpretation	a. skilled movement
2. Deals with critical judgment	b. knowledge
3. Deals with the preference of choice	c. evaluation
4. deals with a generalization Not a coherent values	d. non-discursive communication
5. deals with expert skills	e. characterization
6. deals with expressive movement Through postures and gestures	f. comprehension

- | | | | |
|----|---|----|------------|
| 7. | deals with willing response | g. | valuing |
| 8. | deals with recalling of facts,
Principles and theories | h. | responding |

iii) Encircle the most appropriate item in the following statements.

1. Workable statements of behavioural objectives have been offered by:
 - a) Tyler
 - b) Bloom
 - c) Harrow
 - d) Krathwohl
 - e) All of the above
2. This first modern attempt at the scientific treatment of behavioural objectives is associated with:
 - a) Tyler
 - b) Taba
 - c) Gagne
 - d) Mager
 - e) Bloom
3. The taxonomy of the cognitive domain was first attempted by:
 - a) Taba
 - b) Bloom
 - c) Harrow
 - d) Krathwohl
 - e) None of the above
4. The true origin of behavioural statements lies in:
 - a) The works of Bobbit and Characters
 - b) The scientific concept of Operationalism
 - c) The verses of the Holy Quran
 - d) The works of Johann Herbart
 - e) The works of Herbert Spencer
5. The Quranic behavioural statements are characterized by:
 - a) Clarity
 - b) Behaviour specification
 - c) Action verbs
 - d) Overt as well as covert behaviour
 - e) All of the above
6. The Quranic behavioural statements, as found in different “Suras”, are actually:
 - a) Short
 - b) Long

- c) Explanatory
 - d) Clarification
 - e) All of above
7. From the viewpoint of curriculum building, systematic conceptualizations of objectives started with:
- a) Bobbit
 - b) Charters
 - c) Tyler
 - d) Both a. and b.
 - e) None of above

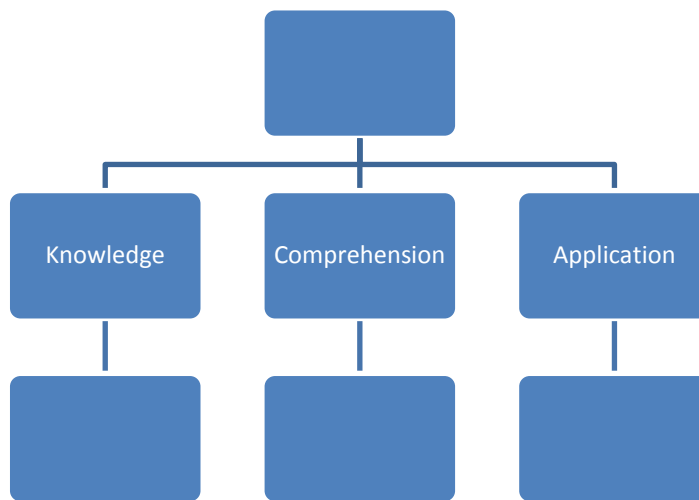


Figure 1

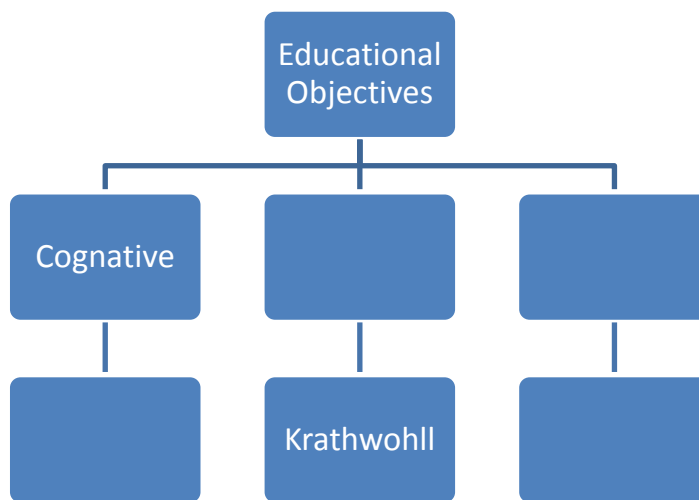


Figure 2

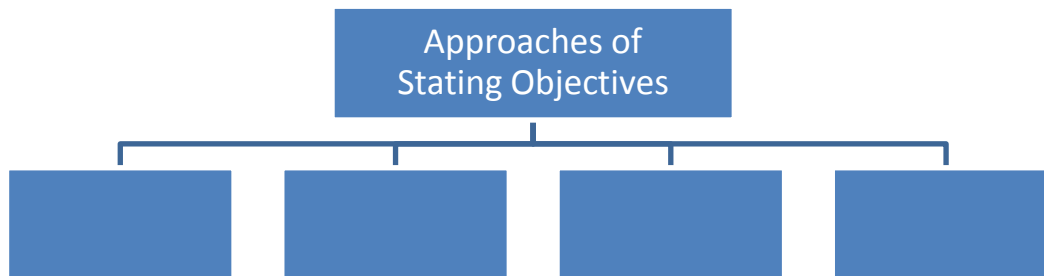


Figure 3

3. The Development of Objectives

3.1 The Main Approaches to Stating Educational Objectives

Objectives can be defined and stated from the standpoint of teacher behaviour content and pupil behaviour (Tyler, 1949, pp.44-47) and (Bloom, pp.22-24).

i) The Teacher-Centred Approach: This approach emphasizes teacher behaviours in the statement of objectives, as is illustrated in the following examples:

To discuss the emergence and achievements of the Third world

To illustrate the Quranic principles of the rise and fall of nations

To expound the social theory of shah Waliullah

To discuss new teaching approaches

The above statements indicate what the teacher intends to do, but they do not reveal what behavioural changes are to be developed among students. Thus such statements may be helpful to teachers in planning classroom tactics. But it is the change in learners (not teachers) behaviour that justifies teachers' activity. In this way, this approach ignores the learner's position. Hence this approach is indirect and subsidiary.

ii) Content-Centred Approach: The second approach to stating educational objectives is content-oriented. The content or subject-matter to be covered in a course is detailed, as in the following examples:

Iqbal's theory of ego

The life and activities of Imam Shamil

Surah Al-Hujrat

The contribution of Muslim culture in Spain

The content is relatively clear, but what is not clear is what is to be done with this content and what behavioural changes in students are desired in relation to the content. The content which can be manipulated in several ways is a means to develop certain

intellectual and social skills or processes in the learners. It must be subordinated to this central purpose. Hence this approach, too, is incomplete and inadequate.

iii) The Behaviour-Centred Approach: Some writers over-emphasize the desired pupil behaviour to the exclusion of content. Incomplete formulations such as “to develop creative thinking”, “to improve problem solving skills”, and “to develop a spirit of inquiry” are presented as educational objectives. These statements are too vague and general to provide direction in the actual classroom situation. They must be properly defined and accompanied by the related content. Without the specification of content, the selection of suitable materials and teaching strategies become impossible. This approach is, therefore, also incomplete and unrealistic.

iv) The Behaviour and Content Approach: After considering the above three possible ways of stating objectives, Tyler (1949, pp.47) came up with another model: pupils’ behaviour plus content. He advises us to specify both the kind of behaviour to be developed in the learner and the content or area of life in which this behaviour is to operate. Thus, if critical thinking is the desired pupil behaviour, this must also be accompanied by the related content, for example, science history or language.

Behaviour divorced from content remains vague and hazy. Hence, clearly formulated objectives should display both these aspects. Once this is done, it becomes possible to plan instruction and evaluation procedures more intelligently and meaningfully. This model has been supported also by Bloom, Hastings and Madaus (1971, p.23).

3.2 Writing Behavioural Objectives

Writing behavioural objectives is a highly technical and complex task. It involves several aspects such as deciding on the elements of objectives, seeing, taxonomic relevance, choosing proper language and sequencing. Each of these requires understanding and experience. Tyler, Mager, Michaelis, MaAshan, Gronlund, Leonard, Utz and several other writers have developed typical forms. It is neither possible nor desirable to survey all these different formats. However, a few significant viewpoints are mentioned for your consideration and use.

Authors differ over the necessary elements of a behavioural objective. Tyler proposes two, Mager three, Leonard and Utz four, Kibler and associates five and Michaelis, Grossman and Scott as many as six elements for really complete behavioural objectives.

Tyler (1949, p.46) insists that both the intended pupils’ behaviour and the related content or area of life must be included. Mere indication of behaviour is not enough; the content related to that particular behaviour must also be specified.

Example: To illustrate the law of supply and demand.
To develop critical thinking in mathematics.

‘Illustrating’ and ‘developing critical thinking’ indicate behaviours, while ‘the law of supply and demand’ and ‘mathematics’ point to the related content. This is the general pattern that is adopted in most curricular materials.

However, Robert Mager (1962, p.12) mentions three elements of a specific objective. His approach is also very popular and has greatly influenced the thinking and practice of writers and educational practitioners. The three elements are as follows:

- a) The desired terminal behaviour that we want the student to perform should be clearly specified.
- b) The objective should state the important conditions (materials, procedures, activities, etc.) under which the students are to perform the desired behaviour.
- c) the criteria of acceptable performance should be specified.

However, Mager is of the view that all three elements need not necessarily be present in each objective statement. The central purpose of writing behavioural objectives, he clarifies, is to communicate clearly the intent of a lesson course or unit. That’s all. Of course, Mager lays special stress on the “doing” aspect of behavioural objectives. “An objective is useful to the extent that it specifies what the learner must be able to do or perform when he is demonstrating the mastery of the objective” (Mager, 1962, p.13).

Example: The student will list (behaviour) at least three causes of the revival of Islam (criteria) as given in the class text book (conditions).

It is interesting to note that Leonard and Utz recommend four elements; Kibler, Barker and Miles, five; elements and Michaelis, Grossman and Scott as many as six elements for complete performance objectives. These six elements are concerned with time, person behaviour, object, performance level and conditions. The format is reproduced below:

- a) *Time*: Indicate the time by which a student should meet the objective, e.g. ‘after completing this lesson’ ... ‘at the end of the unit’ ... ‘by the end of the year’ ...
- b) *Who*: Note whether all or only certain students should attain the objective, e.g., ‘students who have complete’ ... ‘80% of the students’ ... ‘all students should...’
- c) *Behaviour*: Note the behaviour to be observed, e.g. state ... describe ... list ... name ... arrange ...
- d) *Object*: Note the criteria of performance that are desired, e.g.. ‘at least three’ ... ‘100% accuracy’ ...
- f) *Conditions*: Indicate related activities or materials that are essential, e.g., ‘given a ruler and pencil’ ... ‘using a dictionary’ ... ‘when given three choices’ ... (Michaelis et. Al. 1975, pp.85-86)

Example: By the end of the term, all the students of the course of ‘Islamic Culture’ will be able to complete a 100 items multiple-choice examination on the topic of Muslim contributions to science within one hour duration, with 70 correct answers as a lower limit of acceptable performance.

In this example, the desired behaviour is the completion of the examination. The conditions are the 100-item multiple-choice test and the one hour time limit. Muslim contributions to science present the object and the criterion is 70 correct answers. Other elements of this format are obvious.

The above format is exhaustive, covering almost all the possible aspects of an ideal objective. It must, however, be mentioned that most curricular materials do not generally contain all these elements. They are mainly confined to the specification of 'behaviour' and the related 'object' or the content. The most important point in behaviour specification is effectiveness of communication. And it is neither necessary nor desirable to follow completely any one format. These different approaches are simply meant for general guidance. Therefore, Pakistani teachers and planners should feel free in adapting these approaches to their typical conditions and working environments.

Writing Behavioural Objectives

According to Mager and his followers, a behavioural objective (learning outcome) should be written in clear, unambiguous terms that any teacher or student can understand without the need for explanation, and should include the following three basic elements.

- i) It should state what the student should be able to **do** at the end of the learning experience (i.e. should specify the required (**terminal** (or **end**) **behaviour**).
- ii) It should state the **conditions** or **constraints** under which this behaviour is to be exhibited.
- iii) It should give a clear indication of the **minimum standard of performance** that is considered acceptable.

Relevant educational taxonomies may be used for guidance. These will help considerably in selecting the desired learning level and matching it to the appropriate word that describes the behaviour. If the teacher wishes a student develop his or her cognitive powers, he can have a look at various levels of the cognitive domain, select the suitable level and proceed methodically in objectives development and the related action-verbs pertaining to each level or aspect. This is how a taxonomy may be used as a tool for writing objectives.

The language of objectives should be very simple and clear. Although it looks plausible that behaviour statements should be stated in a single sentence, it is not necessary that they should always be in the form. More than one sentence may be used to write a behavioural objective (Leonard and Utz, 1962, p.90). Clear, operational and action verbs should be used and ambiguous verbs avoided, as should be clear from the following examples:-

Action Verbs

to define
to classify
to analyze
to compare
to compute
to list

Ambiguous Verb

to know
to understand
to appreciate
to enlighten
to learn
to respect

In addition, behavioural objectives should be properly sequenced in progressive order to facilitate the achievement of the intended educational goal. Thus, they should move from simple to complex categories. Sequencing objectives helps teachers to focus their attention on several dimensions of knowledge, values and skills. They no longer remain confined to a few limited learnings, as is often the case in traditional instruction. Many new avenues are thrown open to them by way of this analytical approach.

In conclusion, besides the above considerations, several other should also be kept in view while writing behavioural objectives, e.g., the nature of the subject, the grade level, teachers' competencies, future learnings and the distinction between closed and open objectives. (An open objective is meant to develop creative behaviour, while a closed objective is designed for repetitive performance).

3.3 Self Assessment Questions

- i. Pick out action verbs from the following:

1. know	2. compare
3. comprehend	4. contrast
5. understand	6. distinguish
7. list	8. write critically
9. state	10. write creatively
11. appreciate	12. speak effectively
13. appreciate	14. describe
15. differentiate	16. apply
- ii. a) For each item on the left, choose the appropriate items on the right and put the letter in the blank space provided in front of each statement. All items on the left should be read as:

A complete behavioural statement should contain, for example:

- | | |
|-------------------|-----------------------------|
| 1. Two elements | a. Leonard and Utz |
| 2. Three elements | b. Michaelis and associates |
| 3. Four elements | c. Mager |
| 4. Five elements | d. Tyler |
| 5. Six elements | e. Kibler, Barker and Miles |

- b) Indicate in the blank space, different elements of behavioural objectives associated with the names of the authors given at the left side. Simply put the letters that represent elements.

- Elements:
- | | |
|-------------------------|----------------------|
| a. time | b. person |
| c. behaviour | d. content or object |
| e. product or result | f. conditions |
| g. performance criteria | |

1. Tyler
 2. Mager
 3. Michaelis and associates
- iii. Distinguish between correctly and incorrectly stated behavioural objectives in accordance with Tyler's form. Write "c" for correctly stated and "I" for incorrectly stated objective.
1. To enable the students to write
 2. To develop in students habits of thinking in history
 3. To be able to analyze the factors of production
 4. To be able to write a paragraph in Arabic
 5. To develop effective speech habits among students
 6. To be able to appreciate this poem with great pleasure
 7. To be able to identify letters or alphabet
 8. To prepare a summary of the proceedings of the students' council
 9. To be able to distinguish between an assumption and an hypothesis
 10. To write a creative letter in Urdu in the style of Ghalib without making any tense mistakes.
- iv. 1. List the various aspects involved in writing behavioural objectives. Briefly describe any two of them.
2. Why are non-action verbs discouraged in writing behavioural statements? Give one important reason.
3. How are 'disciplines' a source for deriving curriculum goals and objectives? Explain with the help of two examples.
4. Write two examples of behavioural objectives for each of the following authors in their typical format.
- a. Tyler
 - b. Mager
 - c. Michaelis and associates

4. A Critique of Models of Objectives

This section attempts to present a critique of behavioural objectives as voiced by the opponents of this model. The alternative models, “process” and “humanistic” will be briefly explored and their weaknesses indicated. This will be followed by an outline of a proposed model suited to Pakistani youth.

4.1 Criticism of the Behavioural Objectives Model

The behavioural approach to objectives which has been so much popular, especially during the mid 1960, has been subjected to criticism from several quarters. Humanists and process-oriented scholars among others are strongly opposed to the objectives model. The protagonists as well as the opponents both are busy clarifying their viewpoints. However, it appears that James Popham’s car sticker slogan ‘Help stamp out non-behavioural objectives’ has undergone some positive changes. The modified approach reads ‘Help stamp out some non-behavioural objectives’. Let us now review some of the major points of criticism of the objectives model.

The most important allegation is that it is nakedly dehumanizing as it treats human behaviour mechanically and fails to take care of the affective side of human life beliefs, feelings, hopes, attitudes and concerns. Truly human problems like the development of the self-concept, self-actualization, the development of responsibility and other such humanistic goals are simply ignored (Combs, 1975, p.124). The human organism, it is claimed, is not a finished product; hence it is not reducible to a set of prescribed behaviour. Rather it offers rich possibilities of ‘becoming’, which should be the real goal of education. ‘What can man become is the most significant question in curriculum studies (Zais, 1976, p.314). The critics repeatedly point out that the subjective or inner side of human life is more crucial and important than the objective or outer one. That is why Eisner strongly supports “expressive objectives” which are evocative rather than prescriptive (Stenhouse, 1975, p.78).

Another fundamental objection is that the objectives model is mistaken about the nature of knowledge. It simply capitalizes on the analytic approach and makes knowledge fragmentary while knowledge, in fact, is synthetic in nature and is primarily concerned with integration (Stenhouse, pp.79-83). The behavioural approach also fails to deal properly with higher-order tasks such as holistic thinking, internalizing of value systems and appreciation of art and literature. It is suitable, it is argued, for lowest levels of learning and thus trivializes learning and the curriculum. Besides, the approach ignores the ‘tacit’ dimension of knowledge, a kind of knowledge which is simply indescribable but real, lasting and useful (Zais, 1975, pp.313-314 and Davies, 1977, pp.63-64). The relationship between knowledge and behaviour is indirect and complex. Knowledge may find expression in a variety of behaviours (Simons, 1974, p.379).

Stenhouse points out that the objectives model not only mistakes the nature of knowledge but also the nature of process of improving educational practice as well. Since the whole attention is focused on progress rather than diagnosis, and all efforts are directed towards

the clarification of ends and purposes, there is little guidance for teachers to better their teaching practices.

This behavioural approach does not differentiate between training and education and is mainly confined to the former, is another objection voiced by critics. Training involves specific behaviour, while education involves patterns of generalized behaviour of a high order. This, it is asserted, renders the behavioural approach irrelevant to the process of 'education'. Education deals with the total personality of the child and its aims and goals are different from those of training and instruction. Some behaviourists attempt to resolve these problems through developing comprehensive lists of specific behaviour. But since "behavioural pursuits" lay heavy stress on maximum specificity, this turns curriculum development into an area cluttered with millions of specifics which is obviously unsound and unmanageable. (Zais, 1975, pp.314-315).

Further, Jackson argues that pre-specification of explicit objectives can adversely affect the teaching process because the teacher, in that case, may ignore several instructional opportunities unexpectedly occurring in the classroom. Thus prior conditioning may blind him to the use of novel, fruitful situations. The realities of the classroom must be squarely faced. Mere logic will not do, warns Stenhouse (1975, pp.73-74). Furthermore, the pre-specification of ends amounts to clear indoctrination i.e. knowingly fashioning and moulding the young in a specific direction. That is why Kliebard equates behavioural teaching with brainwashing and indoctrination. (Stenhouse, 1975, pp.74-75-81).

In addition, it has been suggested that certain areas of knowledge such as fine arts and the humanities do not easily lend themselves to the behaviouristic approach; and that it is extremely difficult to identify measurable pupil behaviours in these subject areas. The analytical atomistic approach simply fails in aesthetic subject.

Robert S. Zais, (1977, pp.315-316) is especially critical of the dogmatic application of the principle of Operationalism underlying the objectives model. He feels that the principle must be applied liberally and open-mindedly and that behavioural objectives should not be considered as completely independent units or dead ends towards which the action is directed. And knowledge gained through objectives must not be considered final and completely dependable. Hence placing full faith in the infallibility of the behavioural model is unwarranted and unjustifiable.

Yet more practical problems plague the behavioural approach. It is said that developing behavioural statements is too time-consuming a business for teachers. And all forms of behaviour do not easily submit to the precise quantification or accurate assessment that lies at the heart of this approach. Furthermore, teachers feel threatened because of accountability.

Last but not the least, the objectives approach has been called a "a political move for the purpose of accountability: hence it is a part of a political dialogue rather than an

educational one concludes Stenhouse (1975, p.77). Thus it is argued that the issue is a complex one, involving several socio-political factors.

I hope that as you have been reading this section, you have formed opinion of your own on the validity of these criticisms of the behavioural objectives approach. My view is that the accusations are partly true and partly misplaced. It is true that overt behaviour is over emphasized at the cost of significant subjective behaviour; but it does not follow that overt behaviour should not be studied and developed with clarity, precision and accuracy. As regards knowledge, it is, of course, integrative in character but individual can digest it in its ideal form. It has to be analyzed and presented to learners in as the occasion demands. Thus the fundamental objection of knowledge fragmentation is misconceived or misunderstood. Analysis should not be equated with triviality. As for pre-specification of clear ends, it is something positive and constructive that guides and facilitates learning. Clear goals must be preferred to vague undefined distinctions. However, there should be enough scope for accommodating incidental learning. Rigidity is surely bad.

Possibly you are still uncertain about where you stand in the controversy. If so, I hope that the additional information on the process and humanistic models which follows will help you to clarify your opinions.

4.2 The Process Model

Lawrence Stenhouse is one of the chief advocates of the process approach. As has already been noted, this model is opposed to the objectives model. It emphasized process rather than product (Stenhouse, 1975, p-92). It is, therefore, concerned with means rather than ends. And since process connotes an on-going activity, the model has strong leanings towards freedom and spontaneity in teaching and learning, leading the learners to new uncharted paths of knowledge. The process model is fundamentally open-ended and inquiry-oriented. Actually, it is wedded to the thinking of Bruner, Phenix and Schwab who laid heavy stress on “fluid enquiry” and on the “structural components of disciplines”.

The advocates of the process approach argue that prior detailed specifications of intended human behaviour are neither necessary nor useful. Rather these impose unnecessary constraints on the learning process, making it dull and mechanical. Knowledge, they believe, should be ‘discovered’ and aims and objectives must emerge from within the content during learning encounters. So aims and objectives should grow from within as John Dewey (1951, p.103) had long ago suggested and should not be imposed from outside.

The concepts of ‘structure’ and of ‘worthwhile activities’ underline the process model. It is believed that it is possible to select curricular content and judge it worthwhileness without reference to objectives. For example, scholars like Peters and James D. Rath (1974, p.375) have proposed criteria of worthwhile activities. It is further maintained that each discipline or from of knowledge has its own structure which possesses intrinsic value and that each area of study reveals or suggests its own principles of procedure,

concepts and criteria that may profitably be used in content selection, in teaching and evaluation.

The very form of knowledge suggests how the content should be treated and handled. History, sciences and arts possess intrinsic content and suggest their own method of inquiry. Thus speculation, inquiry, intuition, depth of understanding and open-mindedness are greatly emphasized in this model. It is quality-oriented, critical model which is not directed towards the accurate assessment of anticipated end-products.

What would this process model look like in practice? The Humanities Curriculum Project in England and the Social Science Curriculum Course – Man: A Course of study – in the USA may be cited as examples of its implementation. No specific objectives were formulated in advance. The most valued changes in behaviour were not anticipated in detail. Rather ambiguities were favoured and the subject was taught by the discovery approach (Stenhouse, 1975, pp.91-93).

However, these projects entailed a number of difficulties because this model is not without weaknesses. Stenhouse himself recognizes that it is highly exacting and only scholarly teachers can handle it properly. And it is more suited to the needs of gifted than average students. It is a teacher development model with a sharp emphasis on knowledge and depth of understanding. Thus the learner tends to be relegated to the background.

Besides, does the process model satisfy humanistic concerns? It is purely a logical model and consequently fails to take care of the affective side of life. Its main emphasis is on inquiry, knowledge and depth of understanding and these have nothing to do with sensitivities and humanness.

4.3 The Humanistic Model

As for the humanistic model, it is focused on liberating and actualizing human potentials. It is characterized by becoming, happening and search for meaning. (Zais, 1976, p.317). This approach has taken several forms. The liberal arts curriculum is perhaps the oldest design. A.S. Meill's Summer-hill School represents one category. Paulo Freire (1971) suggests another and Silberman (1975) sounds somewhat different note. Ivan Illich (1971) goes to the extreme of de-schooling society. Anyway, the common thread that unites these various forms is humaneness.

In summary, among the main premises underlying humanistic education, Moskovitz (1978, cited in Khatib and Sarem, 2013) enumerates the following:

- A principal purpose of education is to provide learning and an environment that facilitate the achievement of the full potential of students.
- Personal growth as well as cognitive growth is a responsibility of the school. Therefore, education should deal with both dimensions of human – the cognitive or intellectual and the affective or emotional.
- For learning to be significant, feelings must be recognized and put to use.

- Significant learning is discovered for oneself.
- Human beings want to actualize their potential.
- Having healthy relationship with other classmates is more conducive to learning.
- Learning about oneself is a motivating factor in learning.
- Increasing one's self-esteem is a motivating factor in learning.

Finally to Moskovitz (1978, cited in Mishra, 2000), "Affective education is effective education. It works on increasing skills in developing and maintaining good relationships, showing concern and support for others, and receiving these as well. It is a special type of interaction in itself, consisting of sharing, caring, acceptance and sensitivity. It facilitates understanding, genuineness, support and interdependence. Human education is a way of relating that emphasizes self-discovery, introspection, self-esteem and getting in touch with the strengths and positive qualities of others and ourselves. It lets learning concern more for others and ourselves. Furthermore, humanistic education is fun". (p.14).

4.4 Synthesis

The old and new models vary greatly in emphasis, with the former stressing the intellect and the latter being mainly feeling-oriented. In fact, no single approach is adequate in itself. The principal models discussed above display weaknesses as well as strengths. Each, with its own limited conceptual framework, lacks comprehensiveness and balance. Consequently, each has failed to fully realize the actual difficulties faced by teachers and students.

Detailed pre-specification of learners' behaviour and limiting the entire teaching to foreseen ends with no scope for flexibility and humanistic values is a short-sighted view of education. On the other hand, aimless activity fed simply on discipline content with no clear direction stands equally challenged. Reality lies somewhere in between these approaches. Some sort of workable synthesis is the needs of modern times and there are indications of such a synthetic approach.

Behaviourism and humanism are getting closer to each other, and a new synthesis is on the verge of appearing (Ricks, Wandersman and Poppen, 1976, pp.382-391). We are now a days constantly reminded of the significance of comprehensive approaches, such as the 'life history framework', the 'ecological approach' and 'transcendence'. Following slavishly in the footsteps of any one approach without critical examination of its worth and suitability is simply suicidal. We must adopt a bold realistic attitude towards curriculum models. (Robert S. Zais, 1976, p.316). There is nothing sacred about them. Zais displays this spirit beautifully when he says "As curriculum dogma, both behavioural and non-behavioural objectives deserve rejection" (1976, p.316).

The world is moving towards unity, synthesis and integration at all levels, personal, national and international. Even the physical phenomena are no exception to this. The discovery by the Nobel Prize Winner Dr. Abdus Salam is a case in point. Therefore, we should develop a conceptual framework that integrated the various approaches and turns them into an integrated whole. It must be comprehensive and unifying. The concept of

transcendence (Phenic, 1974, pp.118-132) appears to be the future hope of the curriculum education and humanity. The best version of transcendence is Islam which is highly comprehensive, balanced and integrated in character, encompassing all aspects of human life with full scope for future developments. Actually, Islam is predominantly future-oriented but with full realization of present and the past. It starts with the 'real' and moves towards the 'ideal'. It embraces matter and spirit, the outer and the inner, intellect and emotion, knowledge and institution, change and performance, the self and the non-self, the present and the future in its broad sweep with full scope for emerging problems and crises (Qutub, 1963, pp.97-98). The Holy Quran is the best manifesto for the general guidance of humanity, education and the curriculum.

4.5 A Proposed Pakistani Model

The Pakistani model of curriculum objectives should be developed with reference to our peculiar situation, keeping in view our ideological commitments, teachers' capabilities, their daily teaching load, the nature and demands of different subjects, humanistic considerations, aesthetic sensitivities and the socio-cultural context in which the educational drama is being staged and acted. Due consideration should be given to new trends and approaches in the professional field and some of these may be assimilated into our model after thorough critical examination and security.

Since the Quran emphasizes purpose, clarity and effective communication, we must have clear-cut aims to start with. The fundamental aims will be stable and permanent while others will change with the march of time. These aims must embrace the various aspects of human life including emotion and intellect, the behavioural and non-behavioural, the material and spiritual, the process and the product. We should never allow our vision to be blurred by transient intellectual idiosyncrasies tempered with emotion. Beliefs, values and ideals constitute the core of Islam, and we should not shy away from our cultural core. A balanced and creative synthesis should be our goal.

Coming to behavioural objectives, I would like to emphasize that the broad concept of human behaviour, as contained in the Holy Quran and demonstrated earlier in this section, should be utilized in objectives formulation. We need not avoid Operationalism nor should we follow it blindly and push it beyond reasonable limits. In the same way, humanistic concerns should not be considered taboo. No banishment but constant dialogue and accommodation should be the motto of curriculum developer. However, we must resist the temptation to follow rigidly any one taxonomic approach in its entirety. An attempt should be made to try to bridge the gap between 'behaviour' and the 'behaving individual'. Behaviour should be approached in the Quranic perspective, with ample scope for feeling and sensitivity. We should not sacrifice or distort reality for the sake of inspired rigid objectivity.

As for the level of specificity of objectives, no hard and fast rules can be formulated. Effective communication appears to be a useful working criterion. Also the nature and demands of a subject will further determine the position. In general, however, over-detailed specification should be avoided, with highly technical and complex formats

being used only at critical points in planning, programming and teaching. We should utilize the principle of Operationalism but with sense of preparation and balance.

The Pakistani model thus conceived would not be a prototype of any existing model, be it behavioural, humanistic or any other. Rather it would transcend all these approaches in a peculiar fashion, combining creatively the health points of all with reference to the Islamic framework as applied in the Pakistani situation.

In brief, the Pakistani model must emerge from the educational soil of Pakistan with reference to Islam and our typical educational situation. Thus cultural relevance, comprehensiveness, balance and dynamism are the four cardinal principles of this proposed Pakistani model.

In conclusion, we would like to quote a few verses from the poet of the east which are relevant at this point.

Activities

1. Meet a farmer, a businessman, a labourer, a politician, a student and a shopkeeper. List their two most significant aims in order of priority. Then study their comparative positions and reflect on the implications for Pakistani education.
2. Develop your own list of aims for Pakistani education and discuss it with your class fellows. On which aims is there agreement or disagreement? How would you go about resolving any disagreement?

4.6 Self Assessment Questions

1. List any six points of criticism of the objectives model and critically analyze them.
2. Explain how does the process model differ from the objectives model?
3. Explain in what ways the humanistic model is different from the process model?
4. Critically evaluate the proposed Pakistani model of the curriculum, suggesting modifications where necessary.
5. Develop an outline of your own model of curriculum preceded by a detailed rationale.
6. Study critically the first chapter of the Report of the Commission on National Education 1959 (a) Indicate the phrases or statements that are aims, goals and objectives from a technical viewpoint (b) Outline the rationale given for any two aims or goals (c) Give your own comments on the proposed aims/goals/objectives of education in respect of their format and adequacy.

7. Study the statements of aims in the New Educational Policy, 1978. Critically analyze them from a technical viewpoint and indicate their strengths and weaknesses (if any).

Answers to Self Assessment questions please see the relevant portion of the Unit.

4.7 Bibliography

Ali, Abdullah Yusuf, *The Holy Quran*, Hanfer Publishing Co., New York, 1946.

Ahmad, Khurshid, *Hindustan Mein Mussulmanun Ka Nizam-e-Taleem Mehvar*, 1977, pp.71-92: Education Number, University of the Punjab, Lahore.

Bloom, Benjamin, Hastings S.T.T. and Madaus, G.F. eds., *Handbook on formative and Summative Evaluation of Student Learning*, McGraw Hill Inc., New York, 1971.

Combs, Arthur W., "Humanistic Goals of Education" in *Humanistic Education Sourcebook* Ed. Donald A. Read and Sidney B. Simon, pp. 41-100, Prentice Hall, Inc, Englewood Cliffs, New York, 1975.

Davies, Ivor K., *Objectives in Curriculum Design*, McGraw Hill Book Co., UK, 1976.

Dewey, John, *Democracy and Education*, Macmillan Co. New York, 1961.

Dowden, T. (2007) *Relevant, Challenging, Integrative and Exploratory Curriculum Design: Perspectives from Theory and Practice for Middle Level Schooling in Australia*. The Australian Educational Researcher, 3 (2), 51-71.

Gilbert, J. (2005). *Catching the Knowledge Wave? The Knowledge Society and the Future of Education*. Wellington: NZCER Press.

Goraha, Mushtaq Ahmad, *A Study of the Process of Curriculum Change in Secondary School Science in West Pakistan during 1967-68*, unpublished doctoral dissertation, Institute of Education and Research, University of the Punjab, 1972.

Government of Pakistan, *Report the Commission on National Education*, Government of Pakistan Press, Karachi, 1959.

Green, John, A. *Teacher made Tests*, Harper and Row, New York, 2nd Ed., 1975.

Leonard, Leo D., and Robert T. Utz, *Building Skills for Competency-Based Teaching*, Harper and Row, New York, 1974.

- Mager, Robert F., *Preparing Instructional Objectives*, Fearson Publishers, Relmnt, California, 1962.
- Michaelis, John, U., *Social Studies for Children in a Democracy*, Prentice-Hall Inc., Englewood Cliffs, new Jersey, 1976.
- Michaelis, John U., Grossman R.H. and Scott L.F., *New Designs for Elementary Curriculum and Instruction*, McGraw Hill Book Co., New York, 1975.
- National Bureau of Curriculum and Text-Books, *Goals and Aims of Education* (First Draft), government of Pakistan, Ministry of Education, Islamabad, 1973.
- Phenix, Philip H., "*Transcendence and the Curriculum in Conflicting Conceptions of Curriculum*" ed. E.W. Eisner and E. Vallance, McCutchan Pub. Corporation, Berkely, California, 1974.
- Qutub, Syed, *Social Justice in Islam*, translated by Mohammad Nijatullah Siddiqi, Islamic Publications, Lahore, 1963 (3rd Ed.)
- Qureshi, Ishtiaq Hussain, *Education in Pakistan: An Inquiry into Objectives and Achievements*, Maarif Ltd., Karachi, 1975.
- Schagen, S., & Hipkins, R. (2008). *Curriculum Changes, Priorities and Issues*. Findings from the NZCER secondary 2006 and primary 2007 national surveys. Wellington: New Zealand Council for Educational Research.

UNIT 5

Content Selection and Organization: Principles and Procedures

Written by: Dr. Mushtaq-ur-Rehman Siddiqui
Reviewed by: Dr. Afshan Huma

CONTENTS

Introduction.....	137
Objectives	137
1. What is the Curricular Content	138
1.1 Levels of Contents and their Functions	138
2. The Selection of Curriculum Content	141
2.1 The Need for Selection	141
2.2 Principles for Selecting Curriculum Content.....	141
2.3 Criteria for Content Selection	143
3. Procedures for Content Selection.....	145
3.1 The Judgmental Procedure.....	145
3.2 The Experimental Procedure.....	146
3.3 The Analytical Procedure	147
3.4 The Consensual Procedure.....	148
Activity	149
3.5 Romine’s Classification of Procedures.....	149
4. Principles of Curriculum Organization.....	151
4.1 What is Curriculum Organization?	152
4.2 Criteria for Effective Curriculum Organization: Continuity, Sequence and Integration.....	152
4.3 Conclusion	153
5. Self Assessment Questions	154
6. Bibliography	156

Introduction

Education is generally viewed as a process through which one generation transmits its acquired knowledge, experiences, competencies, beliefs, traditions and attitudes to the next generation. In the early ages the major part of this process was accomplished in the homes and the parents' personal attention was considered to be an adequate source of education and training of their children. This process of informal education was then expanded from home to the village community. Later on, when human knowledge and experience increased, formal schools and colleges were established. And now, when there is a rapid increase in knowledge with many branches of the curricula, several academic faculties have been established in the universities in order to provide the requisites knowledge skills and experiences to the students in a systematic manner.

This shows that curricular content is expanding constantly, and, as a result, content selection is becoming a difficult task. It is, therefore, imperative to make an appropriate selection of content for different levels and stages on the basis of specific principles and scientific criteria. The following discussion raises the question pertaining to the principles and criteria to be adopted for content selection.

Objectives

After studying this unit, you should be able to:

1. Define the meaning of the term "Curriculum Content".
2. Understand the need for content selection and know the different levels of content and their functions.
3. Understand the principles and criteria for selecting the curriculum content.
4. Know the main procedures for content selection.
5. Understand what is meant by 'Curriculum Organization' and be familiar with criteria for assessing its effectiveness.
6. Examine textbooks and determine the procedure of content selection used by the authors.
7. Outline a procedure of content selection in a field of your choice.

1. What is Content?

R. Hyman has defined content as consisting of knowledge (i.e. facts, explanations, principles, definitions) skills, and process etc. reading, writing, calculating, dancing, critical thinking, decision making, communicating and values (i.e. the beliefs about matters concerned with good and bad right and wrong beautiful and ugly). (Hyman. 1973:4)

Smith, Stanley and Shores in their book, *Fundamentals of Curriculum Development* discussed the issue of curricular content in detail. According to them, “in the process of teaching, one must teach something to someone, the someone being the pupil and the something the content. Content might be described as the knowledge, skills, attitudes and values to be learned”. It includes what men know and believe their ideals and loyalties, but not everything they have created. For example, an institution such as the family is not subject-matter, but what is known and believed about the family, and the ideals we hold for family life, are subject-matter. Similarly, tools and machines are not subject-matter, but knowledge about tools and machines – about how they are made, their operation, and their uses – is subject-matter that can be included in the curriculum.

What is Curricular Content?

According to Nation (1996) “Content must take account of the environment in which the course will be used, the needs of the learners and principles of teaching and learning.”

Ralph Tyler has, however, differentiated between the terms “learning experience” and “content”. According to him, the term “learning experience” refers to the interaction between the learner and the external conditions in the environment to which he can react. Learning takes place through the active behaviour of the student; it is what he does that he learns, not what the teacher does. It is possible for two students to be in the same class but it is just possible that they might be having very different learning experiences. This definition of experience as involving the interaction of the student and his environment implies that the student is an active participant. The problem of selecting learning experiences involves, therefore, determining the experiences likely to fulfill given educational objectives; and also setting up situations which will evoke the kinds of learning experiences needed.

1.1 levels of Content and their Functions

Hilda Taba has pointed out the following three levels of curricula content along with their functions:

i) Specific Facts and Processes

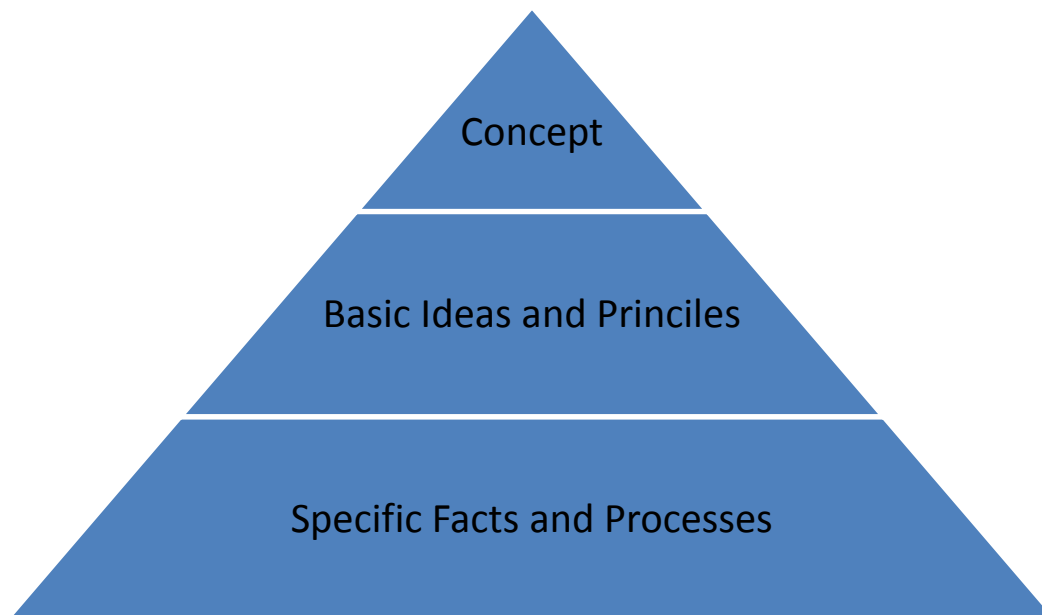
One can view schools subjects as consisting of knowledge on several different levels. One level is that of specific facts, descriptive ideas at a low level of abstraction and specific processes and skills. For instance, a description of the branches of government, of the characteristics of the digestive system, dates of events, and the computational processes in arithmetic and algebra belong to this category. This kind of knowledge is described as static. Its mastery does not produce new ideas although specific facts do constitute the raw material for the development of ideas. All students must master precisely the same content details; therefore, a careful choice of the details to study is as important as ever.

ii) Basic Ideas and Principles

Basic ideas and principles represent another level of knowledge. For example, ideas about casual relationships between human culture and the natural environment are of this sort. Such ideas and principles constitute what currently is referred to as the ‘structure’ of the subject – ideas which describe facts of generality, facts that, once understood, will explain many specific phenomena.

iii) Concepts

The third level of content is composed of what might be called concepts, such as the concept of democracy or independence, of social change, or that of a “set” in mathematics. Concepts are complex system of highly abstract ideas which can be built contexts. They cannot be isolated into specific units but must be woven into the whole fabric of the curriculum.



Level of Content Fig 1 (a)

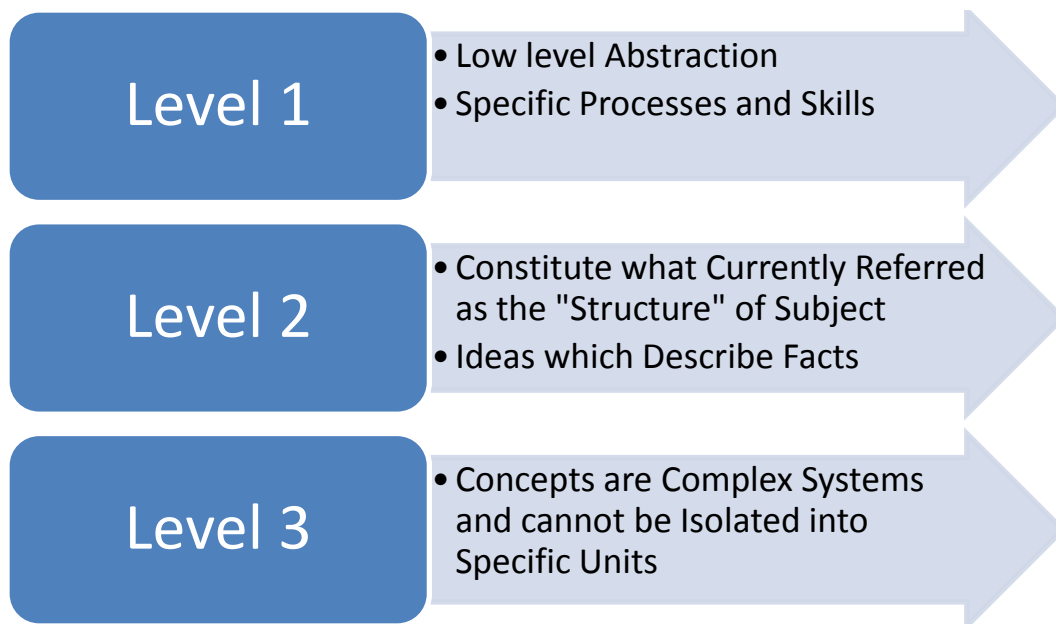


Fig 1 (b)

Smith, Stanley and Shores also discussed this issue of the nature of content. According to them, there are two kinds of subject-matter, one descriptive, the other normative – a distinction which has already been raised in Unit 1. A brief account of the same is, however, given in the following:

i) Descriptive Subject-Matter

Descriptive subject-matter consists of facts and principles. Books and other instructional materials are heavily loaded with factual content. Courses in history, for example, consist largely of factual statements about what happened, when and where it happened, and who was involved in the events. Biology courses contain facts about the structure of plants and animals, about their classification, and about their functions etc. Descriptive principles are laws, rules and theories, such as scientific laws and theories. In general, these principles do not involve values and resemble facts. Just the natural description of bare principles and facts is called descriptive subject-matter.

ii) Normative Subject-Matter

Individuals make moral and aesthetic choices. It consists of the norms or standards which represent the values/standards men have built up through generations. The objectives of education, the social-moral controls of economies, the ideals operating in and through political institutions, the legal system, the rules of acceptable family conduct, the standards for judging the merits of artistic works – all these would be included in such a list of normative rules, and it would still be incomplete.

Normative content descriptive content may be further distinguished by relating them to the kinds of questions that might be asked about an event. What happened? These questions can be answered only by factual statements. Why did it happen? What would cause it to happen again? These questions require an explanation. All explanations take the form of theories and general ideas, using descriptive principles rather than facts to provide the answers. Was its occurrence good or bad? Should it have happened? Should it happen again? Was it beautiful? Answers to these questions require more aesthetic judgments, and hence involve normative content.

2. The Selection of Curriculum Content: Principles and Criteria

2.1 The Need for Selection

As Romine pointed out, there are many factors which have resulted in an increased need for the proper selection of curricular materials and experiences. For example, it is impossible for anyone to master all of the accumulation of human culture. What once were considered important aspects of knowledge for all educated persons are no longer generally viewed in the same light? Also the concept of education has broadened and, as the percentage of school-age children in schools increases, there is a growing need for a careful selection of curricular content, enabling the learners to cope effectively with the complexities of modern living. Similarly, finding of latest research studies about the nature of the learner and the education process bear on the selection of materials and experiences. The study of youth provides many clues which are useful, and an understanding of the learner is indispensable. As changes take place in our concept of learning, they operate to produce changes in curricular content. Finally, for social continuity and national integration it is important that the Islamic values and the ideology of Pakistan are provided for boys and girls through selected content which prepares them to the true Pakistanis and competent persons in their respective fields.

The Need for Selection

1. To help organize material.
2. To help a sequential relationship of material.
3. To present material basic to general understanding of a course.
4. To present application.
5. To furnish a source of valuable information.

2.2 Principles for Selecting Curriculum Content

Within the context of our socio-cultural framework, the following constitute some of the most important general principles for selecting the curriculum content. (You will notice that some of these issues have already been raised in Unit 1).

a) Promoting Islamic Ideology

The content should reflect and promote the Islamic Ideology of Pakistan.

b) Developing Social Understanding

A common body of educative experiences should be selected which develop social understanding in judging different problems.

- c) **Promoting Maximum Personal Development**
The learning situations must be related to the unique characteristics of each learner. Desirable personality traits and a wide range of special interest opportunities should be promoted.
- d) **Promoting Continuity of Experience**
This principle indicates concerns for the maturity and learning sequence of each learner.
- e) **Providing for Educational Aims**
The content should reflect the stated aims of the curriculum.
- f) **Maintaining a Balance Among all the Goals**
This is done through a balanced allocation of time and judicious requirements.
- g) **Involving the Pupil in the Learning Experiences**
There should be flexibility and democratic procedures. Pupils participation and cooperation should be emphasized.
- h) **Using Effective Learning Experiences**
The experiences chosen must utilize the most appropriate situations for promoting effective learning.

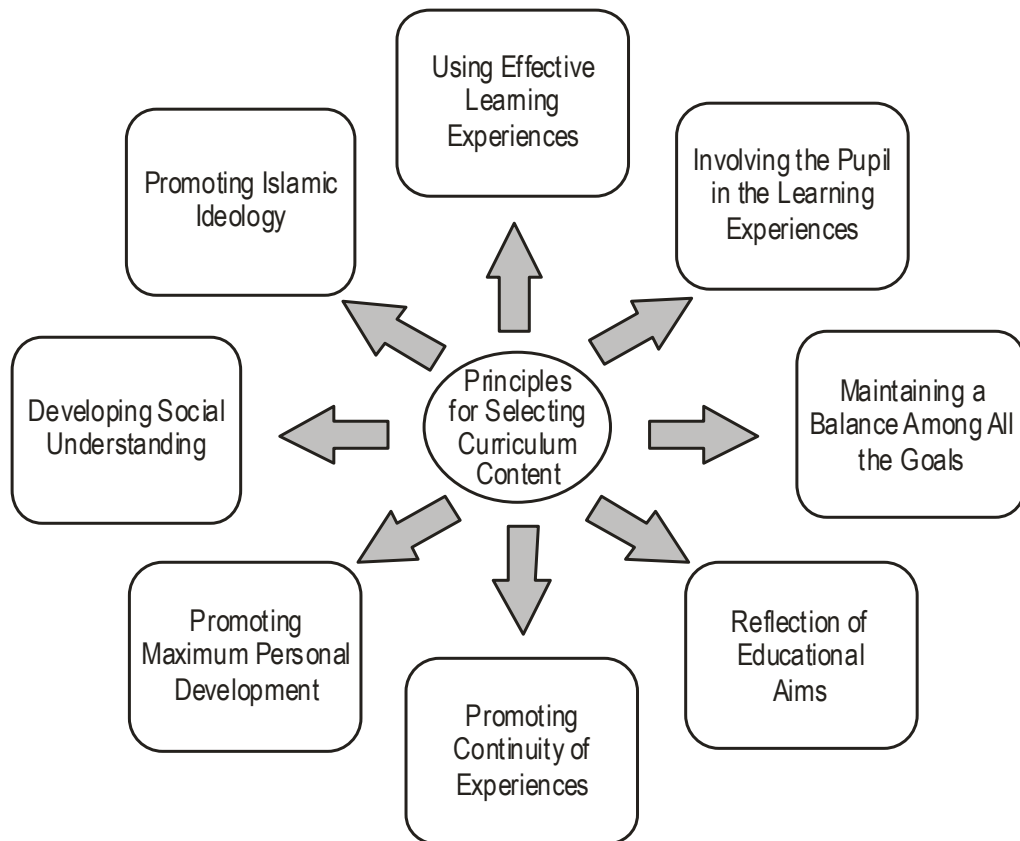


Fig: 2

Selection of Learning Experience

Although the particular learning experience appropriate for attaining the objectives will vary with the kind of objectives aimed at, there are certain general principles which, according to Ralph Tyler, apply to the selection of learning experiences, whatever the activities may be.

The general principles of content selection are briefly described as under:

a) Experiences give Opportunity to Practice

For a given objective to be attained, a student must have experiences that give him an opportunity to practice the kind of behaviour implied by the objective. For example, if one of the objectives is to develop skill in problem-solving, this cannot be attained unless the learning experiences give the student ample opportunities to solve problems.

b) Learner Satisfaction

The learning experiences must be such that the student obtains satisfaction in carrying out the kind of behaviour implied by the objectives. For example, in the case of learning experiences intended to develop skill in solving health problems, it is important that the experience not only gives the student an opportunity to solve health problems but also that effective solution of these problem is satisfying to him. If the experiences are unsatisfying or distasteful, the desired learning is not likely to take place.

c) Development of Desired Reaction

The content should be such that reactions desired to be produced are within the range of possibility for the students. That is to say, the experiences should be appropriate to the student present attainments, his predispositions, and the like.

d)

d) Achievement of Specific Objectives

The proposed content should help in achieving the specified objectives. No part of the content should prove to be a hindrance in the achievement of an objective while helping in the achievement of some other objectives.

e) Ensure Learning Experiences

The content selected should ensure that the same learning experience will usually bring about several outcomes. For example, while the student is solving problems about health, he is also acquiring certain information about the health field. He is also likely to be developing certain attitudes towards the importance of public health procedures. In addition, he may be developing an interest in or a dislike for work in the field of health. Every experience is likely to result in the achievement of more than one learning objective.

2.3 Criteria for Content Selection

It is generally agreed that content selection should be based primarily on the stated objectives. Changes in objectives require changes in the curriculum content. It is, therefore, necessary to have valid criteria for content selection, so that the final evaluation of the curriculum content can be carried out in a proper context. Below, six standards for content selection are presented in question form:

1. Does the curriculum content reflect the basic principles of Islamic values and teachings?
2. Does the content contribute to the growth and development of an Islamic society?
3. Is the content significant to an organized field of knowledge?
4. Does the content stand the test for survival?
5. Is the content useful?
6. Is the content interesting to the learner?

Perhaps you can suggest some other criteria. In thinking about this, look back at the principles outlined earlier.

In addition to the above, the following four criteria, according to Nicholls and Nicholls, are also extremely relevant and important:

i) The Criterion of Validity

It is important that content should be valid, i.e. appropriate for the achievement of predetermined objectives. For example, if an objective is concerned with the concept of the relationship between man's way of life and his environment, and the content chosen for the achievement of this objective does not show this relationship in a form which can be perceived by the pupils, it does not satisfy the criterion of validity.

ii) The Criterion of Significance

Schools have frequently been showing concern that pupils should learn large bodies of facts. Yet facts are the least significant or meaningful aspects of school subjects and are only important in so far as they contribute to basic ideas; facts would be learned to illustrate these and would be included only in so far as they contributed to an understanding of these. This would reduce the problem of learning large amounts of factual information. This is linked with the question of breadth and depth in the curriculum. The breadth of coverage and depth of understanding should be appropriately balanced while making curricular content selection.

iii) The Criterion of Interest

To devise a curriculum solely on the basis of pupil interest, as is sometimes the case in primary schools or with pupils in secondary schools is likely to be found restricting. On the other hand, to ignore pupils' interests is to lose a strong motivational force and to run the risk of little or no learning taking place. However, it is necessary to apply this criterion with caution.

iv) The Criterion of Learn Ability

What is included in the curriculum should clearly be learnable by the pupils; but criterion of learn ability, however, obvious it may be, is not always satisfied. The main problem is that of the adjustment of material to the abilities of the pupils. Content must be available in forms which are appropriate to individual pupils' abilities and existing knowledge. It is also important that what is to be learned makes a connection with something which the pupils have already learned; and again this will vary from one pupil to another. This

suggests the need for variety in the ways in which content is made available and in the manner in which pupils are expected to learn.

Ideally, the content selected should satisfy all the criteria (validity, significance, interest and learn ability); certainly no one criterion should be applied in isolation nor carried to an extreme, although under some circumstances some criteria may carry more weight than others.

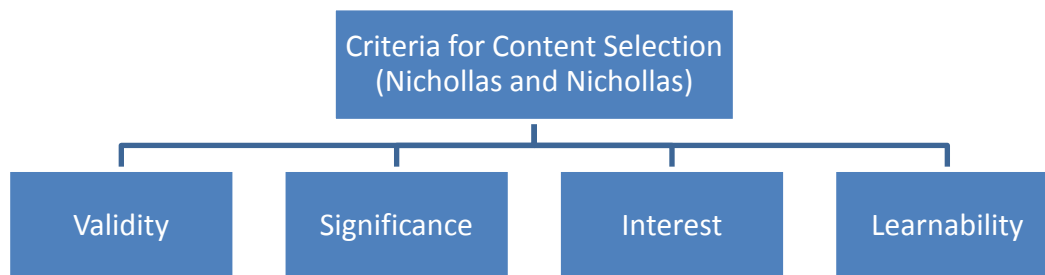


Fig: 3

3. Procedures of Content Selection

This issue has been discussed in detail by Smith, Stanley and shores. According to them, the procedures of content selection are (a) judgmental (b) experimental (c) analytical and (d) consensual.

3.1 The Judgmental Procedure

Selection of subject-matter by judgment requires the curriculum worker to answer the following questions:

- i) What social and educational objectives should be accepted?
- ii) What is the existing state of affairs in which these objectives are considered desirable and appropriate, and in which they must be realized?
- iii) What subject matter best satisfies these objectives under the existing conditions?

The most objective selection of content by this procedure requires that the interests, knowledge and ideals of the curriculum worker rise above those of special social vision and freedom from the restricting influences of personal rationalizations.

When the curriculum worker is collecting data to help determine objectives, or when he is using these data to select content with the judgmental procedure, he is not expected to make original social and historical investigations. The knowledge he needs should be drawn from scholarly work in cultural anthropology, sociology, economics, political science, geography, history, psychology and philosophy etc.

In addition, the judgmental procedure calls for extensive group and deliberation, in which general points of view and personal and group opinions are critically evaluated and reconstructed in the process of agreeing upon social ideals and goals. Curriculum content chosen on the basis of the prejudices and rationalizations will not satisfy the conditions of the judgmental procedure. Nor will the selection of such content improve the curriculum.

The judgmental procedure is best demonstrated when the criterion of social reconstruction is the primary basis of subject-matter selection. This principle makes social development a primary basis of content selection. It should not be assumed, however, that this is merely a matter of personal choice. On the contrary, the test of the judgment is the extent to which other persons accepting the same ideals, facing the same facts and possessing the same social understanding would themselves select the same subject-matter or agree with its selection. Its successful implementation requires critical, informed, and judicious persons as curriculum formulators. In the hands of such people, it can be one of the most dependable method of content selection. But the curriculum worker cannot neglect any of its phases without the risk of serious misjudgment.

3.2 The Experimental Procedures

The experimental procedure of content selection tries to determine by actual testing whether or not subject-matter satisfies a particular criterion. It answers such questions: Is the subject-matter interesting? Is the subject-matter suitable for the adults keeping in view their needs and problems etc. The tryout of the subject-matter must, of course, be done under prescribed conditions and by techniques that make the procedure as rigorous as possible. Errors due to personal or group prejudices, misjudgment and outside conditions are to be reduced to a minimum. The experimental procedure of content selection takes following form:

Form of Experimental Procedure

- a) Tentatively selecting subject-matter in accordance with a criterion.
- b) Hypothesizing that the tentatively selected subject-matter meets conditions of the criterion (that it is interesting or useful).
- c) Prescribing conditions for the tryout (description of the characteristics of the children, the teacher, the classroom, the methods of teaching, the materials to be used and other facts affecting the experiment).
- d) Checking the results against the hypothesis to find whether or not the subject-matter satisfies the criterion.

This procedure has not yet been used extensively, but its findings have been generally respected. However, it is open to the objection that all factors cannot be controlled; and that its findings, therefore, are not entirely dependable. Another criticism is that the experimental procedures assume an unchanging curriculum in all the aspects related to the one under investigation. If this is not the case, the experimenter cannot know whether his results were due to the conditions of the experiment or to some outside conditions that changed without measurement or control. However, in spite of all the criticism this procedure remains one of the most promising means of selecting the subject-matter.

3.3 The Analytical Procedure

The analytical procedure is one of the most widely known methods of content selection. It has been closely identified with the criterion of utility. In general, it consists of an analysis of the things people do in order to discover the subject-matter involved in these activities.

There are three form of the analytical procedure, each following more or less the same pattern. Their brief description is as follows:

i) Activity Analysis

The purpose of this analysis is to discover the general activities of people of a given national group region. This analysis helps in identifying relevant activities to be selected for the curriculum.

ii) Job Analysis

This analysis is applied to vocational operations. To determine what should be taught is “Professional Preparation of Teachers” course, for example, an analysis of their work would become this basis of the teacher education programmes.

iii) Knowledge Analysis

If the problem is to find what elements of written expression are in general use, one procedure would be to analyse such relevant documentary materials as newspapers, journals, and library materials. The content to be included in a course on grammar might be determined by studying the grammatical forms found in the correspondence of people in general or of a selected group. The analytical procedure of content, selection, therefore, consists of the application of certain techniques of fact-finding to the activities under investigation.

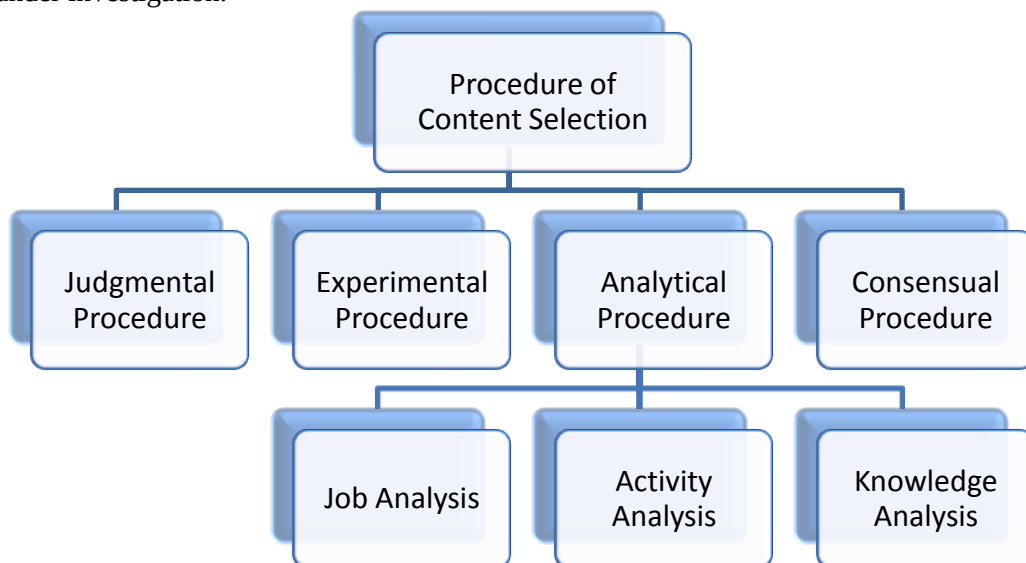


Fig: 4

The analytical procedure can involve the use of the following techniques:

i) Interviewing

The interviewer requests a person on the job, or one who performs certain activities, to name the duties for which he is responsible for the ideas and skills he employs. From these interviews, a composite list of duties is drawn up.

ii) Working on the Job

The investigator works on the job, studying the operations required and making a list of them.

iii) Analysis of the Job or Activity by the Worker

A person who has become familiar with a job or activity is asked to list his duties or the operations he performs.

iv) Questionnaires

The duties or operations involved in a job or activity are sought by means of an inquiry blank sent to the workers or persons whose activities are under investigations.

v) Documentary Analysis

The investigator makes an analysis of magazines, correspondence, public records and the like and tabulates the information, skills, or principles found in these documents. These findings throw light on what will be needed by persons who use these documents or who are involved in the activities from which they results.

vi) Observing the Performance of People

The curriculum worker, or a group of persons under his direction, observe and tabulate their observations and findings. This may be concerned with the daily activities of people or it may involve analysis of individuals or groups in certain specific situations.

The main criticism on the analytical procedure is that it breaks operations, skills, and knowledge into such small elements that the real identity of the original process or knowledge is lost. Although this criticism may be valid when analysis has been carried to extremes, it can hardly be held to be justifiable in most instances. Analysis is always essential, and there is no justification for wholesale criticism on it. The pertinent questions should always be these: What is the analysis for? Is it sufficient for the purpose? A second criticism is that the process of analysis yields static results. An analysis of present conditions indicates nothing about what they should be. Hence, the discovery of what is actually done on a job, or the knowledge and skills that people actually use in their various activities, offers no basis for improving performance.

3.4 The Consensual Procedure

The consensual procedure is a way of collecting people's opinions about what they believe the curriculum should be. The results of the consensual procedure are expressed in terms of the number of persons, or percentage of persons, of a particular community or

group who believe that such and such should be taught in the schools. The selection of persons whose opinions are to be sought is the first step. Such persons are usually selected because they are:

- i) Outstanding leaders in the fields of education industry, business, agriculture, labour and in the social life of the community.
- ii) Experts and specialists such as physicians, engineers, teachers and artists.
- iii) Representatives of the population of a community or region.

The next phase is the development of a method for collecting opinions. Usually a questionnaire is used. In some cases, interviews or small group conferences are employed. The final stage of the consensual procedure is the tabulation and interpretation of the responses. This procedure is perhaps most dependable when it is used along with the judgmental procedure. But it too is subject to the objection that people's replies are too often dictated by vested interests, unexamined prejudices and occupational bias. It is also apparent that this procedure results not in consensus but in a tabulation of votes.

Activity

Interview some of the members of National Curriculum Committee in a subject and level of your choice about the procedures used in content selection.

3.5 Romine's Classification of Procedures

It is difficult to separate "selection" from organization, particularly at the actual point of making choices within the overall framework of the curriculum. For that reason, the procedures dealt with above apply in varying degrees to both selection and organization of curricular experiences, suggesting means of establishing courses and other aspects of the total curriculum. A number of suggestions may be found in educational literature dealing with this task of curricular construction. Some authors discuss one or more of the procedures in terms of determining the scope of the curriculum, others in terms of the selection of curricular materials and experiences. Some of the procedures are more applicable on a broad basis, while others are more pertinent to courses of study, units, project and related classroom activities.

Stephen Romine has discussed some procedures which can be used in selecting and organizing curricular experiences: analysis of text books surveys of opinions, the study of errors, the study of the curricula, analysis of adult activities, analysis of social functions, and study and analysis of youth interests and needs. Although some of these have, to some degree, been discussed under the above four procedures, it would be interesting to discuss them further.

i) The Textbook Procedure

This self-explanatory procedure is the most commonly employed of all for selecting and organizing curricular experiences. The content of a course or a curriculum based on this approach is determined in large part, if not entirely, by the selected textbook (or textbooks). Essentially, it assumes that the writers of text are sufficiently expert to know

what is appropriate for the youth who are to pursue given curricular experiences and use the textual materials in so doing. While such persons generally have access to such basic data and do a real service in bringing together and organizing materials, it is doubtful whether they are capable of accurately diagnosing pupils background and needs as they are found in the thousands of classrooms over the nation. Yet in the hands of many teachers, the text serves as the prescription for all pupils, regardless of individual differences amongst them.

ii) The Survey of Opinions Procedure

This procedure has several variations and is spoken of as the consensual or expert opinion procedure. Subject-matter committees, for example, make pronouncements based upon the study and opinions of the members. These decisions frequently are based upon considerable studies and deliberations and are worth careful consideration. On other occasions, the recommended ideas or practices may be nothing more than unstudied opinion. The value of the procedure is likely to be greatest in restricted areas of the curriculum, as in some special subject field, or in dealing with special problems. In this procedure five groups of persons may be involved individually or collectively” (a) experts in a given field, including teachers, (b) specialists in professional education, (c) lay leaders, (d) the general public and (e) pupils. Opinions may be solicited through the committees established to study given problems.

iii) The Study of Errors Procedures

The idea behind this procedure is that of identifying errors and shortcomings as a basis for incorporation into the curriculum such content as will assist in removing these weaknesses. This is a form of analysis which concentrates on incorrect or improper behaviour, judged in terms of given criteria of values. In the field of social studies, for example, a study might be directed at determining the reasons why different racial groups in a community were not getting along well. On the basis of the findings, a series of curricular experiences should be outlined and materials selected to help promote better understanding and more cooperative relationships. In mathematics, a teacher may study pupil performance, determining weaknesses in several respects. Remedial work may then be implemented. For the purposes of diagnosis at the beginning of courses, a more extensive analysis may be made of both the strengths and weaknesses of pupils. This may serve as a partial basis for structuring the course, particularly with regard to an introductory unit aimed at developing desired understandings and basic skills.

iv) The Study of Other Curricula Procedure

Sometimes identified as the “scissor and paste” method, this procedure entails the study of curriculum guides, courses of study and similar materials prepared by other schools and agencies. The general idea is to determine from such study what others are doing which may be useful in one’s own school situation. In this way a teacher, or a school, may rely heavily on another for the substance of curricular content. A teacher, may, for example, simply look over a course of study in science which is used in another school and adopt it exactly as it is for use in his own class. This danger must be avoided if the

procedure is to serve any good purpose. In Pakistan we have prescribed content, a teacher may, however, come to know about methods of teaching as practiced in other schools.

v) The Analysis of Adult Activities Procedures

Activity analysis is not a new procedure, but it still has value in dealing with curricular content. Broadly conceived, it involves the study of life activities, citizenship, vocations and so forth to discover significant activities concerning which youth should be taught to be proficient. It is more commonly recognized and utilized, however, in relation to vocational education, where in analysis is directed towards the identification of specific skills. Once such identification has been accomplished, curricular experiences are set up to teach the skill involved.

vi) The Social Functions Procedure

Related to the activity analysis approach, but broader in point of view, is what may be called the social functions procedure. This procedure has its basis in the concept of education as social process and as a primary step involves an analysis of the social functions which adult citizens should be capable of performing. Because it requires a broad grasp of the total environment and deals with larger areas of living. This approach is more applicable to such larger areas of the curriculum as, for example, the whole social studies programme. It may, however, lead to more detailed selection and organization as an outgrowth of the larger planning which is done initially. This procedure entails comprehensive study of social, political, economic and related conditions, influences and trends and these may be approached through surveys, study of literature, research and other such methods. A general appraisal of the total situation, the forces and factors influencing it, and what it all means in terms of the social functions and the school is essential.

vii) The Youth Interests and needs Procedure

Certain similarities exist between the social functions procedure and that of youth interests and needs. The former takes its scope from the functions of adult living, ordinarily classified into a number of large areas of persistent life problems. Its sequence preferably is based upon the background, maturity, interests and needs of boys and girls, although it may be chronological and logical. The youth interests and needs procedure involves consideration of persistent problems too, but both its scope and sequence are based upon youth. It involves the personal and social functions of boys and girls rather than of adults. It does not avoid preparing for adult living; in fact, it contributes much to this. But its primary focus is on the here-and-now, young today and the things which concern them.

4. Principles of Curriculum Organization

The principles suggested for use in selecting educational content are also useful in considering organization and may be modified slightly to become more applicable for such a purpose. The pattern of the curriculum with its sub-divisions should be planned and structured with due regard to the bases which have been suggested as underlying the

operation of the school – the purposes of education, the needs and abilities of the learners and the educative process.

In terms of these a few general principles can be adopted to outline the job that should be done with respect to curricular organization, viz.

- i) Provide for scope and sequence with flexibility.
- ii) Provide a common body of educative experiences, plus those which are essential in meeting.
- iii) Be consonant with the manner in which learning takes place.
- iv) Implement the attainment of stated objectives, and encourage the evaluation of pupil growth and development in terms of these objectives.
- v) Give consideration to the individual learners, and involve them in cooperative curriculum planning and active learning ventures.
- vi) Relate to the total educational picture in a way so as to affect favourable learning climate in the school and in the community.

4.1 What is Curriculum Organization?

According to Ralph Tyler, important changes in human behaviour are not produced overnight. No single learning experience has a very profound influence upon the learner. Changes in ways of thinking, in fundamental habits, in major operating concepts, in attitudes, in abiding interests and the like develop slowly. It is only after months and years that we are able to see major educational objectives taking marked concrete shape. In some respects, education experiences produce their effects in the way water dripping upon a stone wears it away. In a day or a week or a month there is no appreciable change in the stone, but over a period of years definite erosion is noted. Correspondingly, by the accumulation of educational experiences profound changes are brought about in the learner. In order for educational experiences to produce cumulative effects, they must be organized to reinforce each other. Organization is thus seen as an important aspect of curriculum development because it greatly influences the efficiency of instruction and the degree to which major educational changes are brought about in the learners.

4.2 Criteria for Effective Curriculum Organization: Continuity, Sequence and Integration

As discussed by Tyler in *Basic Principles of curriculum and Instruction*, there are three major criteria to be met in building an effectively organized group of learning experiences. These are continuity, sequence and integration. A summary of Tyler's discussion is given below:

i) Continuity

This refers to the vertical reiteration of major curriculum elements. For example, if in social studies, the development of skills in reading social studies material is an important objective, it is necessary to see that there is a recurring and continuing opportunity for these skills to be practiced and developed. This means that over time the same kinds of skills will be brought into continuing operation. In similar fashion, if an objective in science

is to develop a meaningful concept of energy, it is important that this concept be dealt with again and again in various parts of the science course. Continuity is thus seen to be a major factor in effective vertical organization of curricular contents.

ii) Sequence

This is related to continuity but goes beyond it. It is possible for a major curriculum element to occur again and against but merely at the same level, so that is no progressive development of understanding or skill or attitude. Sequence as a criterion emphasize the importance of having each successive experience built upon the preceding one, but goes more broadly and deeply into the matters involved. For example, sequence in the development of reading skill in social studies would involve the provision of increasingly more complex social studies material, increased breadth in the operation of the skill involved in reading these materials, and increased depth of analysis so that the sixth-grade social studies programmes would not simply reiterate the reading skill involved in the fifth-grade social studies programmes would go into them more broadly and deeply. Correspondingly, sequential development of a concept of energy in the natural sciences would require that each successive treatment of energy would help the meaning of the term “energy”. Sequence emphasizes not duplication but higher levels of treatment with each successive learning experience.

iii) Integration

This refers to the horizontal relationship of curriculum experiences. The organization of these experiences should be such that they help the student increasingly to get a unified view and to unify his behaviour in relation to the elements being dealt with. For example, in developing skill in handling quantitative problems in arithmetic, it is also important to consider the ways in which these skills can be effectively utilized in social studies, in science, in business and other fields so that they are not developed simply as isolated behaviours to be used in a single course, but are increasingly part of the total capacities of the students to use in the varied situations of his daily life. Correspondingly, in developing concepts in the social studies, it is important to see how these ideas can be related to work going on in other subject fields so that increasingly there is unity in the students’ outlook, skills, attitudes and the like.

4.3 Conclusion

The above discussion leads to the conclusion that the most important criterion point for the selection of curriculum content is the Islamic society, which puts equal emphasis upon the materialistic and spiritual development of the individual and society.

Furthermore, the content should be selected and presented in such a way that a balance between ‘permanence’ and ‘change’ is established. In other words, we have to conserve the permanent perennial values and also adopt innovations and change. A balanced curriculum would, therefore, be one which takes care of the needs and interests of the individuals as well as society. Further, the selection of such content should satisfy the criteria of validity, significance, interest and learnability.

In Unit 4, you studied in detail aims, goals and objectives and the importance of stating these clearly as a first step in curriculum planning and evaluation was stressed. In this unit, we have considered the next stage the selection of curriculum content. It is now time to look at the evaluation of the curriculum which is covered in Unit 6.

5. Self Assessment Questions

1. Describe the meaning of 'curriculum content'.
2. Why must we select the content?
3. Describe important levels of content and their functions.
4. What are the important general principles for selecting curricular content as well as learning experiences?
5. Elaborate on the following criteria of content selection:
 - a) The criterion of validity
 - b) The criterion of significance
 - c) The criterion of interest
 - d) The criterion of learnability
6. For assessing the validity and significance of the content, a number of criteria of content selection have been discussed by Romine in the book, *Building the High School Curriculum*. Discuss each criterion.
7. Smith, Stanley and Shores have discussed different procedures for content selection. What one of them do you like to be adopted in Pakistan and why? Explain.
8. What do you mean by the term 'curriculum organization'?
9. Explain the principles of curriculum organization.
10. Ralph Tyler in his famous book *Basic Principles of Curriculum and Instruction* emphasized the following criteria for effective curriculum organization:
 - a) The continuity criterion
 - b) The sequence criterion
 - c) The integration criterionDiscuss each and evaluate the present secondary school curriculum in Pakistan under these criteria.
11. Assume that you are a member of a committee to revise the curriculum in a field of your choice. Outline a procedure of content selection which you would recommend to the committee. What difficulties would you anticipate in following this procedure?

12. Identify true/false of the following statements:

- a) According to Ralph Tyler, “learning experience refers to the interaction between the learner and external conditions in the environment. T/F
- b) The static type of knowledge refers to third level of contents. T/F
- c) Newton’s laws of motion refer to the normative subjective matter. T/F
- d) ‘Interviewing’ is included in the analytical procedure of content selection. T/F

Answers:

For answers to the SAQ’s 1 to 11 consult relevant section of the unit.

Answers to Question 12

- | | | |
|---------|----------|----------|
| a) True | b) False | c) False |
| d) True | e) False | |

6. Bibliography

- Hooper, R. (ed.) *The Curriculum: Context, Design and Development*, The Open University Press, London, 1975, p.505.
- Hussain, Afzal, *Fann-e-Taleem-o-Tarbiat*, Islamic Publication, Lahore, 1970, p.616.
- Maudoodi, Abulala, *Taleemat*, Islamic Publications, Lahore, June, 1977.
- Nicholls, A.U., Nicholls, H., *Developing a Curriculum: A Practical Guide*, George Allen and Unwin, London, 1978, p.122.
- Romine, S.A., *Building the High School Curriculum*, The Ronald Press Company, New York 1954, p.520.
- Saylor and Alexander, *Planning Curriculum for Schools*, Holt, Rinehart and Winston, Inc., New York, 1974, p.404.
- Shone, H.G., *Curriculum Change toward the 21st Century*, A national Education Association Publication, Washington D.C., 1977, p.184.
- Smith, Stanley and Shores, *Fundamentals of Curriculum Development*, Harcourt, Brace and World, Inc., New York, 1975, p.248.
- Taba, H., *Curriculum Development: Theory and Practice*, Harcourt, Brace and World Chicago, p.526.
- Tanner and Tanner, *Curriculum Development: Theory into Practice*, Collier Macmillan Publishers, London, 1975, p.734.
- Tyler, R.W., *Basic Principles of Curriculum and Instruction*, The University of Chicago Press, Chicago, 1949, p.128.

UNIT 6

Evaluation of Curriculum

Written by: Dr. Sheikh Muizuddin
Reviewed by: Dr. Afshan Huma

CONTENTS

Introduction.....	159
Objectives	159
1. The Aims of Curriculum Evaluation.....	160
1.1 Self Assessment Questions	161
2. Educational Goals and Curriculum Objectives.....	161
2.1 Development of Educational Goals	161
2.2 Role of Educational Measurement in Defining Goals	162
2.3 Considerations in Selecting Goals	162
2.4 Educational Objectives and their Taxonomies	163
2.5 The Cognitive Domain.....	163
2.6 The Affective Domain	163
2.7 The Psychomotor Domain	164
2.8 Educational Objectives: A Position Statement	164
2.9 Self Assessment Questions	164
3. Designing Evaluation Studies	165
3.1 Steps in the Evaluation Process	165
3.2 Methods of Curriculum Evaluation	166
Activities.....	167
3.3 Problems of Research Design in Curriculum Evaluation	169
3.4 Course Improvement through Evaluation.....	170
3.5 Conclusion	170
3.6 Self Assessment Questions	172
4. Bibliography	172

Introduction

Broadly speaking the term evaluation refers to the process undertaken to ascertain as to what extent the aims and objectives of a particular programme in education have been achieved. And if the objectives have not been achieved, what have been the possible hurdles in achieving the desired objectives. Before we discuss the concept of evaluation with reference to curriculum, it seems appropriate to briefly describe the difference between evaluation and measurement.

Evaluation of the curriculum of any specific course deals with all the educational outcomes related to it, whereas measurement deals specifically with those characteristics that can be easily quantified. In evaluation such techniques may have to be evolved as may help the educators to analyse and assess the merits and shortcomings of any curriculum. Further, any problems involved in implementing a curriculum successfully have to be identified and resolved in order to achieve its educational objectives.

The procedures of curriculum evaluation involve certain steps which should, however, be flexible enough to be adjusted as per exigencies arising from time to time. These procedures are useful in guiding the thinking of those who are carrying out the evaluation. The steps which have to be evolved by careful and intensive analysis of the types of the tasks involved. While the strategy for curriculum evaluation should be adjusted according to the particular problems and situation under consideration, certain models which will be described in this unit can play a very important part in the process. Curriculum evaluation should not only be a means for judging educational effectiveness, but also if applied critically and intelligently, should lead to useful decisions that can serve as a powerful force to improve the educational process as well.

Objectives

After studying this unit, you should be able to:

1. Mention the main purpose of curriculum evaluation and the extent to which an evaluation can be made.
2. Analyze the goals and objectives of educational programmes for relating them to the evaluation.
3. Design strategies and methods for the evaluation of specific educational programmes in accordance with the needs of the situations.
4. Suggest means of improving educational curricula and processes in the light of the evaluation of the programmes.

1. The Aims of Curriculum Evaluation

When curricular innovations are introduced, it is an important task of educators to determine their effectiveness. An assessment of any new programme has to be made to find out if the desired outcomes are being achieved; and to what extent, if at all, it results in significantly better learning than the existing programme. The use of evaluation techniques should enable curriculum workers to make steady progress in improving the curriculum.

Curriculum Evaluation

Curriculum evaluation is an essential phase of curriculum development. Through evaluation a faculty discovers whether a curriculum is fulfilling its purpose and whether students are actually learning.

Curriculum Evaluation – NCBI

www.ncbi.nlm.nih.gov/pubmed/2601681

The major aims of curriculum evaluation may thus be summarized as follows:

- a) To determine the outcomes of a programme;
- b) To help in deciding whether to accept or reject a programme;
- c) To ascertain the need for the revision of the course content;
- d) To help in further development of the curriculum materials for continuous improvement.

Careful evaluation should, therefore, demonstrate the strengths and weaknesses in the curriculum so that necessary changes can be made in the instructional programme.

In testing and measurement, greater emphasis is placed upon those characteristics that are easy to quantify and thus important outcomes such as problem solving, creativity, critical thinking, work habits, and cultural appreciations tend to be neglected. Uncritical uses of testing and heavy reliance on test results have caused a widespread spurious sense of certainty about educational accomplishments. Evaluation, however, is aimed at measuring all the educational outcomes, not just those which lend themselves easily to quantification.

The purpose of evaluation for curriculum innovations includes the collection of information to be used as:

- a) Feedback to the innovators for further revision of materials and methods;
- b) Input for decision-making in the course;
- c) Empirical data on behaviour changes under curriculum treatment.

Professional educators who implement the curricula should be held accountable for successful achievement of educational outcomes. This involves:

- a) Developing improved, more comprehensive measurements of pupil performance
- b) Making analysis of the contributions made to the pupils' performance by educators, administrators, planners, institutions and other agencies in the educational process.

Curriculum evaluation, which should assess all aspects of the programme, should give a clear picture of the educational process and products that should not only have prognostic value as regards the success of the programme, but should also have a diagnostic value in adapting and improving the programme the satisfaction of all concerned.

1.1 Self Assessment Questions

1. State, in brief, major objectives of curriculum evaluation.
2. Compare the domains of measurement of educational achievement and evaluation of the curriculum.
3. List the processes for which information/data are used in the evaluation of curriculum innovations.
4. Tick true or false against the following statements:
 - i) Evaluation of curriculum is not related to educational outcomes. T/F
 - ii) Intelligent handling of curriculum evaluation also helps in improving educational process. T/F
 - iii) Need for curriculum revision may be judged through curriculum evaluation. T/F
 - iv) Curriculum evaluation provides feedback to innovators. T/F

2. Educational Goals and Curriculum Objectives

Statements of goals and objectives of the curriculum have many valuable uses. The congruence between the intent of the curriculum and the actual educational outcomes has to be investigated. In addition to abilities, the importance of attitudes, values, interests and sentiments in the educational process has been increasingly recognized. Also the behavioural approach to the statement of objectives has gained a new impetus because of its value in the educational process. Valid evaluation is facilitated by a statement of the aims and objectives of education, arranged in a hierarchy of national, regional, local, subject and course areas drawn to blocks and units and even to daily lessons.

2.1 Development of Educational Goals

Philosophers and educationists have for centuries been discussing the aims and objectives of education. Now more than ever, the problem of educational goals is a top priority though still a largely unresolved problem. The main reason for this is that in spite of all our efforts, the goals produced are essentially nonfunctional, even when stated in behavioural terms.

Reason of Nonfunctional Educational Goals

The goals of education usually tend to be nonfunctional for the following reasons:

- i) In the statements of objectives, too much reliance is placed on words like, 'continued development of values and character' or 'perfecting the intrinsic powers of every citizen.' While these sound enthusiastic, these lack clarity about the goals and hence the actual educational process that needs to be adopted for achieving these goals.
- ii) There is a lack of public involvement with the educational experts and educators in the clarification of objectives. Sometimes public participation narrows down the goals, but ultimately the goals are to be controlled by them.
- iii) The goals have too often been assumed as given and concentration has been directed to how to achieve the so called assumed or given goals. Changes in goals, that form a part of the educational process, have to be created by every generation.
- iv) Those at the helm of affairs tend to interpret the goals according to their perception which makes them too hazy.

Educational Measurement

Educational measurement refers to the use of educational assessments and the analysis of data such as scores obtained from educational assessments to infer the abilities and proficiencies of students. The approaches overlap with those in psychometrics.

Educational Measurement – Wikipedia, the free encyclopedia
http://wikipedia.org/wiki/educationa_measurement

2.2 Role of Educational Measurement in Defining Goals

Tests are related to the major concerns in the educational process and should provide help in the development of meaningful goals. Without proper measures of the outcomes, there would be no direction as to the goals. The notion of the process of education in an institution, without proper evaluation, would be hazy and narrowly defined. Along with the measurement of basic skills and mastery of academic subjects, academic honesty and a sense of self should be used in the discovery and development of educational goals.

2.3 Consideration in Selecting Goals

The criteria for the goals of education should be developed in relation to:

- i) The values of the society as a whole and of individual members;
- ii) The historical background of the society;
- iii) The potential urge of the society to move forward and progress;
- iv) The present standards and abilities of the students; and hence the possibility of achieving the goals;
- v) The educational philosophies of the institutions and the extent of teachability of the subject-matter under study;
- vi) Different theories of learning;
- vii) The measurability of the goals, if and when achieved. A goal, the achievement of which is not measurable is a vague goal.

2.4 Educational Objectives and their Taxonomies

As you will recall from Unit 4, objectives are more precise than goals. Broad goals are analysed and made more specific and useful as building blocks for instruction.

Although you have read about taxonomies already in Unit 4, perhaps it would be worth repeating the basic points again. Taxonomy is a classification scheme and a relatively concise model for the analysis of educational objectives.

You will recall that the taxonomy developed by Bloom and others in USA was divided into three domains:

- i) **The Cognitive Domain**, dealing with objectives dealing with thinking, knowing and problem solving.
- ii) **The Affective Domain**, including the objectives dealing with attitudes, values, interests, appreciations and socio-emotional adjustment.
- iii) **The Psychomotor Domain**, covering the objectives dealing with manual and motor skills i.e. the activities to be performed as a result of bodily movements.

2.5 The Cognitive Domain

The cognitive domain is divided into:

- i) The acquisition of knowledge.
- ii) The development of intellectual skills and abilities necessary to use knowledge.

More specifically, you may remember that Bloom's categories were as follows:

- i) *Knowledge*, recalling facts, concepts, trends generalizations, principles, etc.
- ii) *Comprehension*, understanding, translation, interpretation and extrapolation.
- iii) *Application*, using abstractions in particular concrete situations.
- iv) *Analysis*, breaking down for clarity of thinking of elements, relationships and organizational principles.
- v) *Synthesis*, producing a unique communication by reorganizing and rearranging the facts.
- vi) *Evaluation*, judging in terms of (i) internal evidence (logical) and (ii) external evidence (consistency of facts developed).

2.6 The Affective Domain

As you have already read in the unit as well as in Unit 4, the affective domain is concerned with values, interests and emotions etc. This domain has got the following categories:

- i) *Receiving (attending)*, awareness, willingness and selected attention.
- ii) *Responding*, acquiescence, willingness and satisfaction in response.
- iii) *Valuing*, acceptance of and preference for a value and commitment.
- iv) *Organization*, conceptualization as a value and organization of a value system.
- v) *Characterization* of a value or a value complex as a generalization.

2.7 The Psychomotor Domain

According to Simpson (1972) psychomotor skills range from manual tasks, such as digging a ditch, to more complex tasks such as operating a complex piece of machinery.

The major categories are listed from the simplest behaviour to the most complex:

Perception (awareness): The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation.

Set: Readiness to act. It includes mental, physical and emotional sets. These three set are dispositions that predetermine a person's response to different situations (sometimes called mindsets).

Guided Response: The early stage in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing.

Mechanism (basic proficiency): This is the intermediate stage in learning complex skills. Learned responses have become habitual and the movements can be performed with some confidence and proficiency.

Adaptation: Skills are well developed and the individual can modify movement patterns to fit special requirements.

Origination: Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills.

Reference: nmlink.com

2.8 Educational Objectives: A Position Statement

- i) The objectives should, usually, be apparent to educators and learners.
- ii) A sound educational system provides for occasional reassignment of immediate objective to take advantage of special opportunities that occur.
- iii) Global objectives provide little guidance to teaching and evaluation and specific objectives most often ignore vast concerns.

2.9 Self Assessment Questions

1. Explain the value of a systematic statement of objectives of an educational programme for valid evaluation.
2. Why are the goals of educational process mostly stated in non-functional terms?
3. How are tests related to the objectives of education?
4. What are the main related variables in the development of criteria for the goals of education?

5. Define and explain the different categories falling under the cognitive domain of educational objectives.
6. How is the affective domain of educational objectives related to curriculum evaluation?

3. Designing Evaluation Studies

Having briefly revised the area of goals and objectives, let us look more closely at ways of evaluating the extent to which educational goals and objectives have been achieved. An evaluation study requires a lot of thinking as well as proper planning to get useful results. Generally, most attention has been placed on the evaluation of the content, – the basic on which the curriculum development was approached. Recent trends towards more process-concept or behavioural based programmes demand more adequate definition of evaluation, better related criteria for judging value and more sophisticated mechanisms for organizing the procedures and models for reporting. Every evaluation study has peculiarities of its own but the design of the study has to be planned using rational procedures. Various strategies and models for designing evaluation studies have been tried and a summary statement of the procedures involved in some of the them will now be attempted.

In organizing a curriculum evaluation, logically and intelligently, leading to decisions on the effectiveness of the programme and its possible improvement, one suggested strategy involves the following:

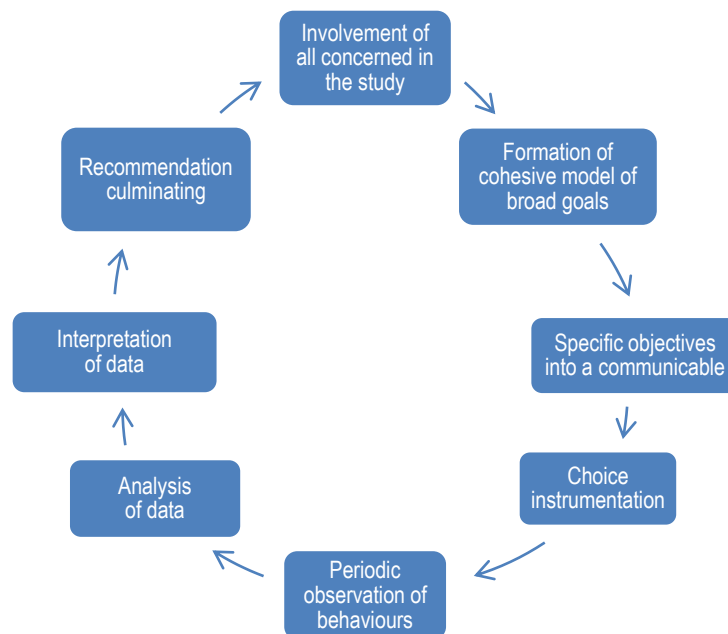
- a) Specification, refinement, or modification of programme goals and evaluation.
- b) Planning for an approximate evaluation design.
- c) Selection or development of data-gathering methods.
- d) Collection of relevant data.
- e) Processing, summarizing and analysis of data.
- f) Contrasting of data and objectives.
- g) Reporting and feedback of results.

3.1 Steps in the Evaluation Process

The evaluation process should include the following steps:

- i) The involvement of all concerned in the study as facilitators of programme evaluation such as:
 - a) Related groups, boards, parents
 - b) Professional individuals, psychologists, teachers,
 - c) Student groups.
- ii) The formation of a cohesive model of broad goals and specific behavioural objectives, arranged in hierarchical order from general to specific outcomes in respect of all the three domains of objectives.

- iii) The translation of specific objectives into a communicable form, applicable to facilitating learning; and the application of instructional strategies with content and process components.
- iv) The choice of instrumentation (test, observations, interviews, etc.) which will allow one to make inference about programme effectiveness.
- v) Periodic observation of behaviours as valid and reliable indices.
- vi) The analysis of data, given by measurers, by typical statistical methods.
- vii) The interpretation of data relevant to specific objectives and broad goals to allow conclusions to be drawn about the effectiveness of the programme and instructional strategies.
- viii) Recommendations culminating in further modifications and revisions of broad goals and specific objectives to produce substantial improvements in the programme.

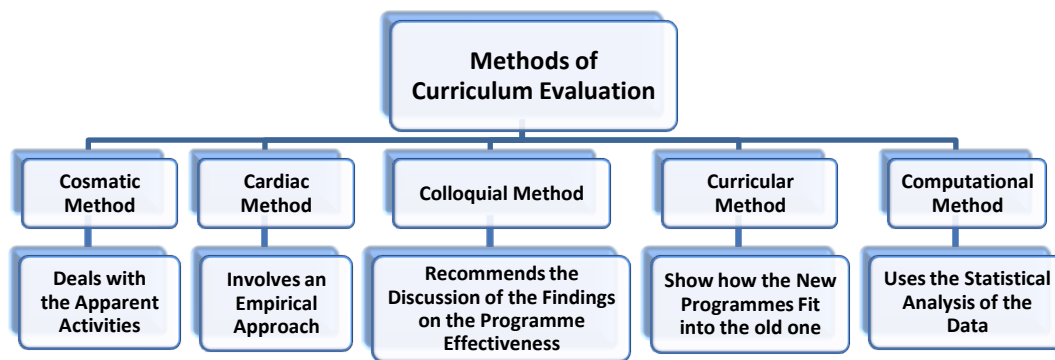


3.2 Methods of Curriculum Evaluation

Some of the methods used to determine the effectiveness of an educational programme are outlined below:

1. **The Cosmetic Method:** This method is easily applied. It deals with the apparent activities and face value of the programme. Evidence about student's learning is not collected. When using the cosmetic method, one needs not to be concerned about objectives. Essentially it involves taking a cursory look at a programme and deciding if it looks good.

2. **The Cardiac Method:** The Cardiac method involves an empirical approach. The effectiveness of the programme is shown through the collection of data. This method is quite similar to the use of “subclinical findings” in medical research.
3. **The Colloquial Method:** This method is easier to apply than the cardiac method. It recommends the discussion of the finding on the programme’s effectiveness by a group of people associated with it. In applying this method, one need merely assemble a group of people who have been associated with a particular programme to discuss its effectiveness.



It may be mentioned here that each of the above cited methods has got its own minus-plus points. It is not, therefore, advisable to recommend or adopt exclusively any one method at the cost of others for all situations and purposes. It should, therefore, mainly depend upon the relevant crucial factors which should help in determining the method of evaluation to be adopted.

Activities

1. Get hold of some study reports on curriculum evaluation from the Curriculum Wing and identify their salient features.
2. Interview some of the curriculum evaluators and note down the major steps followed by them in curriculum evaluation.

3.3 Problems of Research Design in Curriculum Evaluation

Research project on the effectiveness of the curriculum are carried on generally, using a comparison between experimental and control groups. In the experimental group, the curriculum variable interacts with many other elements in the teaching process – the methods of instruction; the training and indoctrination of teachers etc. A control group is a group of subject (the students being included for the evaluation design) as similar as possible to the experimental group, the difference being that they are not given the experimental treatment. A statistical comparison is then made between the achievements of the two groups to discover whether there is any significant difference between them.

As alternative to such an experimental approach to curriculum evaluation the following may be suggested:

- a) An attempt might be made to isolate characteristics of a curriculum to vary them independently. For example, teachers' attitudes vary and are not under control but can be measured and their effect on performance studied; or innovative material might be used with teacher training.
- b) Statistics could be used to suggest the process of learning as related to curriculum elements. The investigation could look for trends, ups-and-downs.
- c) Clinical studies can be done on developmental psychology problems.
- d) The curriculum variable could be redefined at the point of its effect, the interaction between the teachers and students. Observations of the process and interviews could be recorded for an assessment of teachers' attitudes.

Comparison of parallel experimental and control groups may not be meaningful as this approach assumes that all the relevant variables (except the curriculum variable) have been constant. But in such complex situations, this may be difficult to achieve. Instead of taking the groups simultaneously, evaluation using longitudinal studies would consider the curriculum as a process, a succession of event changing systematically over-time.

In evaluation, behavioural definitions of the objectives are demanded from the course designers. Evaluators tend to equate behaviour with items in the cognitive processes. However, achievement tests may be sufficient to assess the objectives of the curriculum. The study of such typical performance variables as attitudes, learning and teaching styles etc., or the development of instruments for measuring such variables are among the major technical problems of evaluation studies. Also the new curricula are subject oriented and the evaluators' behaviour concept is often rejected by the subject specialists. However, the relation between the subject disciplines and the process of teaching has to be examined; and all those concerned with education should contribute not only to the improvement of a particular subject in particular circumstances but also the understanding of the process of teaching and learning.

The purpose of evaluation is to determine the success or failure of any programme in achieving its objectives. In attempting to evaluate a programme, a record has to be maintained for investigation regarding:

- i) The objectives of the programme.
- ii) The environment provided.
- iii) The transactions between the teachers and students.
- iv) The students' progress.
- v) The side-effects of other variables.
- vi) The merits and short-comings seen from divergent viewpoints.

Depending on the interests/intents of evaluators in the concerned field, and considering the entity, standards and anticipated decisions, some major antecedents' variables, transactions between teachers and students and outcomes are listed below:

- i) **Antecedents**
 - Student characteristics
 - Teacher characteristics
 - Curricular content
 - Curricular context
 - Instructional materials
 - Physical plant (Infrastructure)
 - School organization
 - Community context
- ii) **Transactions**
 - Communication flow
 - Time allocation
 - Sequence of events
 - Reinforcement schedule
 - Social climate
- iii) **Outcomes**
 - Student achievement
 - Student attitudes
 - Student motor skills
 - Effect on teachers
 - Institutional effects

Such a description as given above helps to identify the many characteristics programme to be evaluated. The evaluator must choose the variables to the described and judged according to his interest and talent. As for the sources of information they may be described as teachers, administrators, parents and so on. The evaluator has to choose the relevant variables by using:

- i) Intents
- ii) Observations
- iii) Standards
- iv) Judgments

To be more specific:

- i) The *intents* are indicated by the different goals of the people involved.
- ii) The *observations* refer to the perceptions of what actually happens during the implementation of the programme.
- iii) The *standards* depend upon the opinions of experts as to what should happen.
- iv) The *judgments* reflect the feelings of the people about aspects of the situation.

3.4 Course Improvement through Evaluation

In order to find out ways of improving a course to enhance learning, its effectiveness must be assessed. Data collection should include information which will help in evaluating the difficult area of the affective outcomes of the newly developed curriculum.

The most useful evaluation information is that which allows for adjustment and modification in the developmental stages of the curriculum, rather than simply examining the end-products only. This, of course, would be a deviation from the traditional approach.

Any tests used should fit into the contents of the curriculum and should produce reliable and valid scores. Test results may soon be forgotten, however, instead of being followed up for use. Remember that the purpose of evaluation is to study the changes in the pupils following the programme and to use this information to identify where improvements should be made to facilitate improved learning.

Opinions about an educational programme are often biased. The gathering of data using appropriate tests produces more objective results. The achievements of standards should be measured through the use of standardized tests of all relevant areas of proficiency, while attitudes can be accessed through interviews and questionnaires.

But systematic evaluation involves more than simply administering tests and analyzing the results. Apart from measuring proficiency and attitudes, approaches to evaluation can include, for example, process studies of classroom events and follow-up studies of the later careers of the subjects. And the results of evaluation studies should be implemented to produce improvements in the curriculum.

3.5 Conclusion

Old habits of thought and techniques are poor guides for course improvement. For this, more systematic evaluation is necessary. Such evaluation should produce during a course and the revision needed.

Even the collection of appropriate data will make little contribution, if it leads only to approval or disapproval of a programme. Evaluation is a fundamental part of the curriculum development, not just an appendage. It involves collecting facts that the course developer can and will use to do a better job.

3.6 Self Assessment Questions

1. Develop a logical strategy for designing an evaluation of an educational programme.
2. List the steps involved in the evaluation process.
3. Distinguish between cosmetic, cardiac, colloquial and computational methods of curriculum evaluation. Which one of them do you think to be the most appropriate for curriculum evaluation and why?
4. Explain the experimental research approach to finding out the effectiveness of a new curriculum.

5. Identify True/False from the following statements:
- a) Evaluation is concerned with an overall outcome of a programme. T/F
 - b) Measurement deals with easily quantifiable aspects of evaluation. T/F
 - c) Interpretation of educational goals by those who are at the helm of affairs makes the former too hazy. T/F
 - d) Affective domain of objectives deals with thinking, knowing and problem solving. T/F
 - e) Tests need to provide help in developing meaningful goals. T/F
 - f) Recent trends in evaluation are not directed towards process-concept and behavioural-based programmes. T/F
 - g) Development of instruments like tests, observation, and interview should precede the development of educational goals. T/F
 - h) Data collected for evaluation may be analysed by any statistical method. T/F
 - i) The cosmetic method of curriculum evaluation deals with empirical approach. T/F

3.7 Answers to the Self Assessment Questions: Exercises 1-3

Exercise No. 1

For answers to questions 1 to 3 see relevant sections of the unit.

Q.4 i) F. ii) T. iii) T. iv) T.

Exercise No. 2

For answers to question 1 to 6 see relevant sections of the unit.

Exercise No. 3

For answers to questions 1 to 4 see relevant sections of the unit.

Q.5 a) T. b) T. c) T. d) F.
e) T. f) F. g) F. h) F.
i) F.

4. Bibliography

- Lewy, Arich, *Handbook of Curriculum Evaluation (UNESCO)*, Longman Inc., New York, 1977.
- Barro, Stephen M., *An Approach to Development Accountability, Measures for the Public Schools*, Phi Delta Kappan, 196.205: 52, December, 1970
- Cornbach, Lee J., *The Discovery and Development of Educational Goals*, 1966 Invitational conference on Testing Problems, Educational Testing Service, Princeton, N.J. 12-24, 1967.
- Forehand, Garlie A., *The Hole of the Evaluator in Curriculum Research*, The Journal of Educational Measurement. 199 204.3, 1966.
- Krathwohl, David R., *Stating Objectives Approximately for Programme for Curriculum and for Instructional materials Development*, Journals of Teacher Education, 83-92:16, March, 1965.
- Light. R.J., and Smith, P.V., *Choosing a Future Strategy for Designing and Evaluation New Programme*, Harward Educational Review, 1 28: 40, winter 1970.
- Lindval, C.M. and Cox, R.C. *The role of Education in Programme for Individualized Instruction, in Educational Evaluation, New Roles, New Means*, edited by R.W. Tyler, sixty-eighth Year Book of the National Society for the Study of Education, University of Chicago Press, Chicago, 156 188, 1966.
- Mayhew, Lewis B., *Measurement of Non-Cognitive Objectives in the Social Studies; in Evaluation in Social Studies*, Thirty-fifth Year Book of the National Council for Social Studies, 1965.
- Metfessel, Neston S., *Instrumentation of Bloom's and Krathwol's' Taxonomies for Writing of Educational Objectives*, Psychology in the Schools, 227-231: 6, 1969.
- Metfessel, Newton S., and Michael William B., *A Multicriticism Evaluation Model, Educational and Psychological measurement*, 1931-43: 27, 1967.
- Payne, David A., *Curriculum Evaluation*, D.C. Heath and Company, Massachusetts, 1974.

UNIT 7

Approaches to Curriculum Planning

Written by: Dr. Abdul Rashid
Reviewed by: Dr. Afshan Huma

CONTENTS

Introduction.....	175
Objectives	175
1. Approaches to Planning	176
1.1 Centralized Planning.....	176
1.2 Coordination of State Planning.....	177
1.3 Decentralized Planning	178
Activity	179
2. Current Approaches to Curriculum Improvement	179
2.1 The Authoritarian/Directive Approach.....	179
2.2 The Curriculum Council/Study Group Approach.....	180
2.3 The Inservice/Staff Development Approach	182
2.4 The Educational Systems Approach	182
2.5 The Master Planning Approach	185
3. Conclusion	187
Activities.....	187
4. Self Assessment Questions	187

Introduction

Curriculum planning is a complex enterprise involving many kinds of decisions. According to Hilda Taba, in curriculum planning decisions need to be made about the general aims which schools are to pursue and about the more specific objectives of instruction. Also the major areas or subjects of the curriculum must be selected, as well as the specific content to be covered in each. Choices must be made about the type of learning experiences which are most likely to lead to the fulfillment of the aims/objectives of education. In addition, decisions are needed regarding how to evaluate what students are learning how effective the curriculum has been in attending the desired ends and what have been the major obstacles, if any, in the way of achieving these ends.

Such decisions are made at different levels. Some decisions about the content to be included in the curriculum are made by state legislation. For example, under a Presidential Directive, Pakistan Studies and Islamiyat have been introduced as compulsory subjects up to graduation level in Pakistan. Others emanate from Provincial Departments of Education; for example, the requirement to teach the ideology of Pakistan, or suggestions regarding the topics to be covered in Pakistan Studies. Still others are made at regional or district level. Many decisions which shape the curriculum are also made by local schools and by teachers either in groups or individually.

Objectives

After reading this unit, you should be able to:

1. Describe the importance of decision-making at various levels of curriculum planning.
2. Point out the various levels at which different decisions regarding curriculum planning are taken.
3. Discuss and evaluate three major approaches to planning, viz.,
 - a) Centralized planning,
 - b) Coordination of national level planning
 - c) Decentralized planning
4. a) Describe and explain the current approaches to curriculum development, viz.:
 - i) The authoritarian/directive approaches
 - ii) The curriculum council/study group approach
 - iii) The inservice/staff development approach
 - iv) The educational system approach
 - v) The master planning approach
 - b) Evaluate these approaches critically.
5. Present a critique on curriculum planning in Pakistan

1. Approaches to Planning

According to Morphet et al, three major alternatives are available in organizing a state to engage in planning, through whether the choice from among them is (or will be) influenced primarily by educational considerations is another matter. Planning is normally under the supervision and control of the executive or legislative branches (or both) of the state government.

Possibilities in Organizing for Planning

- a) The responsibility for planning in a state can be assigned to a centrally controlled planning agency or body. This agency becomes an adjunct of the executive or legislative branch of government and tends to be concerned primarily with matters of importance to state authority or of significance to the people. Its tasks are centrally determined and do not specifically reflect the interests of any one agency of state government (e.g. the state education agency). In Pakistan, Planning Commission may be identified as such agency.
- b) A variant of this pattern of organization would be a structure that includes a carefully controlled planning body, but which relies heavily upon the decisions and agencies of state government to take the initiative for planning in their respective areas of concern. In this model of planning the major responsibilities are communication, consideration of state priorities and coordination. This pattern might be designated as coordinated state planning within which, for example, the state education agency's planning effort would be directed to its own operations and priorities, as well as to state wide educational policies and programme. For example, the Curriculum Wing of the Ministry of Education represents the example of such coordinated body in Pakistan.
- c) Another pattern of organization provides for each state agency to be responsible for planning its own role, functions and activities a decentralized system. The degree of coordination in the arrangement depends upon state laws and appropriations by the legislature, or is voluntary on the part of each agency. Effectiveness in planning in this case is directly related to the leadership perceptions of the agency and the degree to which planning is regarded as an integral aspect of the agency's work. We shall now look at each of these approaches in more detail. In the context of curriculum planning in Pakistan, there is no such provision allowing for it at each individual agency level.

1.1 Centralized Planning

Planning as continuous and all inclusive responsibility of a single officer, agency, or body is viewed in some quarters as the state's most efficient and effective means for guiding broad social and economic developments. The current increasing pressure for accountability also tends to support the contention that the responsibility for planning should be placed in the hands of an identifiable group within a state's bureaucracy. What do you consider are the advantages and disadvantages of this approach?

Advantages

Some of the possible advantages of centralized planning may be identified as follows:

- i) The likelihood of balanced approach is increased in that the needs of the state can be more clearly identified and optimum resources allocated to meet these needs.
- ii) Overlapping goals and functions and duplication of effort can be minimized.
- iii) The standardization of reporting forms, schedules and data analysis is enhanced.
- iv) Costly and scarce planning talents and technology can be more easily acquired and supported.

Disadvantages

However, some of the possible disadvantages of the centralized approach are given as under:

- i) The public usually does not have much confidence or faith in a capital authority. Hence the curriculum formulated by such central agency may not be acceptable to all the circles of society at large.
- ii) In all probability, the agencies that would be responsible for implementing curriculum would not be seriously involved in developing the same. This is likely to affect the implementation of curriculum.
- iii) Some proposals could become unrealistic if various authorities or knowledgeable persons were not continuously consulted and utilized in planning.
- iv) The probable emphasis on measurable outputs could place education low in the list of priorities because some of its outcomes are difficult to quantify.
- v) The membership of the central planning body may be responsive to the rise and fall of political fortunes and, thus, may be vulnerable to partisan political influences. In other words, the political instability in the country adversely affects the planning process.

1.2 Coordination of State Planning

According to Morphet of al, most state education agencies and their constituencies would probably view a coordinated state approaches to planning with somewhat greater favour than one where the primary initiative and resources rest in a centralized state planning body. It is difficult to identify any matter of state interest and concern relating to education that does not have a degree of interest or have implications of several state agencies. Each state agency has some unique characteristics which would tend to support the contention that the agency should have the primary role for initiating and following through activities on matters within its domain. The coordinated approach to state planning demands serious consideration as an option that has merit.

Advantages

Following are some of the advantages off the coordinated state approach:

- i) The sharing of information in a coordinated planning effort tends to encourage the development of collaborative planning and ensure integrated action programmes where overlapping concerns exist.
- ii) The effectiveness of state agency's planning effort could be substantially improved through the resources made available through the state's coordinating mechanism.

- iii) An increasing state-wide confidence in the quality of the state's planning endeavours may evolve because of the cooperation, coordination and collaboration embodied in this approach.

Disadvantages

However, there are also several possible disadvantages of the state coordinated planning:

- i) It needs open communication, coordination and respect which may be undermined by human failings (quest for power, jealousy, and the like).
- ii) An uneven distribution of resources, competency and planning commitments among the various state agencies may decrease the effectiveness of a cooperative approach to state planning.
- iii) Education and other agencies may be forced to wait for necessary cooperation to evolve in matters that could have top priority.

1.3 Decentralized Planning

Because of the special interests and abilities concentrated in each state agency, some persons would content that substantial improvements in a state can be made only when each agency is given the responsibility for planning its own functions and programmes. In curriculum formulation which has to be more and more relevant to the immediate surroundings and real life experiences of the child, the need for decentralized planning becomes all the more greater. The complexity of contemporary society tends to require that experts be involved in the resolution of its problems. If this assumption is accepted, the responsibility for planning in its own areas of concern would be assigned to each agency because of its capacity to utilize its human and other resources to meet its essential needs. The alternative of organizing a state for planning would appear to the one most favoured by most state agency personnel as it allows them to pursue their specialized interests and apply their efforts accordingly. How do you react to this kind of planning especially in the context of curriculum planning in Pakistan?

Advantages

Some of its possible advantages are as under:

- i) Effectiveness in bringing about needed changes in a state can be furthered when responsibility for planning is placed in the agency.
- ii) Each state agency could concentrate its efforts on its priority matters.
- iii) Accountability can be more clearly assigned in relation to the agency's basic responsibility and purpose.
- iv) The necessary interaction among people who are concerned about a particular issue should be more easily obtained and utilized by each state (educational) agency.

Disadvantages

However, some of the potential disadvantages include the following:

- i) Conceivably state agencies most favoured by the government or influential special interest groups might receive greater attention and support in their planning efforts than other agencies.

- ii) The interrelations that are necessary to bring about substantial improvements at other than local level may be overlooked due to the limited perceptions that may prevail within an individual agency.
- iii) The need for cooperation and coordination may be ignored when an agency functions as an entity in isolation from other stage agencies.

Activity

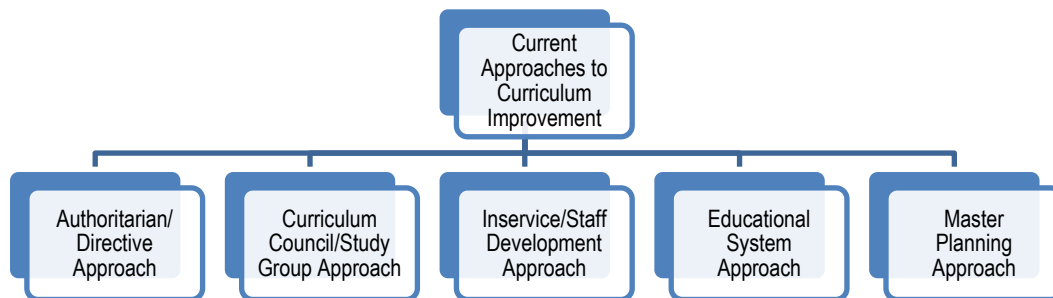
Hold a discussion amongst your colleagues about the relative merits/demerits of each of the above approaches with reference to the situation obtaining in Pakistan.

2. Current Approaches to Curriculum Improvement

Approaches to curriculum improvement have taken different forms to serve valid purposes. Efforts to improve the curriculum can, according to Tankard, take the following forms:

- a) The authoritarian/directive approach
- b) The curriculum council/study group approach
- c) The inservice/staff development approach
- d) The educational systems approach
- e) The master-planning approach

Each of these approaches is considered in greater depth below.



2.1 The Authoritarian/Directive Approach

The authoritarian or directive approach to curriculum improvement or change can be distinguished from other approaches in that the impetus for improvement, the direction of improvement, and the focus or target area for improvement are controlled by the programme administrator. Frequently, this approach is used to implement mandated changes that have been imposed by some higher authority or agency such as the accrediting or legislative body. The approach is based on 'top-down' paternalistic administrative model which uses the programme administrator to expedite programme improvement.

This model has the built-in strength of administrative support. Discussion of the pros and cons of any change is minimized, thus expediting its implementation. On the other hand,

the staff may resent having a predetermined programme imposed upon them and thus may not be fully (or even partially) committed to it; and the staff may not possess the knowledge or competency required for programme success. More importantly, changes that are implemented using this approach may not meet the legitimate needs of the schools.

The negative factors that operate in reaction to the authoritarian approach usually limit its application to rather minor programme modifications. This method may be quite appropriate in those instances where the programme changes are minor in nature and will have a very limited impact on schools, teachers and students. Major changes in courses of study or instructional procedures will normally require that the programme administrator resorts to the curriculum council/study group approach or the inservice/staff development approach.

A clear example of the authoritarian/directive approach in Pakistan can be illustrated by the actions of the Provincial Governments before the 70s in implementing a new curriculum in General Science for secondary school classes. Guidelines and textbooks were provided to schools and teachers by the Government and accreditation requirements were amended to ensure that General Science would be taught to secondary school level students. The programme was implemented nation-wide. However, most of the teachers were ill prepared to teach General Science and were forced to rely heavily on the textbooks for guidance. The programme was implemented on the assumption that it would improve gradually over the years.

Although the authoritarian strategy may not be most effective one to ensure quality in the implementation of major curriculum changes, it does provide an effective vehicle for improvement which:

- Is mandated
- Has minor budget implications
- Must be initiated within a strict timetable
- Is minor in nature
- Does not require significant coordination among departments and schools
- Does not require extensive staff training or involvement.

2.2 The Curriculum Council/Study Group Approach

The curriculum council/study group approach has as its major characteristic the involvement of professional staff members, over an extended period of time, in an effort to improve the curriculum through study and selection of materials and procedures. School accreditation self-study committees in USA are most commonly of this type, as are district-wide curriculum committees that meet on a regular basis. This approach is based on an administrative model which encourages staff input as a prelude to administrative decision-making.

The inherent value of this method is the involvement of the teaching staff in the development of recommendations that will affect them in their work. It usually assumes that “what we have is good”. But that it can be improved. Minor changes can be made

over an extended period of time using this approach, giving rise to what might be called an evolving curriculum; however, strong leadership may cause major restructuring of the curriculum. Changes usually effected through the curriculum council/study group approach are concerned with the modification of programme designs and instructional procedures and alternations in materials, equipment and textbooks.

Among its weaknesses in relation to curriculum improvement are the following:

- i) A recommended change may not receive the support of the programme administrator.
- ii) The revolutionary nature of change under this approach usually results in rather minor modifications of the programme whereas major changes may be necessary in order to make appropriate strides towards meeting the goals of the school or division.
- iii) Curriculum committees may be too subject/content-oriented, thereby losing sight of the wider needs of the entire school or school divisions and producing fragmented curriculum improvements.
- iv) Recommended changes may not be improvements to the educational programme.
- v) Study groups may be used as developing device to avoid change.
- vi) The curriculum council/study group serves as an adhoc group with limited follow-up on the implementation or evaluation of change.

Accreditation self-study provides an example of the study group approach where school faculties examine their programmes on the premise that the curriculum can be improved through the process. Unfortunately, most of the time devoted to self-study is at the end of the school day when teachers and administrators are tired. The examination of the educational programmes and recommendations are faithfully recorded, edited and published; and then too often placed on a shelf to be forgotten.

Frequently, curriculum council is convened to examine new curricular materials and textbooks that have become available. These materials selection committees review and make recommendations regarding the adoption of textbooks and other instructional materials. The fallacy of this approach is that most instructional materials have never been subjected to evaluation in terms of student outcomes or programme goals and objectives. Hence, again, that curriculum (at least in terms of textbooks and instructional materials) may be changed for the sake of change rather than for intentional programme improvement.

The process of curriculum formulation in Pakistan does not provide for any such arrangement in terms of curriculum council which may select some appropriate textbook from amongst a number of them where they are available. This approach is not workable in Pakistan because of the monopolistic arrangements of textbook production in our country.

However, the curriculum council/study group approach can be an effective means for achieving curriculum improvements when:

- i) The improvements are concerned with minor revisions and/or modifications of the present curricula;

- ii) There is staff involvement which is necessary for morale purposes and for securing information relative to the present programme;
- iii) There is sufficient time available to engage in extensive study;
- iv) Staff development is not necessarily required by the recommended improvements;
- v) Communication and coordination among departments and schools is deemed essential to the improvements;
- vi) Staff assistance in programme interpretation and implementation is desired.

In Pakistan, the staff development approach contributed little to curriculum improvement except the improved methods of teaching. On the other hand, introduction of improved curriculum is, however, usually followed by inservice refresher courses in the new content etc.

2.3 The Inservice/Staff Development Approach

The inservice/staff development approach adheres to the theory that you must change people and their patterns of operation in order to effect curriculum change. Inherent in this approach is the assumption that the manner in which the staff is presently operating can be improved through seminar or practical experience.

Inservice and staff development experiences generally can be divided into those that deal with subject-matter or content and those which are primarily concerned with the teacher's role in the instructional process. The major strength of this approach lies in the development of a common understanding among teacher about changes in content and their application in the classroom and new instructional techniques. Some major drawbacks of the methods, however, are:

- i) The extensive involvement of staff time and other resources necessary to ensure effective staff development;
- ii) The inference that stimulated staff development activities can be transferred and supplied in school classroom situations;
- iii) The lack of a built-in-system of evaluation to test the effectiveness of the changes once they have been implemented in the schools.

Overall, the inservice/staff development approach may be considered to be an effective means for achieving curriculum improvements in situations where:

- i) There is to be a major change in curriculum content or instructional procedures.
- ii) There needs to be common understanding among teachers and other staff.
- iii) Staff training is required in order to ensure appropriate implementation.
- iv) A change in attitudes is needed in order to ensure staff support.

2.4 The Educational Systems Approach

The educational systems approach to curriculum improvement differs sharply from those discussed above in that it is based on clearly identified and documented educational needs of students. Its essential elements are:

- i) The specification of the goals and objectives for students of the school or school district or sub-division in Pakistan,

- ii) The assessment of the present status of students of the school relative to the goals and objectives,
- iii) The identification of needs (defined as the discrepancy between the performance of students and the goals/objectives),
- iv) The ranking of needs in terms of their priority and selection of needs for programme improvement,
- v) The planning of a programme that will meet these needs,
- vi) Programme implementation,
- vii) Programme evaluation in terms of the extent to which programme goals and objectives have been met utilizing the new programmes,
- viii) The continuation, modification, or abandoning the programme in the light of evaluative findings.

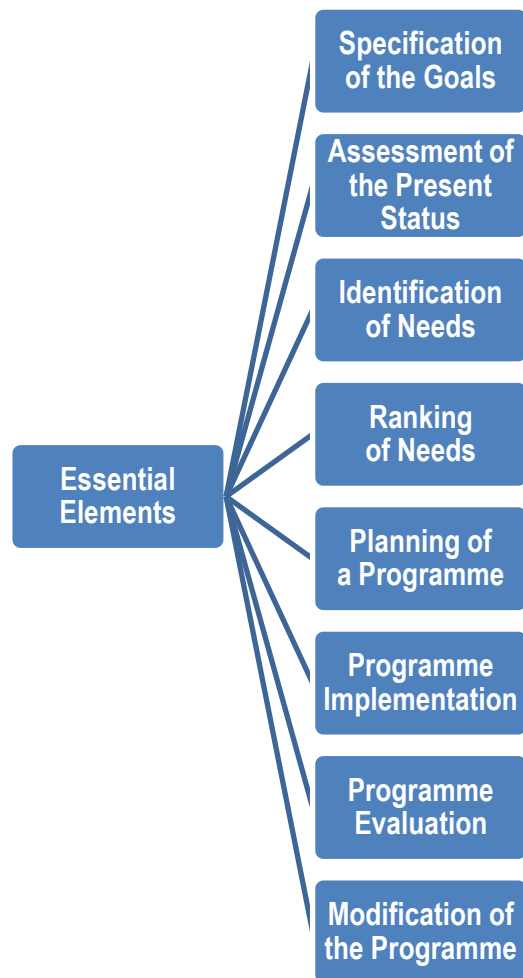


Fig: b

Inherent in the educational systems approaches is the broad-based involvement of educational planners, administrators, teachers, students and the public. It is merely a systematic and logical method to facilitate intentional curriculum improvement. In contrast to other approaches to improvement, it concentrates on the educational products or outcomes of educational programmes, i.e. student performance, skills, attitudes and knowledge. Instructional means and procedures are considered important to the extent that they contribute to the attainment of the programme objective. It lays emphasis on a needs-based curriculum improvement plan with built-in requirements for evaluation.

Among the possible drawbacks of this approach are the following:

- i) The extensive involvement of staff and community personnel in planning, implementation, and evaluation makes it a very time-consuming procedure.
- ii) The concentration on educational products or outcomes may result in the educational process being over-looked.
- iii) The momentum built up through large-scale, involvement in planning or extensive study may force untimely implementation or delay implementation indefinitely.

The educational systems strategy requires extensive involvement of staff, time and other resources from the initial planning stages through the total implementation of the programme. Major programme involvements should be field-tested prior to their full implementation. Continual programmes monitoring, evaluation and modification (where demanded) provide the necessary safeguards against massive implementation of undesirable programme elements. The cautions ensure that the programme can be modified as necessary for individual schools. Extensive involvement of this nature is essential to the successful application of the approach.

This approach is an effective means of dealing with major programme improvements, especially in large, complex school sub-division. Staff development and curriculum councils may well be facets of the total plan for educational improvement under the systems approach.

The educational systems approach to improvement may be illustrated by the efforts of a consortium of school districts in the USA to provide a third-year general mathematics curriculum for students who were not going on to study at college. The need for the programme was two-fold: (a) no such course of study was available for students, and (b) certain mathematical skills were considered to be necessary to improve their employability at the conclusion of their high school experience.

This curriculum improvement project involved master teachers in the development of experimental curriculum materials for the course. Potential teachers were engaged in inservice and staff development activities. Over a period of three years, the programme was field-tested, and then made available to all secondary schools in the state. Built-in evaluation of the instruction, materials and student performance was used to incorporate necessary changes into the programme.

Overall, the educational systems approach provides an effective means for change in situation where the improvement in the curriculum:

- a) Is of major import and will affect a significant number of teachers, students and administrators
- b) Requires extensive cooperation among individuals, departments and schools,
- c) Has logistic complications
- d) Is based on identified and documented needs
- e) Requires significant pre-planning and time for the development of materials and equipment
- f) Is composed of several components.

According to Tankard, the decision regarding the most appropriate approach to curriculum improvement should be based on the programme administrator's logical analysis of the magnitude of the improvement and the immediate and long-term importance of the change. Budgetary implications, the need for staff development, time restrictions and the availability of appropriate materials and equipment are further considerations that will assist the programme administrator in deciding which strategy to adopt. In general, the programme administrator should use the most direct method that will ensure an acceptable level of programme improvement. The following guidelines may facilitate this decision:

Improvement	Magnitude	Approach
Mandated changes	Minor import	Authoritarian/directive
Evolutionary, content of process changes	Minor import	Curriculum council/study group
Market content or instructional changes	Major import	Staff development/in-service
Major curriculum improvement	Major import	Educational systems

2.5 The Master Planning Approach

According to Dell, master planning involves establishing purposes, policies and criteria which are to guide curriculum improvement throughout an entire school system. This action is accomplished by individuals and groups based temporarily or permanent in places of central authority. Several arguments can be advanced for giving the centre maximum authority:

- i) A system-wide approach brings the schools closer to the community as a whole, with the result that citizens appreciate where the entire teaching staff stands on important educational issues.
- ii) 'Across-the-board' activity is administratively neater and easier to manage.
- iii) Communication is improved because there are fewer conflicting actions and procedures.
- iv) Time is saved by avoiding detailed analysis of the needs and problems of individual schools.

- v) There is maximum assurance that a given project or product has received the blessing of the powerful centre.
- vi) Coordination and comprehensiveness can be made keynotes of system-wide activity; hence, things can run smoothly on a large-scale.
- vii) A major result of system-wide activity is continuity the presence of a common thread in the curriculum.

Obviously, not all these arguments are equally valid. However, for reasons of coordination achieving a desirable level of uniformity, and economy of time, the school system will continue to perform master planning activities consisting of conducting staff meetings, issuing directives, preparing policy statements, organizing major projects for study and research, developing reports, collating tests of materials and publishing booklets, pamphlets and brochures on a variety of subjects.

Power in master planning can be assigned in several ways, including:

- i) Designating someone to have the responsibility and authority for system-wide activity.
- ii) Organizing a central steering committee to guide this activity.
- iii) Working closely with lay advisory committees or other groups of citizens.
- iv) Forming special interest committees or task forces to assume the responsibility for particular system-wide assignments.

There are, of course, certain dangers in master planning approach in curriculum planning. These include:

- i) Failure to involve enough professional personnel and laymen in the decision-making process.
- ii) The well-known tendency of central offices to over-emphasize paper work.
- iii) The compulsion to issue directives.

However, these dangers are theoretically reduced by bringing the planners and the “planned for” together in individual schools.

Overall, despite these potential dangers, the case for centralized activity is a strong one. The need for coordination is clear; and it would be hard to argue against the view that some level of uniformity in schools is desirable. Also duplication of effort is one of the great ills of organizations and needs to be rooted out of school systems. Centralized planning increases the likelihood of such considerations, desirable uniformity and saving of time.

3. Conclusion

In this unit, the importance of decision-making at various levels of curriculum planning and development has been emphasized. In introducing you to the major approaches to planning and curriculum improvements, a deliberate effort has been made to outline the strengths and weaknesses of each approach. Hopefully this attempt to provide a balanced analysis has led you to consider the issue carefully and arrive at conclusions of your own.

Activities

1. Visit any of the following institutions in our province and prepare a report regarding their roles in curriculum planning.
 - a) A Curriculum Research and Development Centre
 - b) An Education Extension Centre
 - c) A Textbook Board
 - d) A Board of Intermediate and Secondary Education
 - e) An Institute of Education and Research
 - f) A College of Education
 - h) An Elementary College of Teacher's Training
 - h) A University Teaching Department.
- ii) Prepare a detailed report regarding the curriculum wing, Ministry of Education, government of Pakistan, Islamabad in respect of its organization and administrative role in curriculum planning.
- iii) Take anyone curriculum report on any school subject and write critique of it.

4. Self Assessment Questions

1. Describe the importance of decision-making at various levels of curriculum planning/development.
2. Describe the various aspects of curriculum development about which decisions are taken.
3. Describe centralized planning. Point out its merits and demerits.
4. Describe coordination of state planning. State its advantages and disadvantages.
5. Describe and explain decentralized planning. Describe its advantages and disadvantages.

6. Compare centralized planning with decentralized planning approaches in the context of curriculum. Which approach is better for a developing country like Pakistan, and why?
7. Compare coordinated planning with centralized planning for education.
8. Evaluate centralized planning for education keeping in mind the socio-economic conditions of Pakistan.
9. Describe and explain the authoritarian/directive approach to curriculum planning. Discuss its merits and demerits.
10. Describe the inservice/staff development approach to curriculum planning. Point out the merits of this approach. Discuss the role you would like to assign to the Education Extension Centres in Curriculum planning in Pakistan.
11. Describe and discuss the educational system approach and its relevance to Pakistan.
12. Briefly describe the master planning approach to curriculum formulation. Point out its merits and demerits.
13. What is the scope of master planning in curriculum development in Pakistan?
14. Compare the authoritarian/directive approach of Tankard with the master planning approach of Dell.
15. What approach was used in curriculum development in Pakistan in the 70s? What approach do you consider should be adopted in the future?
16. Match items given in column 'A' with those given in column 'B'

Column-A	Column-B
1. Centralized planning	1. Sharing of information in planning effort
2. Coordination of state planning	2. Lack of desired coordination at central level
3. Staff development approach to curriculum improvement	3. Educational system approach
4. Fate of the programme determined by finding of evaluation	4. Planning Commission
5. Decentralized planning	5. Extensive involvement of internal faculty members

UNIT 8

Population Education & Curriculum Development

Written by: Dr. Shaukat Ali Siddiqui
Reviewed by: Dr. Afshan Huma

CONTENTS

Introduction.....	191
Objectives	192
1. Why Population Education?	193
2. The General Framework	194
2.1 The UN Contribution	194
2.2 Curriculum Development.....	195
2.3 Strategies for Introducing Population Education.....	196
2.4 Self Assessment Questions	196
3. The Objectives of Population Education	197
3.1 Primary Level.....	197
3.2 Lower Secondary Level	197
3.3 Upper Secondary Level.....	198
4. The Selection of Content for Integration	199
4.1 Social Studies.....	199
4.2 General Science	201
4.3 Home Economics	202
4.4 Mathematics.....	202
4.5 Self Assessment Questions	204
5. Instructional Materials for Population Education	205
5.1 Background	205
5.2 The Curriculum and Instructional Materials.....	206
5.3 Categories of Instructional Materials on Population Education	206
5.4 The Essential Characteristics of Instructional Materials for Population Education.....	213
5.5 Criteria for Selection of Instructional Materials	214
5.6 The Training of Teachers.....	215
6. Self Assessment Questions	216

Introduction

One of the biggest problems that confront Pakistan today is the rapidly increasing rate of population growth and the difficulty which this has created in providing the minimum basic necessities of life to the masses of our people. According to 1998 census the population of Pakistan was 130, 857, 717 million. Pakistan's population growth rate is 1.49% (estimated in 2014). Pakistan's estimated population in 2015 is over 191.71 million, making it the world's sixth-most-populous country. It is estimated to increase 234,432,000 millions in 2030 A.D. One may quite justifiably associate the recent social, political, economic and even cultural and educational crisis in our society with this phenomenon which has thwarted all efforts for planned development in the country. Besides catering to the growing requirements of the existing 110 million people whose standard of living is already far below the internationally accepted norms Pakistan today is also faced with the gigantic task of increasing the growth of its material resources so as to meet the demands of another 3.5 million people being added to our population every-year.

Source: Demographics of Pakistan – Wikipedia, the Free Encyclopedia

In spite of the very grim portents which this population problem presents to our country, it is heartening to note that the policy-makers, planners, administrators and scholars are fully cognizant of the situation and are certainly endeavoring within their limitations to overcome the difficulties through their respective areas of assignment. In the field of education, particular attention has recently been given to integrating the most central concepts of population education into the curricula and textbooks at various levels.

The concept of population education is a recent development in the field of education. In fact, it is still in the process of definition and redefinition. In the Bibliography on Population Education (No. 1), it is defined as a "new curriculum area". The participants in the Regional Consultative Seminar on Future Directors of Population Education organized in Manila, Philippines, viewed population education as "one of the important intervention strategies required to improve the situation in many countries in mitigating the negative impact of unplanned population growth within the family, the community and the nation." Its ultimate goal, as recognized in the seminar, is "to provide young people and adults with an awareness of the significant relationship between population change and selected social and economic aspects which all under the rubric of the quality of life".

Population education is the term used internationally to refer to educational programmes: To assist learners to acquire the knowledge, skills, attitudes and values that will enable them to make informed decisions about population events and issues which will affect their quality of life, and of their society, both now...

Source: onlinelibrary.wiley.com

Or again, a more comprehensive definition of the term 'population education' has been given in terms of the following general goal i.e. "to involve students in a learning process

through which they can extend their understanding of population related issues, broaden perspectives, and develop appropriate skills in analyzing and defining the issues, in a way which is personally meaningful and socially relevant.”

Objectives

After reading this unit, you should be able to:

1. Conceptualize the meaning of population education.
2. Enumerate the objectives of population education.
3. Explain the implications of population growth for curriculum development.
4. Describe the process of development of Population Education Curriculum.
5. Select, develop (where possible) and use learning resources materials for teaching population education.

1. Why Population Education?

The basic justification for population education as laid down in the UNESCO “Source book on Population Education” is that the consequences of population development for the social and natural environment and vice-versa are of such significance that the new generation of young people needs to be aware of them.” Thus, clearly, if education is an agent of change to be used for improving the quality of life and aiding the processes of development, then population and environmental studies should be a major element of this educational process. The central concern in this aspect of education is with the impact of population factors on selected aspects of the social and natural environment and the alternative choices available to individuals, to families and to nations.

Population education is an outgrowth of the aims and scope of education in modern times. Today, education is no longer concerned with imparting knowledge alone. It seeks to develop positive interests and attitudes and a capacity for critical thinking. The emphasis is on bringing the school and society together in order to make the school a real community institution. Efforts are increasingly being directed towards making the curriculum more life centred and instruction more community-oriented. If education in its broadest sense is a preparation for successful living in a world hedged round with manifold problems, then the destiny of a society may very well be said to be taking shape in today’s classrooms. Simply we can summarize need of population education by following figure.

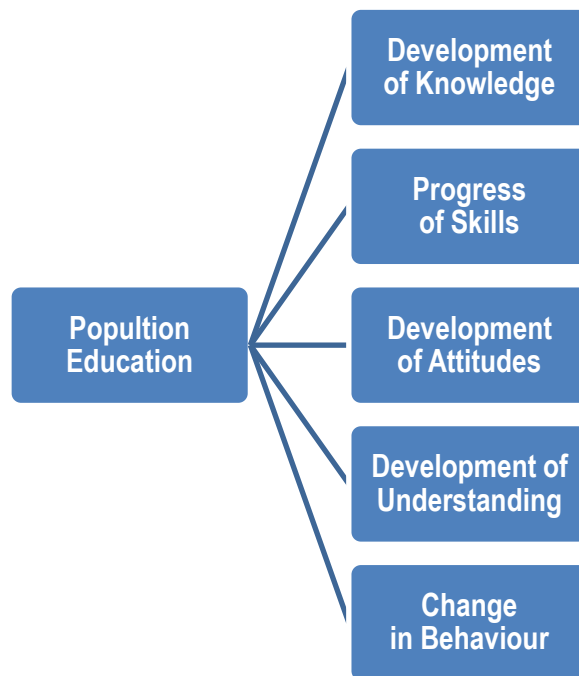


Fig: 1

Improving a curriculum necessitates changing the attitudes of people, which is a far more difficult process than merely changing the course outline. The school system and its teachers can make a very positive contribution to the creation of a sense of population awareness because schools:

- i) Are intended to teach the young generation and have a tradition of being future-oriented
- ii) Provide the needed structure to promote any programme of social change
- iii) Can play an important role in moulding the attitudes and values of the young through suitable educational programmes, and the educational experiences provided by the school are an important factor in influencing future behaviour.

2. The General Framework

2.1 The UN Contribution

The framework for most of our efforts in the developing countries has been provided by the United Nations and some of its specialized agencies, particularly UNESCO. In 1966, the General Conference of UNESCO passed a resolution to the effect that a committee of experts should look into the question of defining UNESCO'S responsibilities in the field of population. This Committee made recommendations relating to Education, Mass Communication and Social Science which are state below:

- 1. The extent to which and the process by which education affects reproductive behaviour should be investigated
- 2. The impact of demographic factors on the planning and development of education in both quantitative and qualitative terms should be studied
- 3. Population materials should be introduced in literacy and adult education programmes
- 4. Population materials should be introduced into curricula both at the elementary and the secondary levels
- 5. The study of demography at the university level should be encouraged.

The General Conference of UNESCO decided in 1968 that the following specific activities, among others, should be undertaken – helping in the development of teaching materials, curricula, teacher education, women's education, community education etc. In 1970 again, the General Conference of UNESCO authorized the Director General of UNESCO to pursue and undertake activities designed to promote the study of population at all levels of the educational system. It is, therefore, now considered as the established task of UNESCO to assist educators from the member states to operationalize “the study of population at all levels of the educational system”.

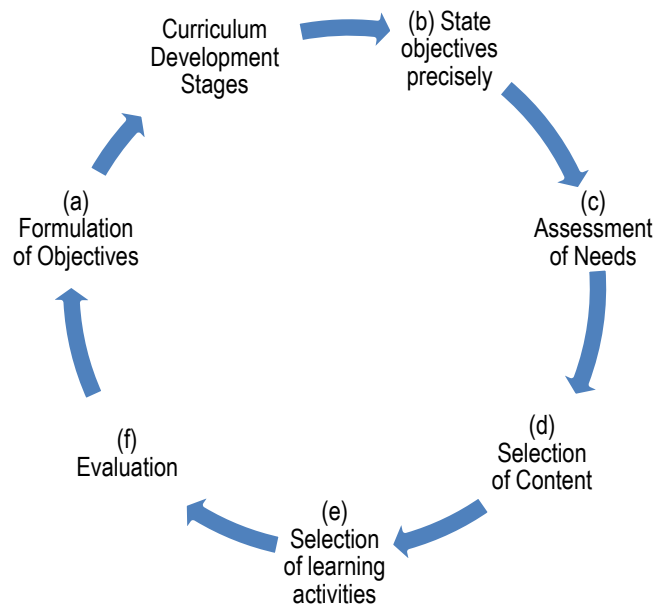
It is of particular interest to note that keeping in view of the crucial population phenomenon of the Asian Region, UNESCO has established a separate cell on Population Education which serves as the Clearing House for all information on the subject. One of the main contributions of the cell is the publication of a very comprehensive source book

on “Population Education” which deals with both the quantitative and qualitative implications of population developments in the Asian Region.

2.2 Curriculum Development

Before looking in detail at the place of population education in the school curriculum, you may find it useful to reconsider what curriculum development in general entails. It requires a clear analytical view of the nature and purposes of the work to be undertaken with children in the classroom. A number of inter-related stages are involved in the process:

- a) Teachers must determine the needs of the children they teach as a pre-condition to the formulation of objectives.
- b) The objectives must be stated precisely. This removes ambiguity, assists in the selection of teaching strategies provides a description of the pattern of behaviour or performance which the teacher wishes the children to be able to demonstrate as a result of the learning experiences and enables the teacher to measure or evaluate the quality and effectiveness of the learning which has occurred.
- c) Having already taken into account the existing knowledge and environmental experiences of the children when determining their needs, their individual levels of development in cognitive, affective and psycho-motor terms need to be assessed.
- d) In the light of the decisions made during the previous stages, the selected content becomes, as it should be, the means of attaining the objectives.
- e) Teachers must select the learning strategies which will provide the optimum benefit in achieving the teaching outcomes expressed in the objectives.
- f) Teachers must devise evaluation procedures to measure the extent to which the objectives have been achieved in behavioural terms in order to be in a position to modify the objectives, the learning strategies or the selection of content.



Curriculum Development Stages Fig: 2

2.3 Strategies for Introducing Population Education

In schools, population education can be introduced:

- i) As a separate subject
- ii) It may be made part of various disciplines at appropriate places
- iii) In the form of separate study units.

However, keeping in view the socio-cultural background and religiosity of the people of Pakistan, it seems both practical and desirable, wherever possible; to infuse population content into the existing curricula in such a manner that it does not occupy separately identifiable position. In adopting this approach, there is no need for the allocation of special time; and there need be only minimal reorganization of the content areas of courses. Another advantage of this approach is that it solves the problem of the availability of a special teacher for the subject since the teaching will be done by those already assigned to teach courses into which population contents are to be integrated.

So far in this unit, we have discussed the need for population education, the background to population education in Pakistan and ways of including it in the school curriculum so that it will not evoke public feelings against the programme. Before we proceed to the next section, we would like you to recapitulate what you have learnt in the previous pages. Try to answer the following self-assessment questions to see if you are ready to move on or if you will need to revise the whole or part of what has already been covered.

2.4 Self Assessment Questions

1. If the population of Pakistan continues to grow at its present rate, it will double in twenty years, which mean that in 2015 A.D., it will be approximately:
 - a) 191.71 million
 - b) 150 million
 - c) 175 million
 - d) 210 million
2. The goals of population education include:
 - a) Teaching students the fundamentals of birth control
 - b) Making students understand population-related issues
 - c) Propagating the benefits of family planning
 - d) All of the above.
3. One of the assumptions underlying the introduction of population education is that teachers and school systems can play a positive role in:
 - a) Creating a sense of population awareness
 - b) Popularising the adoption of birth control measures
 - c) Convincing parents to produce fewer children
 - d) a. and b.

4. In the developing countries, population education is conceived of as a process of:
 - a) Improving the quality of life
 - b) Indoctrinating young pupils in western philosophies
 - c) Introducing new cultural patterns
 - d) None of the above.
5. In view of the attitudes of our people towards population planning, it is more desirable to:
 - a) Introduce population as a separate subject in schools
 - b) Make it part of a course in social studies
 - c) Infuse population contents into the textbooks
 - d) Allocate separate staff and timings in each school for population education.

3. The Objectives of Population Education

The very concept of population education is based on linking it with the school curriculum and the total process of education. What is to be taught, to whom, at what level and for what reason must, therefore, be the guiding principles determining the actions of every educational planner, curriculum-maker, textbook writer and classroom teacher.

In this section we present in detail the objectives of population education as formulated by the National Committee on Population Education. According to the report of this Committee, the following may be considered to be its objective at various levels:

3.1 Primary Level

To develop in pupils:

1. An awareness of the population situation in the home, school, village/town, district, state and country
2. An awareness of the advantages of balanced population growth in the home, school, village/town, district, state, country, region and the world
3. An awareness that unbalanced population growth creates socio-economic problems for families, community and the nation
4. An understanding of the advantages of a planned family
5. A realization of the importance of good health and the need of developing healthy habits.

3.2 Lower Secondary Level

To develop in pupils:

1. An understanding of Pakistan's population situation and the population situations in some other specific countries.
2. An understanding of the effects of rapid population growth on the natural resources economic and socio-cultural resources and economic and socio-cultural development in Pakistan and some other specific countries.

3. An understanding of the causes of rapid population growth and the major problems arising from over population.
4. An understanding of basic demographic terminology and concepts so that they are able to understand literature and discussion on population.
5. The ability to collect, collate and interpret elementary population data.
6. The ability to communicate their own views on population education.
7. An elementary knowledge of reproduction in plants.
8. An elementary knowledge of the population situation in Pakistan including
 - a) The distribution of population by
 - i. Urban/rural areas
 - ii. Districts
 - iii. Provinces
 - b) Population density in
 - i. Pakistan as a whole
 - ii. Its urban/rural areas

3.3 Upper Secondary Level

To develop in pupils:

1. An awareness of the population situation through the study of;
 - a) Demography (life, death rates, etc.)
 - b) Resources (e.g. food, etc.) in relation to population
 - c) The infrastructure of their environment e.g. water supply, sewerage, transportation, housing, schools, medical services, recreational facilities
 - d) Employment opportunities
 - e) The National policy and efforts on population issues
 - f) The economics of family size
 - g) The socio-cultural norms affecting family size.
2. A sustained interest in population studies through;
 - a) Studying factors affecting population in order to draw examples relevant to the home, community and nation
 - b) Involvement in geographical and economic surveys
 - c) Visits, tours and active study of local population situations
 - d) Participation in competitions (art, essays, etc) debates, talks and other forms of curricular activities in schools related to population.
3. Rational and responsible attitudes towards population situations, viz;
 - a) To show a concern for the welfare of the future generation
 - b) To be able to discuss and relate matters concerning population of the country
 - c) To be aware of population expansion as an upset of the natural balance; and of factors of migration from crowded areas to less dense area.
4. Appropriate behaviour towards population issues existing in the home, community, nation and the world i.e.;
 - a) To be able to understand and interpret population data and literature
 - b) To be encouraged to express themselves in all media
 - c) To construct tables, charts and graphics to illustrate population data.

4. The Selection of Content for Integration

Having formulated the objectives of the introduction of population education at various levels of school education, the most essential task for the subject committees was to select the relevant population education content. It was made clear at the outset that the infusion approach has to be adopted throughout the process of integration and that the introduction of population education as a separate subject had to be avoided. Under the joint sponsorship of Ministry of Education and the Population Planning Council of Pakistan special committees of experts were constituted to study the approved concepts and to suggest relevant experiences and activities which would result in the infusion of population content without any loss of the fundamental requirements of given disciplines.

The committees of experts fully appreciated the fact that curriculum development is a complex task in which several processes are involved. The following basic questions were raised by the committees so as to provide a meaningful framework for the selection of relevant population education content:

- i) What educational purposes should the school seek to attain through the introduction of population education as an integral part of the school programme? (What are the objectives of population education in the schools and colleges)?
- ii) What knowledge has to be built up that is likely to provide the baseline data and information from which the content of population education can be drawn to achieve the pre-determined objectives of population?
- iii) What educational experiences can be provided that are likely to attain these objectives? (What content can be selected from the knowledge base to attain these objectives)?
- iv) How can these experiences be effectively organized? (What can be the modes of inclusion of population education content into the school curricula)?
- v) What should be the strategy involved in instructional material development and programme implementation?

The questions led to answers which served as the basis for the selection of viable content for inclusion in selected school subject, particularly social studies, science and mathematics. Some examples from these exercises are reproduced below to give quick appreciation of the level of contribution made by the various committees.

4.1 Social Studies

This subject was considered to be most amenable to the introduction of Population Education content around the approved concepts in Social Studies. The following examples may help to elaborate this point.

Approved Curriculum Concepts	Class-I	Contents	Activities
1. House	i. ii. iii. iv. v. vi.	Number of rooms in the house. Number of people living in the house. Number of children living in the house. Number of adults living in the house. Number of boys, girls, men and women living in the house Number of earning hands living in the house.	To visit two neighbor houses and compare the number of rooms and the number of people living in them
	Class-II		
2. Village/ Town/ City	i. ii. iii. iv. v. vi. vii.	Number of houses in the village/town/city. Total population of the village/town/city. Number of children in the total population of the village/town/city. Number of adults in the total population in the village/town/city. Number of adults in the total population in the village/town/city. Number of earning hands out of the total population of the village/town/city. Number of dependents out of the total population of the village/town/city.	To have a walk around the village/town/city and observe people.
3. Vegetation	i. ii. iii. iv.	Agricultural products of the village/town/city Which of them are cereals and which are cash crops? Which cereal is the staple food of the people living in the village/town/city? Which of the cereals do we import from outside and why?	To collect samples of agriculture products.
4. Transportation	i. ii. iii.	Means of transportation. Causes of rush and overcrowding in transportation. Results of the rush in the buses and trains – increase in traffic and in accidents.	To collect pictures of various means of transportation.

4.2 General Science

A specimen unit from General Science for class-IV has been reproduced below from the proceedings of the National Committee on Population Education:

Class-IV

Area – Living Things

Unit: Adaptation to the environment

Sub-unit: Population

The concepts in this sub-unit are to succeed concept of “Living Things” in class-IV Science syllabus.

Concepts

1. “A group of organisms of the same kind” is called population.

Sub-Concepts

- a) There are different plant populations
 - b) There are different animal populations
2. A human population is a group of people.

Sub-Concepts

- a) A population may be male or female or both.
- b) A population may be made up of young or old people or both.
- c) A population may be made up of many smaller groups of population.
- d) A person can belong to more than one population at the same time.
- e) A population may be big or it may be small.

Objectives

a) Knowledge

To acquire knowledge of

1. The meaning of population
 - a) Non-human plant and animal population
 - b) Human population
2. The human population structure
 - a) With respect to sex, male and female, population.
 - b) With respect to age.
3. The size of population – big and small.

b) Attitudes

To appreciate the place of human population among a variety of plant and animal population.

c) Displaying data

- a) Through pictographs
- b) Through vertical and horizontal bar-graphs

4.3 Home Economics

The following example has once again been reproduced from the report of the National Committee on Population Education.

Population concepts that fall within the purview of Home Economics from classes VI-VIII are given as under:

Class-VI

- 1. Significance of the family unit.
- 2. Composition of the family unit.
- 3. Small family and large family.

Class-VII

- 1. Significance of a healthy and happy family.
- 2. Role of family members.
- 3. Happy and healthy family is possible when basic needs are fulfilled.
- 4. Needs of the family increase when children grow up.

Class-VIII

- 1. Food, clothing and living space are the basic needs of all.
- 2. Whatever resources a family has, they are shared by the family members.
- 3. Contentment is related to a family size and family income to a great extent.
- 4. Pakistan is a developing country. Its resources are limited.
- 5. Physical and emotional maturity results in changes in the roles and responsibilities within the family.

4.4 Mathematics

Unfortunately, not very many examples of the integration of Population Education content with mathematics are available in Pakistan. However, in order to provide some background as to what are the possible areas of integration with the field of Mathematics, one may consider the following examples given in the National Source Book on Population Education.

a) Primary Stage

- i. Concept of a set of big or small size with the help of human population examples.
- ii. Concept of kinds of set; null set; equivalence equal set; sub-set through population examples.
- iii. Four fundamental operations of maths, through population related examples.
- iv. Problems based on population.
- v. Picture graphs and bar graphs based on population.
- vi. Population growth in class.

b) Middle Stage

- i. Population related problems based on unitary method/ratio-proportion, average, percentage i.e. problems based on food, housing, rate of birth, rate of death and migration.
- ii. Picture and bar-graphs of:
 - a) Population density
 - b) Population projection
 - c) Total dependency rate
 - d) Life expectation
- iii. Income-expenditure ratio.
- iv. Demographic description of the country.
 - a) Fertility rate
 - b) Mortality rate
 - c) Migration rate
- v. Crude birth rate (CBR) and crude death rate (CDR).
- vi. Population projection (based on doubling times at different growth rates).

c) Secondary State

- i. Demographic measures:
 - a) CBR/1000 i.e. Crude birth rate per 1000.
 - b) CDR/1000 i.e. Crude death rate per 1000.
 - c) General fertility rate.
 - d) Expectation of life at birth.
 - e) Rate of natural increase.
- ii. Population structure:
 - a) Median age.
 - b) Dependency ratio.
 - c) Youth dependency ratio.
 - d) Sex distribution by number of males per 100 females.
 - e) Population pyramid (graphic representation).
- iii. Arithmetic progression, geometric progression and their relation to food and population growth.
- iv. Demographic terminology:
 - a) Under-enumerated
 - b) Over-enumerated
 - c) Not under-enumerated
 - d) Not over-enumerated

- e) Sex ratio
- f) Rural/urban ratio
- g) Age specific fertility rate
- h) General fertility rate

Having learnt so much about population education and its objectives at various levels of school education, we are now ready to proceed to the next section of this unit, which deals with the preparation of instructional material. However, it seems necessary that, before going further, we should have some idea of what we have achieved so far. Try to answer the following self-assessment questions of your own evaluation.

4.5 Self Assessment Questions

1. A common objective of population education at all levels of school education is to create among pupils an awareness of:
 - a) Population density in rural/urban areas of Pakistan
 - b) The causes of population growth
 - c) Employment opportunities in the country
 - d) The population situation in Pakistan
2. Which one the following activities may be prescribed in the population education curriculum of Social Studies?
 - a) Visits to neighbouring houses
 - b) Observing people in towns
 - c) Collecting samples of agricultural products
 - d) Collecting pictures of various means of transportation
 - e) All of the above
3. With which of the following objects are there insufficient examples of the integration of population education content in Pakistan?
 - a) General Science
 - b) Home Economics
 - c) Mathematics
 - d) Social Studies
4. Demographic terminology, like “general fertility”, “rural urban ratio” and “under-enumerated” can be included in:
 - a) Home Economics
 - b) Social Studies
 - c) General Science
 - d) Mathematics

5. The Instructional Material for Population Education

5.1 Background

The formal introduction of population education content into the school curriculum is indeed a very recent phenomenon in the Asian context. While many countries have crossed the psychological barrier of making clear policy decisions regarding the formulation of curricula which incorporate such content, there are still quite a few countries struggling hard to define the nature, extent and scope of the curricular content of this new subject with ought to be integrated into their syllabi at various levels. Population and family life education in such countries is still being equated with the family planning movement and is, therefore, generally subjected to such more rigorous inquiry and impassioned debate.

In Pakistan we find ourselves grappling with the very fundamental questions which arise when a movement of this crucial nature is introduced in a unique socio-cultural setup dominated by ignorance and dogmatism. We have never had the opportunity of a full and candid analysis of this problem since independence. Sporadic efforts made here and there by a few family planning personnel have faced failure because the family planning movement itself has never gained enough ground. This is evident from the fact that our increase rate at present is about 3.1 percent per annum which is amongst the highest growth rates for countries with a similar background.

It was only in July, 1970 that a workshop was jointly sponsored by the Family Planning Association of Pakistan and the Federal Ministry of Education to devise items of content for population and family life education for introduction into the school curricula at various levels. Recalling the proceedings of this important workshop, one may generalize that the concept of population and family life education in Pakistan is still at an embryonic stage. Much more vigorous efforts are needed to overcome the prevalent misconceptions and to delineate in more specific detail the future strategies for integrating these new ideas into the syllabi. However, one positive outcome of this Workshop, was the catalytic role which it played in arousing considerable interest among policy-makers, planners, educationists and working teachers. What hitherto was considered to be an issue which should not be raised is not being frankly discussed in almost all professional meetings organised by the federal or provincial agencies of education. Another fortunate coincidence is that all this was happening at a time when subject committees were working both at the national and provincial levels to modernize curricula by introducing new concepts, ideas, skills and attitudes in all school subject, starting with elementary education as the immediate target.

All these factors indicate that a very favourable atmosphere exists at present for the generation of these new ideas in the country; and future development depends entirely upon the success of our curriculum and population planners in capitalizing upon this situation. The achievement of the common goals set forth by them for constructing a progressive system of education in Pakistan will, however, require coordinated effort and ingenuity.

5.2 The Curriculum and Instructional Materials

Once a decision has been made about the introduction of population education into the content of the school curriculum the next important question would be the manner in which it is to be introduced. In professional literature on Population Education, three approaches are generally referred to in this connection. They are:

- a) **The Programme Infusion Approach** which seeks to supplement and strengthen the existing curriculum with regard to its treatment of population matters.
- b) **The Unit of Study Approach** which involves changes in the organization and sequence of curriculum because it is aimed at the introduction of new instructional units into the existing syllabi. These units generally form an independent entity within a given school subject.
- c) **The Separate Course Approach** which is generally identical with the pattern on which our existing curricula have been organized in Pakistan. If this approach is adopted, then “population education” will be a separate course in the school curriculum and will be organized like the subjects of English, Urdu, mathematics, Social Studies, etc.

Obviously the production of instructional materials is dependent upon the nature, extent and scope of the subject. But it certainly does not mean that our aids and materials producing agencies do not need to be activated until the first stage is completely covered. As a matter of fact, these agencies need to be activity associated even at the curriculum formulation stage, so that the textbook writers, experts, audio-visual personnel, programme producers and others working in these agencies become fully conversant with the thinking of the curriculum and population planners which is naturally going to be reflected in the materials designed for population education in our schools.

5.3 Categories of Instructional materials on Population

This brings us to the important question of describing the entire spectrum of instructional materials which are, or could be, made available to a teacher for imparting population related instruction to the students. These materials range from simple printed materials such as textbooks, workshops, manuals and inexpensive instructional aids to such advanced materials as films, television/radio programmes and computer-assisted instruction etc. These materials may be categorized as follows:

- a) **Textbooks and Supplementary Reading Materials:** These include prescribed textbooks, source books, teacher guides, manuals, pamphlets, journals, newspapers etc.
- b) **Programmed Instructional Materials:** These materials include specially designed workbooks, screening books and teaching frames written in a programme manner in which all learning proceeds through logical steps. Teaching machines have also been devised to use these materials.
- c) **Audio-Visual materials:** This category covers a wide variety of instructional materials including charts, graphs, models, pictures, albums, exhibition posters, films, filmstrips, slides, phonographs, tapes, transparencies etc.
- d) **Advance Instructional Technology:** These include radio/television programmes and the materials used for these programmes such as audio and video-tapes etc.

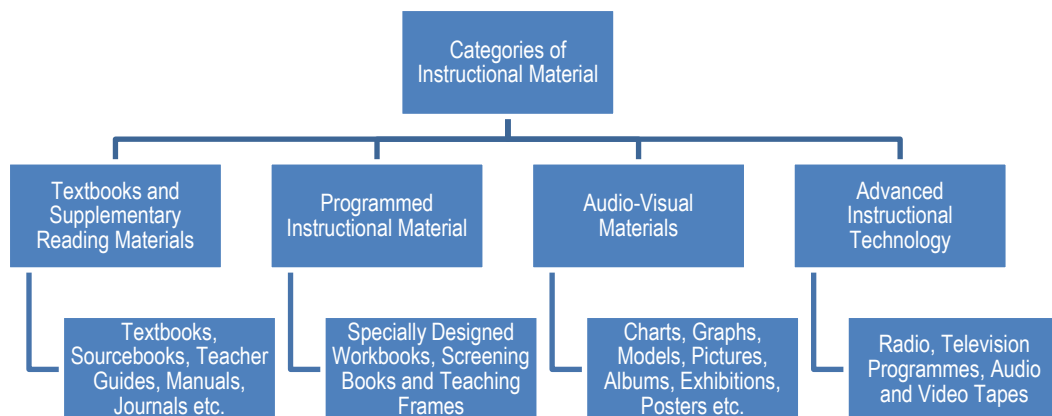


Fig: 3

Let us now discuss the role of each of these categories of instructional materials with special reference to population planning and family life education.

a) **Textbooks and Supplementary Reading Materials**

In Pakistan, as in many other developing countries, the textbook is still the main instructional material on which both the teachers and the students largely depend for education. It is recognized as the first among the teaching aids. From the reports of the proceedings of the National Workshop on Population Education held at Khanspur, and so many other workshops held in the Ministry of Education from time to time, one may infer that during the first phase we are likely to integrate the population education content into the overall school curriculum which is being revised at present. It is, therefore, unlikely that we will produce separate textbooks on the subject.

The task of integrating the proposed population education content into the existing curricula demands a carefully and logically integrated manner so as not to make them appear as a mere patch-work in the textbooks. It will involve re-evaluation of our existing textbooks and preparation of entirely new ones which not only take care of the population education content but also highlight many other modern developments which are taking place in other major subjects.

Perhaps more important than the textbooks are the teacher guides and manuals which are to be prepared to orientate our teachers in population and family life education. Many of our teachers are still averse to the idea of discussing population planning and other related concepts in schools. Their attitude to this subject mostly ranges from conservative to regressive. Due to lack of training, the majority of the teaching community at present is not in a position to appreciate the dynamics of the new area. Therefore, it is not justifiable to expect our teachers to react positively to this problem until they are reoriented themselves. To overcome this difficulty, teacher training in general and the preparation of teacher guides and manuals in particular should take precedence over all

other related matters. The teacher guides should include not only the essential content of population education but must also describe the methodology through which it is to be taught and the learning materials and resources which are available to teachers to make their instruction effective.

The Population Welfare Division, the Family Planning Association and other similar agencies are already in the field and supplementing the efforts of the Education Department by developing source materials, supplementary books, information brochures and pamphlets which will enable teachers to fully understand this new field.

Here special mention needs to be made of the efforts of the Population Education Project at the Allama Iqbal Open University. Under sponsorship from the Population Welfare Division, the Allama Iqbal Open University has developed Bachelor and master level courses in Population Education aiming at the orientation of middle and secondary level teachers in relevant concepts and teaching methodologies. So far about 15,000 teachers have been trained in this emerging discipline. This poses a great challenge to the curriculum development institutions, the Textbook Boards, the National Book Foundation and other similar institutions to produce valuable reading materials in the shortest possible time. These new materials help substantially in the introduction of population education curricula, firstly in the teacher training programmes and secondly in the school curricula at various levels.

b) Programmed Instructional Materials

Programmed instruction is another modern development which warrants serious consideration by planners and producers of instructional materials in population education. Already this technique has been adopted in many advanced and even developing countries with a significant impact on the methodology of instruction. Programmed instructional materials are now being produced by several agencies involved in population education.

The essential elements of such materials are:

- i) An ordered sequence of stimulus items
- ii) To each of which a student responds in some specified way
- iii) His responses being reinforced by immediate knowledge of results
- iv) So that he moves in small steps
- v) Therefore making few errors and practicing mostly correct responses
- vi) From what he knows, by a process of successively closer approximations, toward what he is supposed to learn from the programme.

This technique is fast being adopted for the improvement of curricula in many developing countries. Under the umbrella of the Asian Experimental Project on programmed Instruction, initiated by UNESCO, many Asian countries including Pakistan have launched several experimental projects. In its advanced form, this technique also involves the use of teaching machines, language laboratories and even computer-assisted instruction. Asian countries have, however, generally limited the scope of their activities

to only those aspects of this technique which can best be adopted through software materials. Thus “hardware” aspects of programmed instruction are likely to receive less attention in our country due to limited financial resources.

In the “infusion approach” to population education, which we have adopted in Pakistan, it is not possible to use this technique exclusively for population education content. If population education is integrated into the curriculum, then programmed instruction may have to be adopted as a technique on a wider scale involving many more areas of content. Our first priority will be to produce a few programmed books in which the content is presented in frames, logically sequenced in such a manner that each response of the student is adequately reinforced. The production of many programmed instruction materials will proceed through the following steps:

- a) The formulation of objective
- b) The design and testing of appropriate criterion measures to determine when the objectives have been achieved
- c) The definition of the target population
- d) The analysis of learning tasks
- e) The preparation of prototype programmes
- f) The developmental testing of programmes
- g) Validation of the programmes

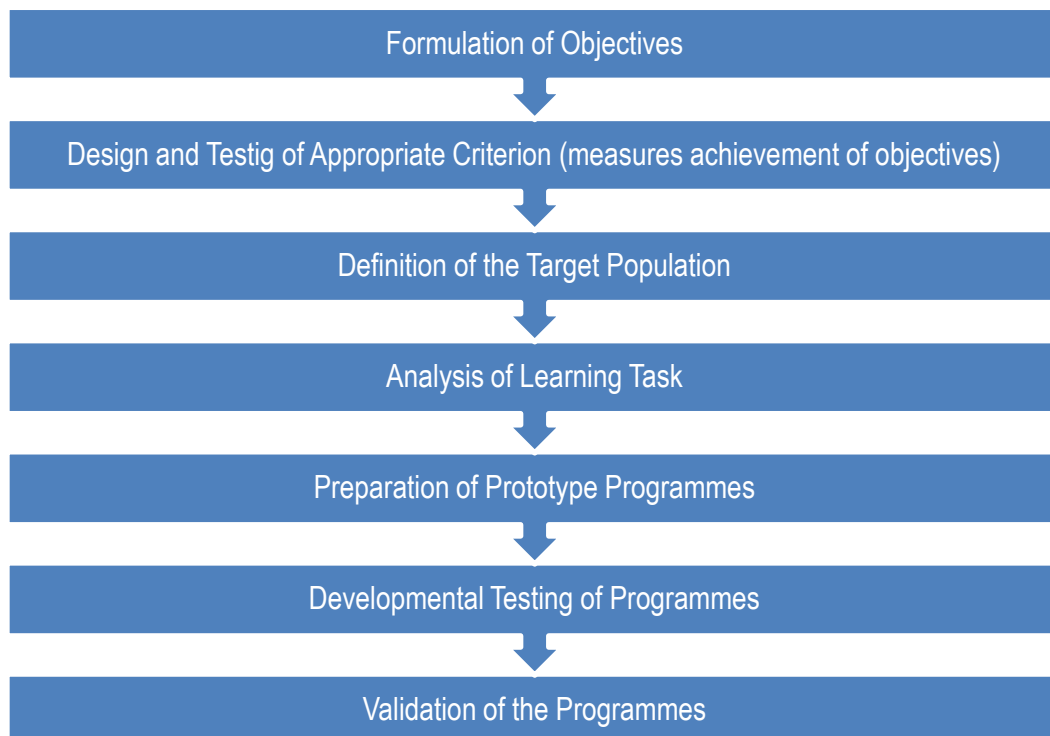


Figure: 4

In the current literature, there appears to be a tendency to replace the term of programmed instruction with that of module. Since population education is a new area of content, it is possible to introduce it into our curriculum in a programmed or modular form. Already the family planning agencies in Pakistan have developed materials on these lines for the training of workers, while Thailand has adapted many foreign produced programmes for population education. This can also be done in Pakistan at the initial stage. We have enough professional expertise available for the development of this technique at the Institutes of Education and Research as well as the Allama Iqbal Open University, which may very well be capitalized upon once we decide to embark upon this new programme.

c) Audio-Visual Teaching Materials

The term “audio-visual” in education suggests that the students should be enabled to grasp directly the meaning and content of what is seen or heard through the visual and auditory senses. Audio-visual teaching materials specifically and sensitively express the real world; and herein are found the essential characteristics of the audio-visual teaching materials ranging from simple charts, graphs, models, pictures, slides, filmstrips, transparencies and albums to such advanced aids as films, tapes phonographs and teaching machines. While graphs and charts merely illustrate the relations and changes of things, films and tape-recordings present moving images, sounds and voices in a highly realistic way.

The act of sharing desires, thoughts and information with others is generally called communication. The function of teaching or illustration may be considered as communication between teachers and pupils. Therefore, in order to improve the effect of instruction, it is necessary to ensure effective communication and the effectiveness of such communication depends, to a great extent, on the media used, since communicative effectiveness will vary according to the degree of expressiveness of the media. Audio-visual materials can convey in a much more specific and sensitive way even what is usually hard to communicate verbally. McLuhan’s theory of the “Medium is the Message” accords equal weight to the content of the message and the medium used in the process of effective communication.

It is clear that audio-visual materials are not peculiar to any particular subject or content area, but should be actively utilized in all areas. In order to examine their effectiveness, they should not be used separately from other kinds of teaching methods such as lectures, dialogues, discussions, demonstrations and individually study etc., but should be used as a means of enriching the content of the latter category of teaching methods. The second point concerns the relationship of audio-visual materials to textbooks, which play an extremely important role in education. Because of their long history, textbooks are the established medium in education and their role is still greater in the developing countries which are confronted with the large financial allocations required to adopt advanced media of instruction. It is thus clear that textbooks are still amongst the most significant of teachings. Audio-visual materials must, therefore, be produced to enrich the curricular experiences provided through textbooks, guides and manuals. Here, as elsewhere, the

entry point for the introduction of these materials should also be the teacher education programmes.

Simple inexpensive audio-visual materials may be used to illustrate the fundamental concepts of population growth and its relationship with economic development, health, nutrition, housing, education etc. Teachers should be trained to produce such aids themselves through inexpensive indigenous materials. For better concept building, it is always useful to involve the students in the production of these materials. Standard charts, graphs, pictures and model can be produced on a mass scale by the national and provincial audio-visual agencies. The Population Welfare Division of the Government of Pakistan has got a series of charts/pictures on population developed through the Curriculum Wing of the Ministry of Education for circulation amongst selected schools.

While each audio-visual aid has its unique impact, the role of films for population education demands special attention. We already have quite a few films on this subject, but their use in schools may be seriously questioned by the educationists. There is an urgent need to produce a series of such films from an educational viewpoint, keeping in view particularly the new curriculum content which is being proposed by subject committees. Some of the concepts which may be better explained through specially designed films are:

- i) The rate of population growth in the world with special reference to Pakistan.
- ii) The problems of population growth in Pakistan overcrowding in buses, streets, schools, hospitals; shortages of food-stuffs; the rise in price of articles of daily use, etc.
- iii) If the present rate of growth continues, what are likely to be problems of our country by the turn of the century? This can be best illustrated through a story form.
- iv) Problems of larger families with low incomes, using a documentary film to be prepared on a case-study method.
- v) The meaning of birth-rate, death-rate, infant mortality rate and expectation of life etc. Demographic definitions of fertility/mortality etc. may be narrated by filming specific examples from big cities like Karachi, Lahore, Rawalpindi and Peshawar.
- vi) A nicely animated film could be produced to compare the basic statistical facts of the population censuses of 1951, 1961, 1972 and 1981.

These and innumerable other topics can be taught both through inexpensive teaching aids and professionally produced films. In the developing countries, many such projects have already been launched with some success. It may be useful to adapt/dub some of the best educational films produced by these countries for immediate use in our classrooms. Here again, the question of effective coordination between the Curriculum and Textbook Development Bureaus, Audio-visual Agencies and Family/Population Organizations is of crucial significance. Some joint mechanism needs to be evolved to ensure smooth and continuous selection, production, distribution, utilization and evaluation of audio-visual materials in Pakistan.

d) Advanced Instructional Technology

With the rapid advancement of technology in the world, modern teaching media such as television, radio-vision, language teaching laboratories and computer-assisted instruction are fast coming within easy reach of the instructors in developing countries. Educational broadcasting both through television and radio is now an established method of instruction in many countries. No doubt many countries including Pakistan are seriously exploring the possibility of utilizing these media for both quantitative expansion and qualitative improvement of their educational systems. The use of these media at all levels of education over an extended period has established them as significant and useful tools in the hands of the skilled teachers. The advantages of these modern media lie in:

- a) Motivating learning by making learning concrete and interesting
- b) Demonstrating and illustrating abstract things in fine detail
- c) Accelerating the professional growth of the teacher
- d) Enriching the curriculum through the latest materials and resources
- e) Making it possible for outstanding teachers to reach students on a massive scale
- f) Providing greater equality of opportunity for all pupils, irrespective of their backgrounds
- g) Helping teachers and students to assume more responsibility by requiring them to devote more time to preparation and post-session activities. These and innumerable other advantages of advanced instructional technology warrant serious consideration by our policy-makers, planners, educationists and working teachers.

The education Policy (1972-80) of the Government of Pakistan provided a clear breakthrough insofar as the need for instructional technology is concerned. The policy states:

“10.13 Modern Technology has placed at the disposal of educationists’ tools and techniques of great reach and effectiveness. People do not need now to leave their work and homes to obtain education. Exceptionally talented teachers and modern facilities for teaching and demonstration have come within easy reach of the masses through the powerful media of radio, television, films and a host of other instructional aids and devices. Potentialities of the modern instructional technology will be fully exploited to improve and expand both formal and non-formal education”

This was the first time that such a bold commitment was made in Pakistan. It is estimated that about ten percent of the decisions of the policy pertain to the development of instructional technology in the country. Some of these decisions may be summarized as below:

- a) The development of educational television and radio broadcasting by way of starting separate educational channels.
- b) The production of educational films, filmstrips and other related media.
- c) The distribution of 100,000 televisions and 150,000 radio sets in educational institutions throughout the country.

- d) The utilization of new methods and media of teaching including educational films and filmstrips, slides, programmed instruction and similar other innovative instructional aids.
- e) The promotion of forms of mass media such as television, radio, films and the press for a motivational campaign and general enlightenment of the masses.
- f) The establishment of Allama Iqbal Open University which involves use of television, radio, film and other forms of mass media.

In order to coordinate the planning, production and utilization of instructional technology, the government has already recently established an Instructional Technology Unit at the national level which will work in close collaboration with the curriculum development and textbooks production sectors of the Ministry of Education.

All this suggests that the teaching community in Pakistan will soon have the modern instructional materials at its command to utilize for the improvement of the quality of instruction. Naturally these media will also be available to effectively implement the proposed new curriculum on population and family life education. As special series of television and radio programmes can be started to introduce important population content, firstly to train and re-orientate the teachers in this subject and secondly, to enable the students to appreciate the dynamics of population growth, its relationship with economic development, health, nutrition, hygienic living, housing and education.

One of the characteristics of these media is that they enable the message to reach the audience in the quickest possible manner. These media can, therefore, be effectively adopted to take important messages quickly to our students even in the far-flung areas of the country. One important consideration for planners is that they should not define education in a formal sense while conceiving their plans to utilize these media in Pakistan. It is now an established fact that the chief role of these media lies in the out-of-school or the so-called non-formal system of education. Specially designed television/radio programmes are being produced in many countries for adult/social and family life education. The Allama Iqbal Open University in Pakistan has already taken a big lead to exploit the potentialities of these media for the promotion of population education through its B.A and M.A level radio and television programmes under its Population Education Project.

5.4 The Essential Characteristics of Instructional Technology for Population Education

A group of experts working on this subject in the Asian Regional Workshop held in Bangkok under the sponsorship of UNESCO listed the following characteristics for instructional materials designed for Population and Family Education in Asian countries:

- i) In regard to content:
 - a) It should be related to the objectives.
 - b) Concepts should be supported by up-to-date and accurate data, wherever possible.

- c) It should be suited to the pupils' maturity level.
 - d) It should be satisfying and useful to him/her and to the country.
- ii) In regard to skills, the instructional materials should help to develop in the pupils the skills of:
 - a) Collecting and recording data.
 - b) Distinguishing between data and interpretations of data.
 - c) Verbalizing ideas.
 - d) Recognizing underlying assumptions.
 - e) Making explanatory guesses (hypotheses)
 - f) Recognizing, where necessary, gaps in existing knowledge.
- iii) With regard to attitudes, the instructional materials should help to develop attitudes which the country considers to be valuable.
- iv) Miscellaneous other characteristics were identified as under:
 - a) The material should be appropriate to the pupils' reading level.
 - b) Teachers' guides should give adequate help to the teacher in regard to background material, discussion techniques and procedures for practical work. They should not lend themselves to extensive dictation of notes by the teacher. They should give assistance to him/her in evaluating the pupils' progress.

5.5 Criteria for Selection for Instructional Materials

Instructional materials can prove to be useful only if they are properly selected and utilized. The difference between responsible and irresponsible selection and the use of instructional materials lies principally in whether or not curricular and content validity are the first consideration involved in the decision-making. Those who select and use instructional materials must be able to justify, at least to their own satisfaction, their decisions with respect to the selection and use of given instructional materials.

Planners and producers of instructional materials know that consumers will be attempting to validate their choices. Planners who desire to promote responsible selection and use must know their products to the best of their ability with curricular and content validity.

They may increase their potential validity by accompanying their material with a statement of the curricular objectives to which their materials are designed to contribute, a description of the content of their materials including both the substance and the programming and an explanation of how the materials can best be used to achieve the objectives for which they were designed.

The rather elaborate selection criteria developed for teachers in the basis texts on audio-visual methods can be stated simply in the following five questions:

- i) To the achievement of what objective or objectives will the material make a definite or unique contribution?

- ii) Is its content accurate and appropriate to its purpose?
- iii) Is its content relevant to the maturity, experiences and needs of the learners?
- iv) Is the nature of the medium (its characteristics) appropriate to the learning task?
- v) Is the material of most reasonable standard of technical quality?

The teacher, then, makes decisions on the basis of careful consideration of specific objectives, the needs of learners and the characteristics of the medium or material under scrutiny.

5.6 The Training of Teachers

Selection of both materials and equipment requires that teachers know what materials and equipment are best suited to their instructional purposes; and also remain informed as to what is available from various indigenous sources. Critical analysis and an understanding of selection criteria will help a teacher to make a wise choice.

To promote the production and use of instructional materials in Pakistan, we may, therefore, have to launch a massive programme of both pre-service and inservice teacher training. In order to be effective, this programme shall have to be a joint effort of all the related agencies with audio-visual bureaus being the nucleus of the entire activity. Some of the essential considerations for a viable inservice training programme in instructional materials are given below:

i) Teachers be Given Some Instruction in the Methodology

Utilization of materials for effective teaching requires that the teacher be given some instruction in the methodology of using these materials as well as in the actual current trends in teaching, future possibilities, curriculum application and available facilities will help the teacher to use these materials in a more responsible manner.

ii) Teachers Need Training

The production of instructional materials can fill a gap where no commercially or centrally produced materials are available. To do this, teacher will need some training in such techniques as graphic work, mounting and laminating pictures, maintaining albums, making overhead projector transparencies, using the camera, recording tapes, and so on.

iii) Evaluation of Usage of Instructional Material

The evaluation of the use of instructional materials in the light of the objectives of teaching is one of the prime skills that teachers under training should learn.

iv) Distribution Procedures

Distribution procedures for materials and equipment both within a school and from a central or provincial instructional material centre should be also be known to the teachers. Working through inservice sessions and meetings with the representatives of various schools, the audio-visual officers can ensure that the teachers know what resources are available to them both from commercial and government organizations and how they may go about getting them.

6. Self Assessment Questions

Multiple-Choice Questions

1. In Pakistan, we are at the formulation stage of Population Education. It is, therefore, advisable that:
 - a) We start preparing instructional materials on population education,
 - b) Instructional material producing agencies should be activated,
 - c) We engage authors in writing textbooks which have population education contents,
 - d) We postpone preparing such materials till the formation stage begins.
2. Integration of Population Education content into the existing curriculum will demand:
 - a) The re-evaluation of existing textbooks,
 - b) The preparation of entirely new textbooks,
 - c) Both a. and b,
 - d) None of the above.
3. Attainment of the desired effects of instruction in a classroom is dependent upon effective communication. Which of the following ensures the most effective communication?
 - a) The location of the school,
 - b) The permissive classroom atmosphere,
 - c) Audio-visual aids,
 - d) a. and b. together.
4. The selection of instructional materials for use in the classroom should be based on:
 - a) The objectives of the course or subjects,
 - b) The needs of students
 - c) The characteristics of the medium
 - d) All of the above.
5. The production and use of instructional material in Population Education in Pakistan will make it necessary that:
 - a) The government establishes more printing presses,
 - b) We seek help from some international agency,
 - c) We launch a massive programme of pre-service and inservice training of teachers.
 - d) Supplementary reading material is supplied to school.

Essay Questions

1. How do you visualize the present and projected population situation in Pakistan?
2. Population Education is a new concept. How would you define it?
3. How would you justify the introduction of Population Education in Pakistan? Explain.
4. Knowing well the attitude of people of Pakistan towards Population Education, what strategies would you suggest for introducing it in our schools?
5. What, in your opinion, should be the main goals of Population Education in Pakistan?
6. Why is it necessary to formulate the objectives of Population Education for various levels of school education?
7. What are the different approaches for introducing Population Education in schools? Which of the approaches do you prefer and why?
8. List the instructional materials which could be utilized for teaching population concepts in our schools?
9. What are the essential characteristics of instructional materials for Population Education?
10. What, in your opinion, should be the content of an inservice teacher training programme in Population Education?

Activity

Develop a work plan that how we can compare the basic statistical facts of the population censuses of 1951, 1961, 1972 and 1998.

UNIT 9

Role of Instructional Technology in Curriculum Development

Written by: Dr. Muhammad Ashraf
Reviewed by: Dr. Afshan Huma

CONTENTS

Introduction.....	221
Objectives	221
1. Meaning and Nature of Instructional Technology	222
1.1 Self Assessment Questions	223
2. Instructional Technology and its Media	223
2.1 Nature of Instructional Media.....	223
2.2 Programmed Instruction.....	224
2.3 Language Laboratories.....	227
2.4 Slides and Filmstrips.....	227
2.5 Overhead Projectors.....	228
2.6 Films	228
2.7 Tape Recorders	228
2.8 Broadcasting	229
2.9 Radio School Broadcasting.....	230
2.10 Television.....	230
2.11 Computer-Assisted Instruction (CAI).....	231
2.12 Self Assessment Questions	233
3. Instructional Technology and the Curriculum	234
3.1 The Potential of Instructional Technology	234
3.2 Obstacles to the Introduction of Instructional Technology.....	234
3.3 Technology and Curricular Adjustments	235
3.4 The Impact of Instructional Technology on Teacher & Pupils	137
3.5 Self Assessment Questions	139
4. Conclusion	240
4.1 Answers to Self Assessment Questions	240
5. Bibliography	241

Introduction

Developments in technology in general and instructional technology in particular during the last few decades have been dramatic. Emanating from the modern technological revolution and reflecting the tempo of the times, these developments have had a major impact on education.

Schools in the developed countries are utilizing the benefits of technology. For example, there has been a rapid increase in the use of newer media such as educational television and language laboratories. Many schools and colleges are using technological devices and materials such as programmed instruction and teaching machines. Also there is an increasing emphasis on new ways of organizing the professional staff and pupils to use these new tools to their best advantage.

As a matter of fact the impact of latest developments in instructional technology is quite visible in teaching/learning processes even in the developing world. There is an increasing impact of latest equipment in schools and colleges. The Allama Iqbal Open University is surely the best example of the use of media for instructional purposes. It provides a heavy input of broadcast as well as non-broadcast media for this purpose which is obviously one of the quite visible impacts of instructional technology.

The net effects of such use of technology upon education can be very beneficial. New tools, techniques and methods of organization can be more efficient and more economical, as has been demonstrated in industry and commerce. The intelligent use of new tools can conserve human resources. In education, this means that the teachers' dream of providing for the whole range of individual differences is more nearly within their grasp and that freedom from routine tasks, giving more time to treat the more creative aspects of learning is turning into a reality very fastly.

Objectives

After studying this unit, you should be able to:

1. Establish a working definition of instructional technology.
2. Distinguish between old and recently developed media of instruction.
3. Describe and explain different media of instruction.
4. Explain the importance of instructional media in the development of better teaching learning situations.
5. Describe the role of a teacher in media-based instruction.
6. Draw the implications of instructional technology for the curriculum.
7. Identify and point out innovative changes for administrative reorganization.
8. Identify the problems and difficulties in the utilization of instructional technology in schools.

1. Meaning and Nature of Instructional Technology

The strategy of improving the quality of education by adopting new methods and techniques of teaching leads us to the field of instructional technology with its activities ranging from the preparation of simple inexpensive aids to a whole array of mechanic-electronically devices such as radio, television, the tape-recorder, the film projector and other devices used in programmed learning, computer-assisted instruction (CAI) and language teaching laboratories.

These aids are known under a variety of names such as “audio-visual aids”, “multisensory aids” or “educational media” and are now subsumed under a recently developed discipline – “Instructional Technology”.

Instructional technology has been defined as a systematic way of designing, carrying out, and evaluating the total process of learning and teaching in terms of specific objectives. It is based on research in human learning and communication and employs a combination of human and non-human resources to bring about more effective instruction.

According to Unwin, instructional technology is “the application of modern skills and techniques to the requirements of education and training, including the facilitation of learning by the manipulation of media and methods and by the control of the environment where this reflects on learning.

Instructional technology as considered by Leedham concerns the systematic use of modern methods and technologies in teaching and learning. It involves teachers in a variety of roles, some of which are traditional, some still emerging. In this definition, special consideration is given to the adaptive role of the teacher. One purpose of studying instructional technology is, surely, to help us to make the best use of the capabilities of individual teachers. Therefore, it seems unrealistic to accept any definition which does not specifically include the role of the teacher. There is agreement that earlier attempt to use teaching machines failed largely because they were employed as alternatives to the presence of a teacher rather than as a means to extending his skills.

Twentieth century man has acquired more tools of communication, more power to educate, in the last fifty-years than he ever possessed in the hundreds of thousands of year of prerecorded history. With the increasing rate of scientific advanced and discovery, the need has arisen for a clearer understanding of new methods of communication and their application. This is the core situation with which instructional technology has to deal. It is fundamentally aimed at improving the efficiency of the educational system by increasing the rate depth, precision and value of the learning which take place.

1.1 Self Assessment Questions

Please pause here. Do not read on until you have completed the questions given below:

1. Some True/False items are given below for your recapitulation. Please encircle “T” if you consider the statement is True and “F” if you think it is False:-
 - a) The intelligent use of new technology can conserve human resources. T/F
 - b) Teaching aids are the materials and devices a teacher uses to make his teaching more interesting and meaningful. T/F
 - c) Instructional technology is the systematic use of modern methods and technologies in teaching and learning. T/F
 - d) Instructional technology involves teachers in a variety of roles, some of which are traditional, some still emerging. T/F
 - e) It seems realistic to accept any definition of instructional technology which does not specifically include the role of the teacher. T/F

(Please refer to the answers given at the end of this unit).
2. Define instructional technology in your own words.
3. What are the effects of instructional technology upon education?

2. Instructional Technology and its Media

2.1 Nature of Instructional Media

Instructional media are simply a means of transmitting information to learners. They are not the substance of that instruction. It is important to keep in mind that the instructional medium serves as the channel of instruction. What passes through that channel is the substance of instruction.

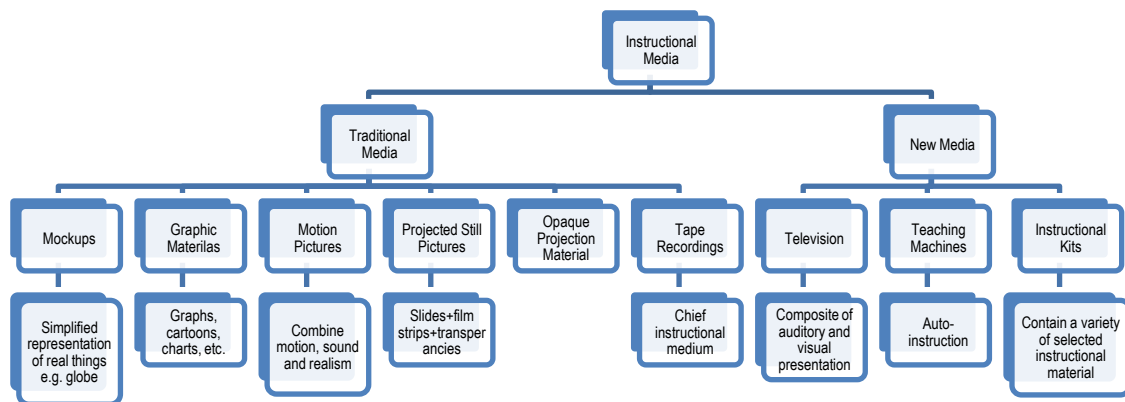
Erickson made a distinction between the old or traditional media and the more recently developed ones. Several traditional media noted below still make an important contribution to the instructional process: for example;

- a) **Models or Mockups:** Which are simplified representations of real things? A global, for instance, is a model of the earth; and geometric models are increasingly used in the teaching of mathematics.
- b) **Graphic Materials:** Like maps, graphs, cartoons, diagrams and charts.
- c) **The Motion Pictures:** Which combine motion, sound and realism.
- d) **Projected Still Pictures:** Such as slides and filmstrips; and transparencies used with the overhead projector. Microscope slides are particularly useful in the teaching of the life science.
- e) **The Opaque Projections Materials:** Which use a special projector reflecting light from the surface of the picture or object on to a projection screen.
- f) **Tape Recordings:** Which become the chief aural instructional medium.

Erickson also described the new media, viz:

- a) **Television:** As a medium, it has three aspects. It is a composite of auditory and visual presentation. Of course, television may use several of the older media. For example, a television may consist of a motion picture or videotape recording of a laboratory demonstration which uses slides, models and transparencies.
- b) **The Teaching machine:** This has been designed for auto-instruction. The original teaching machines were rather over-elaborating page turners for the various pages of programmed material. They also provided a way of masking the correct response until the student made his own overt response. Interest in machine teaching has recently shifted from these devices to computer-assisted instruction.
- c) **Instructional Kits:** They contain a variety of carefully selected instructional materials including objects, models, motion pictures, filmstrips, tape-recordings, student leaflets, programmed materials, apparatus assemblies and workbooks.

Let us now look in more detail at some of the important media of instructional technology – programmed instruction, language laboratories, slides and filmstrips, overhead projectors, films, tape-recordings, radio, television and computer-assisted learning.



2.2 Programmed Instruction

Schramm defined programmed instruction as that mode of learning in which a programme takes the place of a tutor for the student and leads him through a set of specified behaviours deigned and sequenced to make it more probable that he will behave in a given desired way in future – in other words, that he will learn what the programme is designed to teach him.

Muller put forward the following definition of programmed instruction: “programmed instruction is an “advanced planning of the teaching process in the most precise manner possible (organizational programming), its aim and outcome being guaranteed by an appropriate method of imparting knowledge (programming teaching), which in turn is based on a programme drawn up in accordance with particular methods (linear, branching, etc.)”

Programmed instruction was first associated with teaching machines and there appears to have been two schools of thought. One was represented by Skinner, a Harvard psychologist, who transferred his theories, based on the clinical observation of animal behaviour to the field of learning in the classroom. His programmes were in printed form and were carefully prepared and divided into small segments of no more than seventeen words. Each segment was called a frame. The learner read the frame, and because of his form he was promoted into making a reply, usually a written one. The programme had been carefully tested many times and the reply made by the student stood a 95% chance of being correct. So encouraged, he was led to the next frame, and the next, and so on through a series of 'positive reinforcements'. This careful shaping of responses aimed at securing a carefully prescribed behaviour pattern at the end of the programme. The individual could go at his own pace and learning was secure and certain.

The second view about programme instruction seen at one time to be divergent, was that the frames need not be so short, and that the learner should be offered alternative answers so that he could discriminate and profit by his mistakes. This approach was associated with Crowder; but later on, the two approaches were seen to be as one in that each led through to a prescribed end. The Skinner programmes were called 'linear', the Crowderian ones, 'branching'. A later statement that all programmes are linear, but most have branches' aptly sums up the current view.

a) Steps in preparing Programmed Instruction

Programmed instruction, as already mentioned, includes reducing material to small steps requiring student responses, providing immediate confirmation or correction and trying out and revising materials in the light of feedback received from the learner about his learning problems etc. In the preparation of the programme, there are four steps.

1. Selecting a unit or topic;
2. Preparing a content outline;
3. Defining the objectives in behavioural terms;
4. Constructing and administering tests of entry and terminal behaviour.

In the programme writing there are also several steps:

1. Presenting the material in the form of frames,
2. Requiring active student responses;
3. Using prompts to guide student responses, (The use of prompts should be gradually faded out),
4. Providing careful sequencing of materials.

In the try-out and the revision of the programme, there are three steps:

1. Writing the original draft;
2. Editing it and typing it out;
3. Revising it.

The linear sequence provides a single path for all students follow, while in the branching sequence, the student branches to supplementary material when the makes an error.

Programmed materials need not be presented using a machine. The procedure may be used in textbooks, laboratory manuals, or other materials whenever such supplementary materials are needed.

b) Advantages of Programmed Instruction

Programmed instruction has the following advantages:

- i. It tries by continually checking back over the content, to guarantee constant and directly comparable results;
- ii. It provides close guidance through the study process and seeks to maintain enthusiasm for learning by providing confirmation;
- ii. It is useful for revision and practice; according to Zielinski – Scholars have further put forth the advantages of programmed instruction as given in the following:

“By breaking the material down into small steps, one makes learning easier and more pleasant for every pupil. Step-by-step learning forces each individual to make a continuous effort and leads to independent and more firmly based acquisition of knowledge. Because a programme is far more adaptable to the different learning behaviours of the pupils than is a teacher, each of them reaches his goal at the rate which suits him. Continuous and immediate feedback stimulates the will to learn and enjoyment of learning. What is learnt is consolidated. The experience of success is an immediate encouragement to go on the next step. The inhibitions and frustrations that often arise in face-to-face classroom situations disappear.

As far the teacher is concerned programmed instruction reduces the teacher’s load in many respects and gives him the opportunity to devote himself more fully to the other vital tasks of teaching and educating. Schramm goes even further:

Programmed instruction is essentially a revolutionary device, in that it has the potential to help free man from some of his bondage – the waste of human resources where there are no teachers or where people cannot go to school; the waste of time and talent where all students are locked into the same pace, and all teachers into the same routine; the tyranny of tradition which permits the study of a certain topic to begin only at a certain age, and expects a student to accomplish only so much as a questionable test of his ability says he can do; and the inadequacy of outmoded and inadequate curricula.

It may be concluded here that the programme takes the place of the teacher; programmed instruction can be used to present material to the pupil, and then to make him process it, practice it and apply it. What distinguishes programmed instruction from normal instruction is that:

- a) The programme presents the material in small steps;
- b) It is adapted to the pupil’s individual rate of learning;

- c) It progresses step-by-step to greater degrees of difficulty;
- d) What has been learned is systematically controlled;
- e) It incorporates the Skinnerian principle of reinforcement by immediate knowledge of success. Recently, it has been emphasized that programming must aim not only at the acquisition of knowledge, but also at the processes by which the material is acquired by the pupils.

2.3 Language Laboratories

Language laboratories have been widely accepted and enthusiastically acclaimed by many language teachers and authorities in language instruction. For teachers who wish to develop listening and speaking proficiency in their students, a record player and a tape-recorder are the minimum essentials. Proficiency is achieved by listening to recordings of native speech and imitating, repeating, correcting and repeating until new speech habits are firmly established. Materials to be memorized consist of dialogues and pattern drills. Dialogues, which are the core of the each lesson, present real-life situations of wide interest and are arranged in a suitable sequence for learning the structural forms of the language. Pattern drills are suggested by passages in the dialogues, but give additional drill on new structural patterns as these are added.

The fully equipped language laboratory adds to the experience of listening and repeating, the means of self-criticism by recording and playing back. Each student in a semi-private booth, equipped with headphone, a microphone and a tape recorder listen to pre recorded material, spoken at normal speed by native voices. He repeats what he hears in pauses left for the purpose and then is ready to play back the recording of his own repetition in a alternation with the native model. Unlike any other type of language learning activity, this permits every student to recite simultaneously and receive correction.

Theoretically, any teacher who speaks the language fluently can prepare his own recordings; but it is an enormous task. It also limits the students to hearing one voice rather than the variety of men's and women's voices available on all the commercially taped texts.

It should be clear that teaching techniques figure largely in the selection of a textbook, and in the day-to-day preparation of taped material for laboratory use. Once the student is in the laboratory, the nature and organization of the material will largely determine and control his activities of either learning or further improving his language learning.

2.4 Slides and Filmstrips

Slides and filmstrips are visual aids. They have all the advantages of pictures and the added advantage of increased realism. Because slides are actual photographs and are shown via a bright light source, the scenes they portray appear more "real" than printed pictures and the colours appear more brilliant. Also a more significant advantage associated with slides is the opportunity they provide for teachers to create their own instructional aides.

A filmstrip is essentially a series of connected slides. Most filmstrips are commercially prepared and many have brief captions printed on each frame. As the filmstrips are advanced and each frame is discussed by the teacher, various procedures may be used to enrich the experience. Besides, a basic approach, such as asking students to read out the captions loudly, teachers have discovered that teacher and student comments and discussions are possible and profitable, both while the filmstrips is being shown and afterwards.

2.5 Overhead Projectors

Overhead projectors can project any material that is drawn, written or printed on transparent film. They are often used instead of the chalkboard because they allow the teacher to write and at the same time face his students. Enabling teachers to maintain eye-contact with their students is one of overhead projectors' greatest advantages. Another advantage is to be able to use the machine without darkening the room, which facilitates note-taking and, more important, student interaction. The use of overlays with base transparencies is a particularly effective instructional tool. A typical overlay package might contain a base map of a country, a transparency to go over the base outline to show major river systems, a third transparency to depict major cities and to show their relationship to rivers, and a fourth transparency to shown railroad development.

2.6 Films

Films enable students to view demonstrations, experiments, natural phenomena and other events that would be too difficult, dangerous, or even impossible to view otherwise. Through techniques such as time-lapse photography, microphotography, long-range photography, animation, and slow-motion projection films, offer unique approaches for students' exploration. They may watch a flower gracefully unfolding into full bloom or a single cell dividing. They can see the earth as a spaceman would see it or again an understanding of the phenomenon of nuclear fission.

Proper preparation of students and good planning in the use of films can enhance learning. On researcher has found that students who are well prepared for film earn 20% more than the students who are not so prepared. Other researchers have found that periodically stopping a film to provide time for active student participation, or splicing into the film questions for discussion, can also increase student learning.

In addition to 16mm films, educators are also finding that 8mm, single-concept or single-skill continuous-loop films can be used for large groups, but they are especially well suited for individual use and can thus play an important part in the individualization and self-pacing of instruction. Mere 8mm loop films are silent, but that has not detracted from their popularity.

2.7 Tape-Recorders

Today in developed countries almost every school possesses at least one tape-recorder. Thus recording and reproduction by magnetic tape is part of the technological equipment of every teaching institution.

At present there are four distinct kinds of tape-recorders: studio-recorders, two and four track recorders, stereo-recorders, and cassette-recorders. Studio-recorders are to be found in radio studios, film studios, the record industry, and audio-visual centres in schools and universities; they are also used for teaching purposes in medical schools and teacher training institutions. Two and four track recorders are encountered in schools. They record on half the tape at a time. Recorders working on a four-track system differ from the two-track one only in that they record on a quarter of the tape width at any one time. It is, however, important for educational purposes that two of the four-tracks can be heard at the same time. Stereo-recorders are devised for all forms of stereophonic recording and usually have available special possible uses such as display or remote control of an automatic transparency projector. Finally, cassette-recorders use tape cassettes in which the tape is firmly enclosed.

2.8 Broadcasting

The universality of broadcasting is apparent to all. Sound and vision are programmed in a variety of ways in broadcasting. Entertainment and education, information and exhortation; all are served by the same medium. During our life time, broadcasting affects us all in some way in the future; its impact on society will be even greater.

Broadcasting is capable of spreading new ideas and fresh information. Because it is so versatile and authoritative, it has become an accepted channel for new ideas. This was sometimes true of film, but it is now generally true of television. It affects all types of education and the professions, commercial practice and industrial relationships. These are all portrayed in their developed phases by broadcast programmes. It is important that provision for this particular feature is written into the future developments of instructional technology. The reshaping of methods or curricula could well be accomplished by a careful selection of supporting broadcast material.

The failure to use broadcasting effectively is because the technology of its reception has not been fully developed; but the new methods of recording and storing broadcast material will spread its use. The material thus developed is called non-broadcast material. The job of instructional technology is to shape attitudes and develop systems which will use broadcasting effectively and economically. The educational system of the country should capitalize on its high level broadcasting services and extend its financial provision. The Allama Iqbal Open University is making an extensive use of this medium.

In this way, broadcasting is being used successfully as a supplement to correspondence courses, though the broadcast programme are rarely sufficient in themselves to provide the core of instruction, in large part because of the medium's inherent limitations (it cannot, for instance, be reread and studied at leisure). In addition to that there are several programmes of the Pakistan Broadcasting Corporation which have the elements of education, in addition to entertainment, of course. Towards the end we can conclude that broadcasters must collaborate with psychologists and educators in developing new styles of instructional broadcasts.

2.9 Radio School Broadcasting

School broadcasting aims at teaching a definite subject to particular pupils groups. In this, its shape is determined by the laws of both radio and teaching in respect of teaching methods, dramatic effect and auditory impact. The limits of school broadcasting are seen to lie at the point where the teacher can achieve more by using another medium (e.g. films, transparencies, television, records, or other aids to teaching and learning). School broadcasting has also been in use in Pakistan until the end of sixties as a supplementary enrichment of teaching and not a means of replacing the teacher. Since then, developments in the didactics of long-range teaching media have made it possible for school broadcasting to realize increasingly a replacement function or even to lay claim to a quite definite role within the framework of a teaching system based on media. However, one should not organize one's teaching solely on the basis of what happens to be offered in broadcast.

2.10 Television

Television is perhaps the most effective media. It has got an advantage of immediacy over film. Via television, students can watch events as they are actually happening. The television camera can even improve on personal presence by providing each student with a clear, unobstructed and close-up view. It has been used effectively in a variety of ways as such:

i) Commercial Programmes of Television

The first, and most common is its use of commercial programmes. Although often thought of only in terms of its entertainment value, commercial television frequently broadcasts special programmes and documentaries that have significant instructional value.

ii) E.T.V

Another type of broadcast television is the education television or ETV. ETV broadcasts are primarily instructional in nature, but they are aimed at a broad public audience and, therefore, attempt to meet a variety of needs. Typical ETV programmes include discussions with industrial, political, social and educational leaders, "how-to-do-it" courses and children's programmes.

iii) I.T.V

A third type of broadcast television is instructional television or ITV. Distinctions between ETV and ITV are considered to be both in programming intent and in programme financing. ETV programmes are not intended for specific and formal instruction; ITV programmes generally are. In the USA ETV programmes are most often financed by governmental grants, private foundations, individual school systems, colleges and universities. In Pakistan also the educational programmes of the Allama Iqbal Open University are telecast on subsidized rates.

iv) C.C.T.V

Closed Circuit Television (CCTV) represents a fourth way to use the medium. It is most often used on an "in-house" basis to televise meetings and debates, demonstrations and experiments, and even regular classes. Because it is an "in-

house” operation, students can participate in the actual programme development and television, thus adding yet another dimension to their educational experience.

v) Use of T.V V.T.R

A fifth way to use television is via videotape recorders (VTR). They are directly analogues to audio-tape-recorders with the obvious difference that the former provides a visual as well as an audio-record. In developed countries, more and more schools are acquiring VTR equipment, not only tape lectures, demonstrations and theatrical presentations, but also for use in everyday teaching situations. As a way of enabling both teachers and students to see themselves as other see them, VTR equipment has found increasing use. Coaches, for instance, have found VTR equipment invaluable in athletic programmes for instant feedback on student psychomotor skills.

The use of television helps the teacher in presenting lectures and demonstrations supported by elaborate audio-visual effects and the classroom teachers’ follow-up the television classes conducted in the regular classroom. Courses are sometimes conducted entirely by television, but this practice seems to be exceptional. In some instances, television has been used to bring courses to schools that do not have faculty competent to teach them; in such cases the bulk of the teaching must necessarily be done by the television teacher with a minimum of follow-up by the classroom teachers.

Finally, we should note that considerable objection have been raised to the use of television instruction, firstly, because of its supposedly dehumanizing effect, and secondly, because it tends to handcuff the school curriculum to the television schedule. The validity of the first argument is debatable but that television teaching does tend to tie the curriculum to television schedule is undoubtedly true. On balance, the evidence seems to indicate that television can best be utilized to augment classroom teaching.

2.11 Computer-Assisted Instruction (CAI)

No doubt that the early teaching machines paved the way for the modern computer technology but they did not do much more than controlling the actions of the learner. The machines kept the student from skipping ahead or going back to change answers. With the advent of computers, however, it became possible to design truly sophisticated teaching machines.

Computer-assisted instruction (CAI) is, without doubt, the single most complex and sophisticated form of mediated instruction. As the name implies, computer-assisted instruction makes use of a computer and a computer programme to assist students in the acquisition of skills and information. Because CAI programmes are written to react to student responses, it is possible to design exercises specifically for individual needs and ability levels and to present new information at a rate and degree of complexity compatible with the student’s ability. CAI is useful in providing students with practice in responding to life-like situations without the hazards associated with the actual endeavour, and in automatically keeping accurate records of students’ performance in any

or all these activities. In addition, the computer does not get tired or short-tempered. It is willing and able to work twenty-four hours a day, has infinite patience and, when properly used, does not threaten students personally. It is not hard to see why some educators feel that extensive use of CAI can improve the teaching-learning situation.

Advocates of computer-assisted instruction claim that when properly instructed and programmed it can:

- a) **Provide Remedial Instruction**
Diagnose and provide remedial instruction for individuals.
- b) **Selection of Appropriate Material**
Select instructional material appropriate to the student's level of achievement.
- c) **Provide Drill**
Provide drill with infinite patience.
- d) **Retriever**
Act as a retriever of information.
- e) **Evaluation, Monitoring, Recording, Analyzes**
Evaluate, monitor, record, analyze and give back data about the individual student's learning progress.
- f) **Pacing of Instruction According to Difficulty Level**
Pace the instructions according to the difficulty of the material and the ability of the learner.
- g) **Challenge the Students**
Challenge the student in any subject at any level.
- h) **Provide a Dialogue**
Provide a dialogue for students studying languages.
- i) **Virtually Inevitable Success**
Make success virtually inevitable if the programming has been properly done.

According to Pierce and Lorber there are four principal kinds of CAI programmes.

- a) **Drill and Practice Programmes** which are probably the most common. They are usually branching programmes and can thus vary the complexity of the material to keep it commensurate with the proficiency demonstrated by the student. If students have difficulty with one level of problems, for example, CAI drill and practice programmes can automatically shift them to less complex levels.
- b) **Tutorial Programmes** which, unlike drill and practice programmes, present students with new information and then on the basis of student's responses to questions or problems provide further new or supplementary information.
- c) **Simulation or Gaming the Function** of which is usually to provide a "real life" situation to which the student can react. Depending upon the programming strategy, used, simulated situations can change on the basis of sequentially or randomly occurring variable or solely on the basis of student input.
- d) **Simple Problem-Solving** in which the student can capitalize on the power of the computer to compute. Students can try out complex mathematical solutions without

hours of stultifying work with a pencil and paper. They can make projections and change variables without regard to the difficulty of the computations. The computer is able to do it all virtually simultaneously.

Although CAI is very efficient for certain kinds of instruction, it is unlikely to become very common until the price of both hardware (computers, terminal, tape-records, etc.) and software (programmes) is greatly reduced. The cost is slowly being reduced and this trend is augmented by the fact that CAI can potentially reduce the amount of time that the teacher spends in the classroom. As costs go down and programming sophistication increases, the probability of teacher and students have access to CAI terminals in their own classroom is increased. The probability of schools undergoing a transformation, with students having CAI terminals in their homes or in small attendance centres, is becoming less remote.

2.12 Self Assessment Questions

Please pause here. Do not continue until you have completed the questions on this section given below.

- I. Multiple-choice items: Encircle what you consider to be the correct answers:
 - 1) Language proficiency can best be attained by students through the use of;
 - a) Programmed instruction
 - b) Filmstrips
 - c) Language laboratories
 - d) Slides
 2. Some of the advantages of programmed instructions are;
 - a) By breaking material down into small steps, learning is made easier and more pleasant for every pupil;
 - b) Step-by-step learning forces each individual to make a continuous effort and leads to independent and more firmly based acquisition of knowledge;
 - c) Continuous and immediate feedback stimulates the will to learn and enjoyment of learning;
 - d) All of the above.
 3. Advocates of computer-assisted instruction claim that, when properly instructed and programmed, it can:
 - a) Diagnose and provide remedial instruction for individuals;
 - b) Act as a retriever of information;
 - c) Pace the instruction according to the difficulty of the material and ability of the learner;
 - d) All of the above.

(Please refer to the answers given at the end of this unit).

- II. How is instruction through television different from that of films? List five uses of instruction through television.
- III. List five advantages of computer-assisted instruction.
- IV. Present hierarchy of instructional media as given by Erickson.

3. Instructional Technology and the Curriculum

3.1 The Potential of Instructional Technology

As a result of the technological advancements since the late fifties and early sixties, many new instructional machines and devices have been introduced into the schools. Great advances have been and continue to be made in the development and use of electronic and non-electronic instructional apparatus. The impact of this new improved technology, if fully implemented, could be spectacular.

In general, machines are useful in imparting knowledge. They can make the presentation of the subject-matter stimulating and forceful. Some of them can actually teach boys and girls and can, therefore be used effectively in individualizing instruction. Because of their force and impact; they may be useful in developing attitudes and ideals as well as establishing clearer concepts in different aspects of education.

On the other hand, it has been rightly observed that the machines cannot do the whole job of teaching at least not yet. So far, few of them can do much more than presenting informing and providing practice. They are not particularly successful in teaching pupils intellectual skills or developing powers of critical analysis, original thinking or creativity. Perhaps the role of the technological gadgets in the schools will always be an auxiliary one. Nevertheless, improvement in audio-visual aids and the introduction of new instructional devices have altered the potential future of the school curriculum.

The addition of instructional devices to the teacher's armory should make possible much more flexible curricula. They should also make it possible for every to bring to its pupils experiences far beyond the resources of the average faculty. Quite possibly the schools of the future will use these new instructional devices to become real laboratories of learning.

Whether or not advances in the development of instructional media have any major impact on the curriculum depends upon their use by teachers. Unfortunately in Pakistan, neither we have such devices in schools at large nor have we teachers trained to handle and use such equipment if any.

3.2 Obstacles to the Introduction of Educational Technology in Pakistan

As we all know the pace of the introduction of educational technology has been rather slow, if not negligible. The obstacles are briefly described as under:

- a) The major obstacles to the introduction of technology into education is the inertia of the educational system itself;

- b) There are few incentives for teachers to change their methods; and educational institutions seem to be designed to resist change;
- c) Schools and colleges too often take on the outward appearance of innovation, but not its substance;
- d) The educational bureaucracy neutralizes ideas with apparent ease.
- e) Teachers may lack the time and the motivation to learn technology skills” (Gahala, 2001).

This inertia is fed by the strong antipathy to technology, found both inside and outside education. Many people, rightly or wrongly, view technology of every kind as a threat. The technology of polygraph tests, computerised data banks, and miniaturized bugging devices invade our freedom and privacy. Before the advance of the videotape recorder, the only way of judging a teacher was on the basis of examination results, what students said about him, his behaviour at faculty meetings, and a rare personal visit to watch him teach. Teaching has always been a private and unrecorded process. Technology the recording medium has altered this situation. Innovation threatens the equilibrium of existing organizations; and technology is resisted in education because it builds up new power centres and weakness the traditional ones which are so cherished in Pakistan like other developing countries, of course.

Conditions for Effective Use of Technology

Certain conditions are necessary for schools to effectively use technology (NETS, 2002). According to Van E. Cooley, “success of technology implementation is contingent on a number of factors”. First, schools must “have a strong curriculum as a foundation (because if they don’t), technology will do little to improve... schools and might even have a negative impact” (Cooley, 1998). Teachers need to feel that they count. Teachers can become more informed about the benefits of planning and more involved in integrating technology” (Conner, 2002).

3.3 Technology and Curricular Adjustments

According to Skinner, “Technology clarifies the variables the teacher is manipulating, as well as their effects, and a technology of teaching helps most by increasing the teachers’ productivity. It simply permits him to teach more – more of a given subject, in more subjects, and to more students”.

Thus technological approaches have a significant effect on concepts of the curriculum. An example of this is the conception offered by Bush and Allen in their technological proposal for redesigning the high school. “The entire curriculum can be thought of as an area to be scheduled. The horizontal dimension represents the number of students, the vertical dimension represents the length of time in the schedule module.” Regardless of whatever merits their proposal has, their technological orientation reduces the curriculum to a rectangular box in which the variables are (a) the number of pupils to be processed, and (b) the time variable for their processing.

Skinner and other behaviourists not only view the curriculum as a component of a technological production process but they also see the pupils as a kind of mechanical learning unit in the production process. According to Gange, "Curriculum is a sequence of content units arranged in such a way that the learning of each unit may be accomplished as single act, provided the capabilities described by specified prior units (in the sequence) have already been mastered by the learner. (Gange defines a unit of content as a specific description of a single student capability or, essentially, a behavioural objective). The definition of the curriculum offered by Gange assumes that learning is mechanical and linear, and that the learner is a mere mechanism to be conditioned towards making the right automatic responses.

The adoption of use of automatic programmes on a large-scale could bring revolutionary curriculum changes. Automatic instruction has immense potential for individualizing instruction. Conceivably its use could lead to complete individualization of instruction with the resultant elimination of courses, marks and promotions as we know them. Experimental evidence indicates that the use of programmes might possibly lead to more thorough learning by all pupils than educators had ever felt possible.

Radical changes in the curriculum and instruction are made possible by technological advances. However, implementing such a possibility requires a quantum jump in the clarification of goals, financial commitment, classroom and system methodology, the preparation of personnel, the restructuring of support systems and evaluation. No single medium or professional group can accomplish this task. For example, technology breeds complexity. It is only known way to manage complexity and it extends man in unique and significant ways; but it also restricts alternatives and imposes limitations. The realities with which we must deal are powerful forces. Media are the means, but if the ends are not built into the means, they are unlikely to be attained.

There are many kinds of developments which we must accommodate. The knowledge explosion has made absurd any attempt to "cover" a subject or an area. Disciplines are being rewritten in new interrelated ways. Research in individual learning and growth has dissolved the myth of homogeneity and the viability of grading by age. Revised and revived concepts of equality and mobility in place and occupation have minimized the importance of locale. The need for participation and involvement has erased any neat line of authority or decision-making. The revolution in means and expectations has made untenable any simplistic statement of goals. Evident needs for change and flexibility threaten every routine, every rigid institution.

These and other changes and challenges add a new dimension to education. Education must be relevant and responsive to society's needs. Vast number of individuals must have access to opportunities for learning and success through new extensions and expansions of man, including the media.

To consider the curriculum as just a plan is to lose the dynamic, creative or behaving aspect. The curriculum is the "happening" as each learner confronts his environments and

learns to construct a universe that has some meaning for him. The curriculum plan in action means that the learner is changing his behaviour. There is processing of data, but with a purpose; there is functioning but with understanding and commitment. The world becomes the laboratory; the learning environment contributes to the achievement of a learning society composed of fully functioning individuals.

3.4 Impact of Instructional Technology on Teachers and Pupils

A true technology of education includes the entire process of the setting of goals, the continuous renewal of the curriculum, the trying out of alternative strategies and material, the evaluation of the system as a whole and the resetting of goals and new information on the effect of the system. However, instructional technology is often identified with the various devices and process which make possible the swift and efficient recording, storage, manipulation, retrieval, transmission and display of data, information and printed and photographic material. If these capabilities are considered as part of a broad curriculum research and development design, they have tremendous potential in education.

Technological devices and materials useful in the instructional process range from those which help the teacher to develop and present his material more effectively in a more or less traditional classroom to those which completely alter what goes on in the classroom, including what the teacher is expected or required to do. A number of technological devices can be useful in both instruction itself and in the management or administrative data which is necessary in modern mass education. The computer, for example, can be used to make new kinds of administrative strategies possible (by, for instance, making feasible complicated individual tests of students and flexible scheduling of classes); and, at the same time, it can be used in the instructional process itself in the more efficient manipulation of instructional material (computer-assisted instruction).

Now the question arises “what will technology do the role of the teacher”? Why is he sometimes reluctant to or afraid of using these new media? It is not simply because he fears the equipment itself. Indeed, new equipment is increasingly easier to operate and the average teacher in a western society is managing more complex technology at home than at school. The main reason is that he fears a diminished role.

Certainly some technology will replace the teacher, as has done the textbook to a great extent a technological product. But since most textbooks were not self-instructional, the teacher became a translator of complex prose. However, as explanations of subject-matter in books or programmed materials are sharply improved and become more self-teaching in nature, where does this leave the teacher? Certainly, he should not teach what can be taught as well or better by films, recordings, television, programmed materials, etc.

The task of the teacher is to do the complicated, artful things that pre-planned materials cannot achieve. The professional teacher will help students to plan their work and their lives more effectively and ensure that they engage in thoughtful, creative interaction rather than a merely rote learning or limitation. The teacher will become a diagnostician,

a prescriber for the remedying of students' weaknesses and the reinforcing of their strengths. He will help students correlate, refine, integrate and interrelate experiences relevant to important learning goals. And, most significantly, aim to develop independence in his pupils.

What are the implications of media-based teaching for the pupils? Certainly it should encourage them to be discriminating in their role as consumers; and should give them some insight into the development and working of contemporary instructional media. Also, whenever possible, it ought to give pupils the opportunity to originate and produce their own instructional materials.

The introduction of media-based activities immediately raises the questions of the place of the emotional and expressive dimensions of adolescence (as against the cognitive and intellectual). This in turn implies a major reassessment of the place of arts subject and creativity within the curriculum. Media-based activities present a challenge to conventional subject divisions and point towards the constructing of courses which will create a sustained link among different subject areas. This in turn implies a move towards team teaching.

Pupils from different social class and neighborhood backgrounds, with different school experiences, differ very considerably in the amount of interest they take in the instructional media and in the particular elements they select for attention. In view of these differences, therefore, it is counterproductive to design a single course for all pupils, or even for all pupils in the same sort of school. Rather, if media-based activities are seen as a necessary part of a more general attempt to increase links between the school and the surrounding community, they must relate to the particular environment from which the pupils come. The necessary change is not, therefore, in the direction of providing all pupils of a certain age with some educational fare; but rather of developing the approach of "learning in each adolescent as far as he or she can go." This means less emphasis on the assimilation of predetermined content and more stress on the development of various processes of thought and sensitivities of feeling. This in turn raises the question of assessment and suggests that attention should be given to extending the use of more flexible procedures.

Unlike conventional school subjects such as mathematics the knowledge and experience offered by the contemporary instructional media is potentially open to everyone. Consequently, the teacher involved in media-based activities is likely to find, that he is no longer in possession of a discrete body of knowledge, skills and techniques, which pupils gratefully accept. Indeed, in some cases, the roles may be reversed and the teacher may find that the pupils possess more knowledge and information than he does. Again this situation challenges conventional chalk-and-talk method and points towards the more frequent use of discussion, not only between teachers and pupils, but more importantly, among pupils themselves.

Of course, introducing media-based activities into the school without any corresponding changes in the formal organization simply tackles the symptoms while leaving the basic causes untouched. Ultimately, therefore, media-based teaching implies a move away from streaming towards more flexible internal group systems.

Finally, without a substantial increase in funds, many of the more adventurous media-based creative work called for here clearly cannot be put into practice. Nevertheless, there is still some scope for progress in this area by making greater use of some relatively inexpensive techniques. This frequency with which teachers introduce instructional media material into their teaching depends not only on the availability of the necessary material and equipment but also upon their attitude towards the media. Changes in attitude will obviously not take place overnight, but an immediate and constructive start can be made with teacher training. In the first place, media-based activities should be incorporated into the syllabuses for all intending teachers. Nor should these opportunities be restricted to teacher in training; there should also be more emphasis on the use of instructional media by practicing teachers.

3.5 Self Assessment Questions

1. What impact has educational technology made on education in Pakistan?
2. Would you wish to see further developments? If so, what would they be and why would you wish to see them implemented? If not, why not?
3. What implications does an increased use of educational technology have for the role of the teacher?
4. “Media-based activities present a challenge to conventional subject divisions.” Comment on this statement.

4. Conclusion

Instruction Involves

- a) Engaging motivation
- b) Stimulating recall of earlier learning
- c) Providing new learning stimuli
- d) Activating responses
- e) Giving speedy feedback
- f) Encouraging appropriate practice.

One should not expect that a single medium is best fitted to all these things. Instead, it seems likely that carefully designed combinations of media may be required to achieve the kind of instruction that is effective, and which at the same time exploits the properties of media to their fullest advantage.

No matter how complex, glamorous or efficient the technology, its products are merely tools. As is true in other fields, the new tools available to educators have no built-in sense of direction or value system. They can be used for appropriate or inappropriate purposes depending upon our wisdom. In education our new tools can serve as improved means towards questionable ends; or they can play an important role in helping us to accomplish worthy purposes more effectively. These tools are valuable only when applied to help us reach appropriate educational objectives. If we are to apply our new technology intelligently we need to examine our teaching purposes and to select tools appropriate to the tasks we set for ourselves.

Curriculum development and change cannot be brought about simply by buying the equipment or materials or by initiating crash programmes. Curriculum leaders must help teachers, administrators, and citizens to focus on key issues and work cooperatively to determine educational goals and the manner in which these goals can most effectively be reached. Only through intelligent identification of our purposes and objective evaluation of the teaching-learning environment can we select and apply our advancing technology to the best effect.

4.1 Answers to Self Assessment Questions

SAQ Exercise No. 1

Q.1 (a) True (b) True (c) False (d) True (e) False

For answers to Q.2 and Q.3 consult the relevant section of the unit.

SAQ Exercise No. 2

1) c 2) d 3) d

SAQ Exercise No. 3

For answers to all the three questions consult the relevant sections of the unit.

5. Bibliography

- Brown, James W., Lewis, Richard B., and Harcle-Road, Fred F., *AV Instruction – Technology, Media and Methods*, New York:, McGraw-Hill Book company, 1977, p.498.
- Barnett, R., Parry, G. and Coate, K., (2001) “*Conceptualizing Curriculum Change*”, *Teaching in Higher Education*, 6, 4, 436-449.
- Boud, D & Prosser, M (2002) *Appraising New Technologies for Learning: A Framework for Development*, *Education Media International*.
- Correll, Werner, “*Learning with Technical Aids*” *Education*, Vol. 9, Tubingen: Institute for Scientific Cooperation, 1974, pp.63-72.
- Dale, Edgar, “*Technology is More than Tools*”, *Educational Leadership*, Vol. 21, No. 3, December 1963, pp.161-166.
- Frank, Helmar, “*Teaching and Learning is the Age of Automation*”, *Education*, Vol. 3, Tubingen Institute for Scientific Cooperation, 1971, pp.37-44.
- Gange, Robert M., “*Learning Theory, Educational Media and individualized Instruction*”, *the curriculum: Context, Design and Development*, Edinburgh: Oliver and Boyd, 1975, pp.297-319.
- Houston, D. (2004) *Building Better Bridges: Why Curriculum Matters*, in De Silva & Browne (eds.) *Engineering Education for an Uncertain Future: Proceedings of the AESEAP Mid-Term Conference*, Auckland, new Zealand.
- Heinrichs, Herbert, “*Audio-Visual Challenge*”, *Education* vol. 8, Tubingen: Institute for Scientific Cooperation 1973, pp.77-87.
- Hughes, J.L., *Programmed Instruction for Schools and Industry*, Chicago; Scientific Research Associates, Inc., 1962, p.299.
- Huning, Alois, “*Computers for Teaching Purposes*” *Education*, vol. 6, Tubingen: Institute for Scientific Cooperation, 1972, pp.113-116.
- Knight, P.T., (2001) “*Complexity and Curriculum: A process Approach to Curriculum-Making*” *Teaching in Higher Education*, 6, 3, 369-381.
- Leadham, John and Union, Derick (Eds.) “*Aspects of Educational Technology*, London Methuen and Co., Limited, 1967, p.545.

- Menacker, Julius and Pollack, Erwin, (Eds.) *Emerging Educational Issues: Conflicts and Contrasts*: Boston: Little, Brown and Company, 1974, p.400.
- Miller, William C., and Goldberg, Albert L. “*Technology and progress*”, *Educational leadership*, Vol. 20, No. 7, April 1963, pp.431-433.
- Shane, Milton, L., and Shane, Helen Lacy, “*Laboratories for Foreign Language Teaching*” *Educational Leadership*, Vol. 18, No. 5, February 1961, pp.293-298.
- Siddiqui, Mushtaq-ur-Rehman, “*Technology, Education and the Future of the World Perspective*”, *The Varsities*, Vol. 3, No. 4, Islamabad, University Grants Commission, July-August, 1978, pp.11-13.
- Siddiqui, Shaukat Ali, “*Towards Introducing Programmed Instruction in Pakistan*” *Pakistan Educational Review*, No. 3, Islamabad, Ministry of Education and Scientific Research, July, 1970, pp.58-108.