

**STUDY GUIDE
ON
TRENDS AND ISSUES IN EDUCATION
M. PHIL (EDUCATION)**

CODE . EDU-3701

BOOK-1 (UNITS 1-9)



**SECONDARY TEACHE EDUCATION DEPARTMENT
FACULTY OF EDUCATION
ALLAMA IQBAL OPEN UNIVERSITY
ISLAMABAD**

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2. Philip H. Coombs, author of "*The World Crisis in Education*", and Messers Oxford University Press, New York, Publishers of this most comprehensive study on world education, problems and issues. This important book has also been used as textbook for this course.
3. Louis D. Hayes, for his important study on education in Pakistan, entitled, "*The Crisis Of Education in Pakistan*", and its publishers, Massers Vanguard Books Ltd., Lahore. This important study has also been used as textbook for this course.

The Allama Iqbal Open University and the author also wish to convey their indebtedness to a host of renowned national and international scholars, editors, and publishers of books and journals whose works have been used as reference materials for this course. The quotations used from their works are gratefully acknowledged.

It may also be pointed out for general information of all the authors, editors and publishers of the international studies, books and reports whose works have been quoted or referred in this course that the Allama Iqbal Open University is a non-commercial, research and educational organization of Pakistan and which has been established to extend educational facilities to the under-privileged remote and rural areas of the country through distance learning system in the shortest possible time. Contribution of these authors, editors and publishers to this common humanitarian cause is deeply acknowledged!

Shaukat Ali Siddiqi
Coordinator and Chairman

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FORWARD

With the massive expansion of education during the last two decades, the education system has grown as the largest organized system which employs about half a million personnel both in the public and private sectors. These personnel are engaged as teachers, headmasters, principals, supervisors, administrators and members of the secretarial staff. In order to run this system efficiently, the country needs a viable group of highly trained leaders who can manage and supervise various services with professional insight and managerial skills. Unfortunately, there are very limited facilities to train these senior personnel within the country. During the last three decades the country has, on the average, produced only one Ph. D. in education per annum. This "output" is indeed very insignificant to meet the requirements of a growing system of education which has tremendous potential of expansion under the renewed commitments of the government. As a matter of principle, all teachers working in the colleges of education and institutes of education and research must possess at least an M. Phil degree in education to guide and supervise the instructional programmes at B.Ed., M.Ed. and M.A. (Education) Levels

Keeping these considerations in view, the Faculty of Education of the Allama Iqbal Open University has ventured to offer an M.Phil degree in education with the following specializations:-

- 1) Educational Planning and Management,
- 2) Teacher Education
- 3) *Adult and Non-Formal Education.
- 4) Science Education and
- 5) Special Education

I am happy to find that the first book of one of the important core courses, entitled, "Trends and Issues in Education" is now ready for launching. I congratulate, Faculty of Education, and writers of the course and members of the course team who have accomplished this gigantic task.

The University would welcome any comments and suggestions for the improvement of these course materials both from the students of the course as well as general readers. Keeping in view the special nature of the course, it is intended to keep it under constant revision and improvement during the next few years. I hope that the University would continue to accelerate its activities for the promotion of education through specialised programmes of this nature. I appreciate the activities of the Faculty of Education and pray for their success in this gigantic task.

Vice-Chancellor

COURSE INTRODUCTION

Fast developments in the field of education have stirred widespread discussion and debate as to its goals, content, methods and future role in change and development of a country. What role can the education system actually play in the development of a country is an open question which is being debated in educational circles all over the world. There is a sharp difference of opinion about this role fluctuating from extreme conservatism to radicalism.

The perennial questions of directions for education quantity and quality, equality of opportunity, menace of wastage of resources in the form of dropouts and failures, inadequate availability of funds, staggering of targets for universalisation of primary education, and precipitous condition of illiteracy hover over the educational horizon of all developing countries. Pakistan is no exception to this phenomenon.

Introduction of provocative ideas like futurology, impact of science and technology on education, education and development, democratization of education, and confronting world social and political problems, like war and peace, disarmament, human rights and social justice through education are agitating the minds of educationists in the developed as well as developing countries. Every year a good number of new books is being added to the professional literature. It is imperative for educators to keep abreast with these books as they are bringing in new dimensions in the discipline, shattering our previous perceptions and raising new issues which ought to be tackled in a more serious and efficient manner.

Keeping these pressing demands in view, AIOU plans to introduce an advanced course at M.Phil (Education) level, entitled, "Trends and Issues in Education".

The course is not meant to deal with the philosophical and conceptual issues of education in a conventional manner by injecting a few unots on philosophy or foundations of education, using classical divisions of psychology, philosophy or sociology etc., but in a more dynamic and prognostic manner by bringing in a whole array of inter-disciplinary problems and issues which confront educational systems around the end of eightees and are likely to affect our approach to education even at the turn of the century. It requires a critical reappraisal of all such theories and conceptual frameworks which do not synchronize with the fundamentally different needs and circumstances of our times. The course is meant to remain open-ended absorbing new concepts, issues and controversies which are fast emerging in the discipline of education both internationally and nationally. As a matter of principle, a course like this may require revision every year so as to readjust itself to the fast emerging trends on a continuous basis.

COURSE DEVELOPMENT COORDINATOR

RESOURCES

It is intended to utilise latest books, journals and reference materials for each unit of the course, and adopt a flexible approach for absorbing new resources which may be available to the course team from time to time. However, the following three resources may be used as prescribed texts for the course during the initial phase:___

1. Coombs, Philip H., *The world Crisis in Education*, Oxford University Press, New York, 1985.
2. Faure, Edgar, et. el.: *Learning to be: the World of Education Today and Tommorrow*, UNESCO, Paris, 1972
3. Hayes, louis D., *The Crisis of Education in Pakistan*, Vanguard Lahore, 1987.

Additional Resources:

Additional resources in the form of articles from latest journals and professional books will be available to the students in local libraries and through our regional/sub-regional offices.

All students and general readers of the course are welcome to comment on the course and its component units so as to enable the course team to introduce suitable changing in the course at the time of next revision.

For any accademic guidance, please contact:

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OBJECTIVES

An extensive exposure of students to a wide spectrum of problems and issues in education is assumed to enable them to.

- a) identify the expected challenges of futurology and its impact on education.
- b) delineate nature and extent of social change and relate it to the various aspects of the educational process.
- c) describe significant changes which have taken place in the fields of science, technology, demography and the manner in which they are influencing the systems of education.
- d) identify crucial problems and issues confronting education in Pakistan with particular emphasis on the following aspects:____
 - i) literacy
 - ii) primary education
 - iii) secondary education
 - iv) professional, technical and vocational education
 - v) teacher education, and
 - vi) higher education.
- e) establish relationship between the processes of education and development and analyse the emerging role which education is assigned to play in the socio-economic development of the country
- f) relate the emerging trends and issues in curriculum development, methods and media of education, and examinations and evaluation.
- g) work out implications of the political process for education and find out their impact on each other, and.
- h) identify relevant controversial issues in education in Pakistan and prepare an inventory of similar other issues which are likely to confront our educational system in the imminent future



UNIT-1

FUTUROLOGY AND EDUCATION

1.1 Introduction

One of the major characteristics of modern life is our positive attitude for planning. Planning involves our perception about future either on short term or long term basis. Perspective planning requires a more critical look into the alternative futures on fairly long term basis. This crucial need of our time has given rise to a new discipline called Futurology or Future Science. Scholars from all fields of life, natural sciences, social sciences and humanities are actively engaged in prophesying for future in terms of the parameters of their own disciplines. Education being an interdisciplinary subject needs to benefit from the works on futurology produced by scholars of various disciplines. This is so because the children who are born in the year 1989—90 will receive their higher education around the turn of the century and enter active adult life somewhere in the second decade of the 21st Century. The purpose of this unit is to enable the readers to share with various scholars their perceptions about the future and to endeavor to delineate the details of alternative futures, particularly as they relate to the formulation of educational policies and plans for the coming generations.

1.2 Objectives

More specifically, it is hoped that the study of this Unit will enable the students to:—

1. Indicate major trends of modern life and relate them to future possibilities in various fields of human activities.
2. Identify causes of emergence of Futurology as a discipline of study and demonstrate its importance for planning and target setting for the coming generations.
3. Relate trends in futurology with education and find out their inter relationship with each other.

1.3 Significance

Man has always wondered about his future, its promises and hazards, and the ways in which it may affect him in his old age or his future generations. This has happened all along in the history of mankind. Sometimes the prophecies made by him about the future have proved to be true, or partially true or totally irrelevant. This piercing look into future has resulted in the production of immense literature in the known history of mankind. Utopia may be the best classical example of a "possible future" which never occurred. Our libraries are full of novels, short stories, fiction, essays, poems, and serious critical appraisals about the possibilities of man's future. These

possibilities range from extreme pessimism to extreme optimism. The extreme pessimists see a world doomed to vanish through war, hunger or natural calamities while the extreme optimists have the vision of a world no less attractive than the Utopia of our times. This thrust for critical look into the future has given rise to a new discipline in social sciences known as "Future Science", "Futurology", "Futuristics", or "prognostics", depending on the relevant academic context in which this term is applied. Let us for our purposes use the term futurology and see its particular relationship with the future world of education and learning.

Unfortunately while the future-oriented developed countries have not been driven by the sheer forces of circumstances but had planned for the future, and are now prepared to step into the future with confidence, we as a nation as confronted with the dual task of clearing the backlog (of so many decades or even centuries) and entering the future. Obviously nations which have not seriously attempted to foresee and plan for future, but have thrived on crises and adhocism are going to confront a more hazardous future as miracles may not be expected in this age of science and technology. Let us not overlook the fact that it is not mere curiosity but a responsibility to learn as much about the future as we can, because we must now choose those actions that will not only ensure our survival but also improve our living condition in the future as compared to what we have in the present times.

1.4 Emergence of Futurology

With this background in view, one is intrigued with the bold new emerging discipline of Futurology and may like to see how it has emerged through the ages. One may raise the following questions for inquiry:—

- Who were the main exponents of this discipline in the recent past?
- What was the nature of early predictions?
- How have these predictions ranged between "Pessimism" and "Optimism"?

At this stage, we may find it interesting to read the following two articles which provide more insights about the emergence of this discipline:—

"Robots in our boots" from the <i>Future</i> , July—August, 1985. (pp. 7—12.)	1.1
"The Art of Prophecies" from the <i>Future</i> , My—June, 1986, (pp. 8—11)	1.2

Futurology has now emerged as a discipline, which is being studied as such in many Universities of the world. What are the i) philosophical, ii)

historical, iii) artistic and iv) scientific approaches to Future, and what kinds of Futures emerge out of these approaches has been a constant question of study. Norman Henchy, summarizing various approaches, presents a schematic view of the discipline and indicates the possibilities of four kinds of future, viz:—

1. Possible Future, what may be,
2. Preferable Future, what shall be,
3. Probable Future, what will likely be,
4. Plausible Future, what could be,

These approaches are briefly explained in the following article:—

"Ways to think about the Future," from the <i>Future</i> , January—February, 1985, (pp.26—27).	1.3
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Development consciousness requires that we should not be content with the flow of the tide of future, but should endeavor to acquire the ability and skill to influence its direction. This requires the capability to foresee the alternative futures and carefully weigh their possible impact on our lives. A rigorous study of the discipline of futurology may assist in developing necessary insight and skills to foresee alternative futures and to plan our individual as well as social responses to meet the demands of these futures in a more defensible manner. One may derive some inspiration to study the new discipline of futurology from the fact that:

"The future is clearly not predetermined, as if inscribed in a great, secret book for the prophets or scholars among us to decipher. Nor is the future the accidental product of unknown and hidden forces".

What are the parameters of the new discipline may best be understood through the study of the following article:—

"Now what is use to be" from the <i>Future</i> , July—August, 1985, (pp.13—16).	1.4
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1.5 Future — Promises and Hazards

What is going to be the shape of things in the future is a question which is being raised and answered by many scholars of our time. Different authors have dealt with the question from a particular point of view. One of these scholars is Alvin Toffler, the author of "Future Shock" who has recently come out with another controversial book entitled. "The Third Wave". According to Toffler, the *First Wave* of human civilization started with the dawn of human (written) history about 10,000 years ago with the invention of organized agriculture and settlement of human beings in

established societies. The *Second Wave* was started about three centuries ago with the onslaught of Industrial Revolution. Though this wave still persists and is likely to continue for quite sometime, there are vivid sign of ushering in a new wave, called by him as the **THIRD WAVE** which will completely revolutionize human concepts and attitudes. The study is predominantly optimistic in orientation, though we may find a realistic view of trends and issues which confront mankind at this critical juncture of our existence. It may be interesting to have a recourse to the full text of this important book, if possible, but here we may suffice with a brief summary of the book from the *Future*:

"Towards a Third Wave Civilization" from the <i>Future</i> July-August, 1984, (pp. 26—28).	1.5
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You must have enjoyed reading this article. We may appreciate the fact that this book has been written in the context of an already developed western civilization, particularly the United States and its finding may have to be readjusted in a developing society like ours.

EXERCISE

At this stage we may have pause and endeavour to objectively speculate as to what would be the state of things in our own country around the year 2001 AD, particularly with regard to:

1. Demographic situation,
2. Psychological state of our people,
3. Economic conditions,
4. Social, cultural and religious environment,
5. Science and technology,
6. Communications.

Unfortunately very little work has been done on this aspect of our own development in the future. Anyhow a brief study has recently been conducted in Pakistan which may ignite the process of our thinking on this crucial aspect. It may be interesting to read the entire document, but here we may suffice by including a few extracts in our readings:

Family Planning Association of Pakistan, <i>Pakistan 2001</i> A.D. FPAP, Lahore (pp. 1—4, 51, 53, 55, 57, 59).	1.6
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Having gone through the above glimpses about our own future around the turn of the century, we may now attempt to make some projections about a few selected areas of national activity, particularly Education which is our immediate concern.

1.6 Implications for Education:

Let us now turn to our subject of interest i.e., Education directly and see as to how the education system is going to be influenced by multifarious developments which are likely to take place in population, industry, agriculture, science and technology etc. First a quick recapitulation of the major events of the past seems to be necessary to reinforce our thinking on the subject. Let us not forget the fact that education systems of our time are the products of various crucial developments which occurred in the past. For example:

- "Schools were invented in Summer in 2500 B.C.,
- Teachers contracts in 445 B.C.,
- State support for schools in 75 AD.,
- Licensed teachers in 362 A.D.,
- Schedule of teachers salaries in 376 A.D.,
- Teacher training in 1672,
- Classroom instruction in 1684,
- Vocational education in 1695,
- Compulsory attendance in 1717,
- Adult schools in 1754,
- Public schools in 1763,
- Kindergartens in 1837,
- Formal steps in teaching in 1838,
- Educational texts in 1845,
- Guidance Counsellors in 1909,
- Teacher aides in 1953,
- Educational Television in 1956,
- Programmed instruction in 1957,
- Computer assisted instruction in 1960"

EXERCISE

Keeping in view the existing trends of progress in various fields of specialization, what are some of the most likely developments which may take place in the last decade of 20th and the first decade of the 21st century. We may be wrong, but there is no harm in foreseeing some of these developments in the field of education:

	Future Development	Year
1.	-----	-----
2.	-----	-----
3.	-----	-----
4.	-----	-----
5.	-----	-----

Naturally this process has not ended and many more "inventions" of more substantial significance are in the offing. These "inventions" may alter our attitudes towards education and place more demands on the system. Let us study these possibilities and find out their implications for the future education system.

1.7 Future Challenges

Under the Future Challenges, our text entitled "Learning to be" enumerates the following trends which are bound to influence the process of education:

1. Development in science and technology
2. Gaps in economic growth,
3. Unemployment,
4. Environmental/Ecological disequilibrium,
5. Discoveries and researches in various disciplines.

How these developments are likely to influence the pedagogical process is summarized in the following sections of our text:

1. Pedagogy, ancient art and modern science,
2. Theory and Technology of Communication,
3. Intellectual revolution,
4. Integrating technology into the system.

Let us read the implications of each aspect of scientific and technological development for education in some length from our text, particularly the following few pages:—

Faure, Edgar et. el; <i>Learning to be</i> , Unesco, Pairs, 1972, (pp. 87—133).	Text 1.7
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How these changes in population, economics, sciences, and technology are changing the present context of education with long range implications for the future course of development is the subject of study of our second text entitled, the *World Crisis in education*, by Philip H. Coombs. The author has dealt with this issue from economic, political and demographic points of view and given a scenario of present educational thought system with the inescapable need of abandoning conventional methods and adopting non-conventional approaches including Non-formal education. Let us read the relevant chapter and see whether the author's warning of a world educational crisis is realistic and whether the remedies suggested by him can really work in modern times.

Coombs, Philip H., <i>The world Crisis in Education</i> , Oxford University Press, New York, 1985, (pp. 9—26).	Text 1.8
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EXERCISE

Let us discuss with some of our colleagues in economics, and relate the following economic changes suggested by Coombs to our own situation. Let us determine whether these changes are equally valid in the context of our own country in the present times. These changes are: —

1. Shift in national economies from an era of pervasive educated manpower shortages to one of manpower surpluses.
2. Major shift in the pattern of international manpower flows (brain drain and guest workers etc).
3. Sharp rise in oil prices and the severe world wide recession and accelerated inflation.
4. The advancing technologies and changing economic structures.

We may conduct similar exercises with regard to political and demographic changes suggested by Coombs with their impact on education.

1.8 The Future of Education

In a recent survey of publications on futurology and education conducted by international Bureau of Education, the authors have analysed more than 300 relevant publications available to them on the subject. They have come out with a very concise reassume of important findings of these publications under various pithy sections. They discuss various approaches towards exploration of future and indicate two general approaches which are more relevant to education: —

1. *Normative Approach*: seeking the desirable future,
2. *Objective Approach*: seeking the probable and possible future.

Let us read a summary of their findings and see as to how these two approaches are reflected in the vast amount of literature surveyed by them:

IBE—UNESCO, <i>The Future of Education</i>, IBE—UNESCO, Paris, 1981, (pp. 5—10).	1.9
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Having studied the challenges which future poses to the mankind in general and to the educationists in particular, let us now see the exact role which ought to be played by the policy makers, planners, implementers and educators in the process of integrating futuristic trends in our present day operations. This question was studied in detail in a UNESCO Regional meeting held in Bangkok from 2nd to 8th November, 1983. The report of the meeting delineates the details of the issues and themes identified for the region and the manner in which these themes will be implemented through:—

1. Organizations and structures,
2. Interaction between political and education,
3. Curriculum,
4. Resources for futures education, and
5. Personnel for futures education.

These implications are succinctly included in the last two chapters of the following report:—

UNESCO, APEID, "Futures and Educations". Report of a Regional Meeting held in Bangkok From 2nd to 8th November, 1983, (pp. 31—54).	1.10
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1.9 Self-Assessment Questions:

1. Compare early predictions' and analyse the underlying reasons of some pessimistic and optimistic predictions. (1.2 and 1.3).
2. How would you differentiate between possible futures and plausible futures. Give three examples from economics, technology and education (1.4).
3. Enumerate five major predictions of Alvin Toffler and discuss possibilities of their occurrence in Pakistan (1.5 and 1.6).
4. Discuss three important findings from research which have equal possibilities of adoption in the developing countries. State reasons for their possible adoption in Pakistan (1.7 and 1.8).
5. Philip H. Coombs has discussed various trends in education which are more relevant to developing countries. Do you consider his approach as *subjective or realistic*? State reasons for your contention (1.7)

1.10 Bibliography:

1. APEID – UNESCO, "Futures and Education" (chapter on Issues & Themes for the Region), Report of the meeting held from 2nd to 8th November, 1983, UNESCO, Regional Office, Bangkok, 1984.
2. Coombs, Philip H., *The World Crisis in Education*, Oxford University Press, New York, 1985.
3. Family Planning Association of Pakistan, *Pakistan 2001 A.D.*, FPAP, Lahore, 1987.
4. Faure, Edgar et. el; *Learning to be*: UNESCO, Paris, 1972.
5. I.B.E., UNESCO, *The Future of Education*, IBE, UNESCO, Paris, 1981.
6. "Now what it use to be" from the *Future*, July—August, 1985.
7. "Robots in our boots" from the *Future*, July—August, 1985.

8. "Towards a Third Wave Civilization" from the *Future*, July—August, 1984.
9. Toffler Alvin "Future Shock" Bantam. 1971
10. "The art of Prophecies" from the *Future*, May—June, 1986.
11. "Ways to think about the Future," from the *Future*, Jan—Feb., 1985.
12. UNESCO, APEID, "Futures and Education", Report of a Regional Meeting held in Bangkok from 2nd to 8th November, 1983.

UNIT-2

SOCIAL CHANGE AND EDUCATION

2.1 Introduction

Although mankind has always faced the dilemma of readjustment of its philosophical and social perceptions with the changing times, but the phenomenon of change has assumed new alarming proportions in our times. With the rapid growth of science and technology, means of communication and transport, and expansion of educational facilities, the social systems are undergoing immense changes resulting in recurrent changes in all aspect of life political, economic and educational institutions are under direct pressure of constant rehabilitation of their roles in society. This unit discusses the phenomenon of social change and its impact on education and analyses important issues like conservatism, gaps between expectations and responses from education, and some of the socio-economic factors affecting education in the developing countries as well as Pakistan.

2.2 Objectives

It is assumed that the study of this unit will enable the students to:

1. Describe the meaning of social change, in terms of its direction, form, source, cause, and control mechanism.
2. compare the relationship between "conservatism" and "innovation" in the context of education,
3. Indicate the gaps between expectations and responses from education in the modern societies,
4. identify current socio-economic characteristics represented by various schools of thought and their implications for education,
5. explain the social, political, and economic forces which are affecting the process of development of education in Pakistan.

2.3 Significance

The twentieth century has witnessed an upheaval of societies resulting in fundamental changes in the political, economic, cultural and intellectual thought systems both in the developed and developing countries of the world. This indeed has been the century of accelerated social change which has immensely influenced our concept of education and led to radical reconstruction of education theories and practices precisely opposite to the intellectual orientation of nineteenth century. Perhaps the most spectacular development in all societies has been the Application of science and technology in every day life. The phenomena of modern social realities cannot be understood except in terms of extent of social change that has been leashed out in our times. It is an established truism that we cannot possibly endeavour to discern the scenario of our times without grasping the imperceptible forces of social change which have shaken the entire fabric of

social institutions all over the world. Certainly all social changes may not bring improvement as they may occur as a result of chance conditions not subject to human control and may prove to be erratic and devoid of direction. Such changes need renovation and adjustment to operate satisfactorily. The process of education cannot be defined in isolation from the social changes which are fast taking place at macro (international) and micro (nation./state) levels. It may seem to be paradoxical to state that education is both instrumental to social change as well as by-product of such a change in most of the societies. The role of education viz-a-viz social change may however vary from society to society depending upon the control systems of various societies and amount and nature of freedom available to its citizens. The process of social change is the result of so-called "disruptive forces" which disturb the equilibrium in the social order. The pendulum constantly swings between "conflict" and "equilibrium" and maintains a subtle balance which produces social order in all organized societies. In order to be effective to perform their role as a dynamic force, all social institutions must respond and readjust themselves to the forces of social change – more so the institution of education which has the dual responsibility of generating change and readjusting itself to the social changes prevalent in a society at any point of time. It, therefore, befalls upon educationists to study the nature of social change and its implications for education in a free democratic state which is on the threshold of entering the twenty first century with confidence and ambition for accelerated growth and progress.

2.4 Meaning of Social Change

In order to understand the nature and extent of social change in modern times, we need to comprehend the forces which are affecting societies all over the world. As a matter of fact the pressure of changes in certain societies has intensified to such an extent that social structures are crumbling at an incenssant rate. Can the process of social change be controlled to shape the future of societies in a positive manner is a crucial problem which is being raised by sociologists. Because of rapid social changes, man is finding stresses and strains of adjustment and readjustment to changing social conditions. We believe in one set of norms and values for sometime and sudsdently we come to know that these norms and values cannot be adhered in changed circumstances. This shatters our attitudes about people and institutions. We are constantly Struck up in a circle of "rehabilitation" of our relationship and attitudes.

Kingsley Davis, in his article on the Meaning of Social Change, raises certain very important question like:

- a) What is the *direction* of social change? (Is it toward some goal, some catastrophe, or toward mere extinction?)
- b) What is the form of social change? (Is it more rapid now than in the past, and will it be more rapid in the future?)
- c) What is the *source* of social change? (Is it a matter of borrowing or a matter of independent invention?)
- d) What is the *cause* of social change? (Is it some key factor that explains all change, a prime mover that sets everything else in motion, or is it many different factors operating together?)
- e) What is necessary for the *control* of social change? (Can we regulate and guide it in the direction of our heart's desire?)

These are some of the perplexing issues which agitate the minds of all intellectuals in modern times. The role that education can play in our context is inextricably riveted with the answers to these questions as education occupies a key position in all societies. Let us share with Kingsley Davis his perceptions about these questions from the following article:

Davis, Kingsley, "The Meaning of Social Change" from <i>Society, Today and Tomorrow</i> (edited by Hunt, Elgin F.Karlin, Jules), Collier Mc Millan Ltd., 1969, (pp. 97—104).
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2.1

2.5 Conservatism in Education

By and large educational institutions tend to the conservative and resist all kinds of change. It is because of the routine nature of the educational process which has overtaken the institutions leaving no room for creative and innovative activities. The educational administrators also argue that it is only through maintaining an equilibrium that we can ensure optimum results in a syllabus ridden institution.

Morrish has elaborated reasons for this attitude in terms of a) input, b) output, and c) thorough put factors in the following book:--

Morrish, Ivor, <i>Aspects of Educational Change</i> , (Chapter—8: why schools change so slowly) George Allen and Unwin Ltd., London 1976, (pp. 55—70).	2.2
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Morrish has rightly concluded that it is a different thing to dictate innovations to the staff than to enable them to create some thing new themselves. Innovations so dictated will operate only superficially and vanish with the change of the existing administrative set up. He finds the teacher training system lacking in stimulation for creation of awareness for new ideas and improvements. In order to be effective, these institutions must adopt some of the methods from commerce and industry which enterprises. The teacher trainers should also be required to teach in ordinary schools and colleges to reorientate themselves about the present day problems confronting educational institution.

2.6 Gap of Expectations and Responses from Education

Another persistent social conflict exists between the rising expectations of parents and students and decreasing response from the educational system to meet these expectations. This has given rise to the crisis of confidence about the viability of institutionalized education system as a vehicle of change and improvement towards the end of 20th century. There are serious doubts concerning the goals of educations between various pressure groups each defending a position which leads to incompatible consequences. This has given rise to movements like "Deschooling Society" and "By passing formal education" etc. Husen Torsten has analysed the social and economic problems which are confronting industrialized societies and are also likely to affect other societies in a varied manner.

Husen, Torsten, <i>The School in Question</i> (Section on over-riding Issues), Oxford University Press, New York, 1979, (pp. 177—181).	2.3
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2.7 Current Socio-economic Characteristics and Education

Since the second world war, our attitude towards education has undergone significant changes. The system itself has shifted to a central position in terms of financial allocations in many developed countries. Generally financial layouts for education are second or third in terms of national priorities. According to the Faure report, three trends in our current thinking on education are of crucial significance. These trends are:

1. Development of education on a world wide scale which is tending to precede economic development,
2. Education is now engaged in preparing men for a type of society which does not yet exist,
3. Societies are tending to reject many of the products of institutionalized education.

To meet these emerging demands of our times, various movements have been started to ameliorate educational conditions all over the world. These movements range from initiating educational reforms, undertaking structural transformation of the system, 'de-institutionalizing' education to radical dissent by the users in the form of political reaction.

The Faure Commission also raises certain important question about the relationship of education and society in our times. One of the finding of the Commission states that education is "subject to society, while contributing to its goals, and in particular it helps society to mobilize its productive energies by ensuring that required human resources are developed". The commission then analyses the four schools of thought on the relationship of education and society:--

1. Idealism,
2. Voluntarism,
3. Mechanistic determinism,
4. Social subservience.

After detailed analysis of all the four schools of thought the commission concludes:--

- a) It is far more necessary today than in the past for reforms in education to have social and economic development objectives,
- b) It is hard to conceive of society developing without a renewal in education.

Let us read further details about this vital relationship of society and education from the following sections of our Text: —

Faure, Edgar, et. el; "Learning to be", <i>ibid</i> , Current Characteristics (pp. 12—23) and Education and Society, (pp. 55—61).	Text 2.4
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2.8 Changes in Educational Thought

Philips. H. Coombs has traced the origins of modern educational thought and analysed the three elements of our traditional thought which have been radically challenged in recent times. They are:

1. that schools, and *only* schools, could meet all the essential learning needs, of individuals,
2. that this could be accomplished, one and for all, during an individual's school age years,
3. that anyone who lacked proper schooling was ipso facto uneducated (that is, ignorant).

Coombs has critically gone through the social and economic forces which have affected our outlook towards education and given rise to concepts like "life long education", "non formal education", "integrated education", and "Community based education" etc: Let us go through Coombs' analysis of situation from our text:

Coombs, Philip H, "World Crisis in Education", Ibid, (pp. 20—32)	Text 2.5
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2.9 Socio-Political Forces Affecting Education in Pakistan

Unfortunately objective literature is not available on current social, economic and political trends which are affecting education in Pakistan. For obvious reasons scholars analyzing current situation either escape crucial issues or tend to adopt a more comfortable posture of allying with one or the other pressure groups. Our recent history is full of turmoil which has yet to assume a definite orientation. We may have to study a variety of literature on the current socio political trends and form our own opinion in a more professional manner. Inter alia we may also refer to our own prescribed text by Hayes and critically analyse his observation on the current situation in Pakistan.

Hayes finds that some of the perennial issues which confront education in Pakistan are:

1. Political instability,
2. Lack of continuity of Constitutions,
3. Poverty; Rigid classification of economic groups,
4. Illiteracy,
5. Population pressure, and
6. Unemployment.

Hayes also analyses the socio-political orientation of various educational reforms and concludes that "Pakistan's educational labours have been Herculean in scope which probably accounts for the fact that these labours have brought forth modest results. Among the many reasons for this indifferent record are burgeoning school populations, limited budgets, political instability, erratic planning and continuing indecision over educational philosophy and goals" (p.3). Let us read relevant sections from Hayes to find the roots of various problems and the efforts made by different governments to overcome them through various reforms in education:

Hayes, Louis, D., " <i>The Crisis of Education in Pakistan</i> ", Vanguard Books Ltd., Lahore, 1987, (pp. 1—56)	Text 2.6
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2.10 Self-assessment Questions

1. Enumerate the output factors discussed by Morrish Ivor and relate them to present day situation in Pakistan. Elaborate reasons for your *agreement or disagreement* or with Morrish on each factor.
2. Analyse the equality versus meritocracy dilemma of our times presented by Torsten Husen. Discuss the pro and con of both the approaches and propose a balanced approach for development of education in Pakistan.
3. Critically examine the implications of the following four schools of thought for education:
 - a) Idealism,
 - b) Voluntarism,
 - c) Mechanistic determinism,
 - d) Social subservience.
4. How does Coombs define "learning network". Is the concept equally applicable in Pakistan, particularly in view of the existing socio economic pressures confronted by the nation.
5. According to Hayes, the most significant part of the policy (1972) in terms of its impact was the nationalization of privately managed schools. Analyse the nationalization process in Pakistan, with particular reference to:
 - a) Socio-economic development,
 - b) Egalitarianism,
 - c) Productivity,
 - d) Public versus Private Enterprise.

2.11 Bibliography

1. Coombs, Philip II., *"The World Crisis in Education"*, Oxford University Press, New York, 1985.
2. Kingsley, Davis, "Meaning of Social Change", from Hunt Elgin, F. & Karlin Jales, *Society, Today and Tomorrow*, Macmillan, London, 1965.
3. Faure, Edgar, et. al; "Learning to be", (Current Characteristics and Education and Society), Ibid.
4. Havighurst, Robert J., "How Education Changes Society", from Hunt, Elgin, F., & Karlin Jales, *Society, Today and Tomorrow*, Ibid.
5. Hayes, Louis, D., *"The Crisis of Education in Pakistan"*, Vanguard Books Ltd., Lahore, 1987.
6. Husen, Torsten, *"The School in Question"* (Section on overriding Issues), Oxford University Press, New York, 1979.
7. Illich, Ivan, *"Deschooling Society"* (Why we must disestablish school?), Calder and Boyers, London, 1974.
8. Morrish Ivor, *Aspects of Educational Change*, (Chaper—8: Why schools change so slowly) George Allen and Unwin Ltd., London, 1976.

UNIT-3

**IMPACT OF SCIENCE AND
TECHNOLOGY ON EDUCATION**

3.1 Introduction

With the evaluation of human civilization, mankind has demonstrated its ability to conquer and harness natural forces for its development and welfare. Twentieth century has witnessed large scale introduction of new scientific concepts and technologies for moulding economic, social and educational systems, and transforming them in accordance with specific national policies. Unfortunately the rate of development of scientific and technological knowledge has remained widely different in the developed and developing countries of the world. This is because of our social and cultural attitudes towards scientific knowledge on the one hand and because of long colonial traditions of education which de-emphasised these disciplines on the other. The situation is, however, now changing and there seems to be no obvious bottlenecks at least at the policy level for the promotion of these disciplines, though their policy assertions are seldom translated into corresponding financial outlays for science and technology. In view of the increasing impact of science and technology on society in general and economics, culture and education in particular, it is of utmost relevance to study the nature and extent of scientific and technological revolution (STR) and analyse its useful and hazardous aspects as well as its implications for the development of a sound basis of education for the coming generations.

3.2 Objectives

It is hoped that the study of this unit will enable the students to:-

1. demonstrate the nature of science and establish its relationship with life
2. indicate the manner in which the scientific and Technological advancements have revolutionized the essence of society and culture in modern times.
3. identify various trends in science and technology and project their possible impact on society around the turn of the century.
4. enumerate various development which have taken place in science and Technology Education and describe the manner in which the developing countries are responding to the situation because of stringent economic conditions.

3.3 Significance

Ever since the Industries Revolution, intensive competition has been triggered for scientific and technological advancement among the western nations. This advancement was basically necessary for dual purpose of economic progress at home and world conquest or colonialization abroad. While the ill effect of this progress were known by people in the form of race for new arms and ammunition, culminating in two world wars and innumerable small scale battle, the positive effects are equally astounding and merit through consideration. These effects have not remained restricted to the developed world alone, but have reached all people of the world even in the far flung and remotest areas of Africa, Asia and Latin America. This phenomenon has not only affected the visible forms of modern day living, but also touched the core of every culture and society. According to Faure report, the scientific and technological revolution of our times has conquered the mental world with immediate transmission of information over any distance and the invention of increasingly perfected, rationalized calculating machines known as the computers.

One of the major problems confronting mankind today is the influence of science and technology on society in general and culture in particular. It is believe that the mechanized process has immensely affected our attitudes, beliefs and philosophies. This impact on mankind oscillates between extremely positive to extremely negative. While the positive effects are so obvious as they have opened new vistas of excitement, discovery, entertainment, communications and education, the dangerous implications of these development are equally abhorring. A major chunk of world financial resources is pumped to the scientific and technological development in the field of arms and ammunition. More than one quarter of all the scientists and engineers are engaged by military and para military establishments. The results of these scientific researches and technological advancements are obvious. The so-called developed countries now possess an arsenal of warfare devices which can destroy the entire mankind in a matter of hours. This indeed is a dangerous phenomenon which needs to be studies and corrected.

3.4 Definition

At the outset, it seems necessary to define Science and Technology so as to develop common denominators for these terms:

WHAT IS SCIENCE

Science may be defined as mankind's organized attempt, through the objective study of empirical phenomena, to discover how things work as causal systems. By means of systematic

Thought, expressed essentially in the symbols of mathematics, it brings together the resultant bodies of knowledge in an effort to reconstruct the world a posteriori by the process of conceptualization. Its purpose is not to invent but to comprehend. The science thus constitutes an interlocking complex of attested fact and speculative theory, with the essential proviso that theories must be capable of being tested experimentally.

One might add that there is in fact a modern school of thought which tends to attribute to the concept of science an even wider definition, seeing it as embracing the whole range of intellectual and imaginative effort whose goal is to establish a consensus of rational opinion over the widest possible field. (1)

WHAT IS TECHNOLOGY

Technology denotes the whole—or an organic part—of knowledge about: (a) scientific principles or discoveries; (b) industrial processes; (c) material and energy resources; (d) methods of transport and communication, so far as it relates directly to the production or improvement of goods and services. Engineers, whose task it is to apply technology to development, are thus dealing with the conception, design and application of new form of equipment, machines or installations, and with ensuring the most efficient and economic means of achieving defined objectives by such means. (2)

DEFINITION OF SCIENTIFIC AND TECHNOLOGICAL REVOLUTION (S.T.R.)

While in the past revolutions in natural science and technology sometimes did and sometimes did not coincide in time, now they become a single united process of the scientific-technological revolution.... The scientific—technological revolution has led to a new relationship between science and technology.... Science becomes a direct part of the production process so that the process itself changes. (3)

1. Traverso, Adriano, Buzzati, *The Scientific Enterprise: Today and Tomorrow*, Unesco, Paris, 1977 (P. 25).
2. "A Selection of working Definitions used in Science Policy," Unesco Paris, 1970 (Unesco Document No. NS/ROU/207 Prov.)
3. Traverso, Adriano Buzzati, *The Scientific Enterprise: Today & Tomorrow*, Unesco, Paris, Ibid, P.26.

3.5 Role of Science in Life

Illustrating the interesting role which science plays in our life in present times, Traverso states that "Science is a game: it can be exhilarating it can be useful; it can be fright-fully dangerous". He raises a series of provocative questions and attempts to answer them in his most illustrations work entitled, "The Scientific Enterprise, today and tomorrow" These questions are reproduced from the Preface as below:—

1. What have been the true benefits of science to man and his institutions?
2. Is it possible for developing lands to absorb the shock of technology transfer on their ancient, tradition dominated cultures without destroying these?
3. Do we really need Science and Technology?
4. Dare we even continue to engage in laboratory research and experiments?

Professor Traverso considers science as the *prime mover* of our times and explains why he does so. He highlights the role of science in.

- a) the evolution of civilization alongwith philosophy originating from the thoughts and deeds of the Greeks upto the rise of modern science and Enlightenment,
- b) development of critical awareness through a constant incompatibility of approaches of philosophy and science—which are not mutually antithetic, but share the common ground of *rationality*;
- c) the great thrust given to scientific thinking through discoveries in astronomy, and the scientific experiments since Renaissance,
- d) Scientific and Technological Revolution (STR) of modern times which has made "Science as the Measure of Man",
- e) Science as an Exhilarating Experience for individuals who engage in experiment and public at large who knows about these experiments and their possible impact on public life.
- f) Science and Technology as a useful activity resulting in series of discoveries, inventions and conceptual movements (The major scientific and technical landmarks from 1900 to 1975 give an impressive list).

Let us go through the introductory pages from Traverso's book and directly enter the exhilarating world of Science and Technology shown by him:—

Traverso, Adriano, Buzzati, "The Scientific Enterprise, Today and Tomorrow" Unesco, Paris, 1977, (pp. 3—6, 11—25)	3.1
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EXERCISE

Discuss the major scientific and technical land marks from 1900 to 1975 with some of your senior colleagues and friends who have long experience of working in any aspect of science and technology and;

- a) Identify such developments which have already been introduced in Pakistan in one form or the other,
- b) What are the possible bottlenecks in the acceptance/introduction of other developments which have not yet gained any ground in Pakistan,
- c) What are the major developments which have taken place in science and technology since 1975.

3.6 Technology in Socio-Cultural Context

With the onslaught of scientific and technological advancements, man is beginning to realize that this progress has overturned the traditional values and shaken the cultural equilibrium. While scientific development plays a decisive role in material development, its neutrality about value systems and cultural patterns tends to de-emphasize their importance in the decision making process. Rather than occupying the role of a sub-system within a culture, scientific-mindedness tends to assume a leadership role and thus starts militating against the very culture of which it is a vital component. This threatens the established attitudes, beliefs, customs and traditions, resulting in either progressive disintegration or the development of new forms of culture. According to some authors, the modern social, political and economic movements appearing in the form of capitalism, socialism, and communism etc. are indeed our reactions to the scientific and technological advancements of various societies.

According to Maclver and Page, the mechanization process triggered by these developments has profoundly altered our modes of life and also of thought. Their article on "Technology and Social Change" critically examines the impact of mechanization process on various aspects of life. Let us go through this succinct article and see what these implications really mean in our context: __

Page, Charles H., & Maclver, Robert M., "Technology and Social Change" from <i>Society Today and Tomorrow</i> , Ibid., (pp. 111—116)
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3.2

3.7 Challenge of Science & Technology

The challenge of science and technology is all pervasive. The amount of knowledge which is being created may be guessed from the fact that more than 90 per cent of scientists and inventors of all human history are our contemporaries. The gap between a scientific discovery and its application has diminished with the availability of a visible technological base in the second half of the twentieth century. Faure Commission has rightly observed that the "prospects for scientific development are exciting, impressive and at the same time terrifying". The challenge lies with our generation to maximize the advantages of STR (Scientific and Technological Revolution) and to minimize its possible harmful effects. Some of the prerequisites for effective, humanistic application of science and technology may be considered as below:

- It requires adopting a scientific frame of mind.
- It requires the conviction that STR is not an end but a means for welfare of mankind,
- It require inculcation of scientific humanism and tolerance, the best instruments for which are, relativity and dialectical thought,
- It require quest for new values, through creative, non-conformist and seeking spirit.

Let us directly read from our text to find out the STR challenges of our times and to grasp the meaning of scientific mindedness, scientific humanism and creativity.

Faure, Edgar et. el; <i>Learning to be</i> : Ibid, (Challenges, pp. 87—92), (Scientific humanism, pp. 146—148, and Creativity, pp. 148—150).	Text 3.3
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3.8 Science and Technology Education

Having studied the predominant role which Scientific and Technological Revolution (STR) is playing in social, economic, and cultural development of a country, let us now concentrate on Science and Technology Education. The enrichment of science and technology education through primary, secondary, technical and higher education is essential to produce the manpower which is required to man the specialized positions in both the public and the private sectors. The supply of manpower through educational institutions must correspond in quantity and quality to the jobs being offered

by the national economy. This requires a very systematic manpower planning because production of one additional Ph. D. in a specialized subject like micro biology may cost the nation around half a million rupees, while the production of one M.B.B.S doctor or an engineer may cost around 4,00,000/- rupees. If each of them is not absorbed in the national economy, one may imagine the colossal loss which a developing country like ours will have to bear because of unplanned supply of graduates in various fields of specialization.

On the qualitative dimension, we need to adopt a prognostic outlook as the students who are opting for science subjects today will play their active role in national economy after about one decade. The educational planners engaged in curriculum development and revision process must foresee the complexity of scientific and technological operations in the future to develop a viable curriculum for secondary, technical and higher educational institution.

I.B.E. Unesco has surveyed the science and technology education problems and prospects under the following important topics:

- a) S&T Education and national development,
- b) Relevance of education in S&T,
- c) S&T education and future human needs,
- d) S&T education for all,
- e) Production of low cost equipment and teaching material,
- f) The use of educational technology in S&T education.

The survey also includes a summary of various recent developments in particular fields such as integrated science education, mathematics education, technology education and out-of-school and non-formal S&T education. Let us go through the article to find out the impact of S.T.R. on educational programmes:

I.B.E unesco, <i>Science and Technology Education</i> , Information File no. 4, 1986, IBE-UNESCO, Geneva, (pp. 3—16).	3.4
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Philips H. Coombs has also critically analysed the increasing role which science and technology play in the education of both the developed and developing countries. Because of pressure from various groups of society, the emphasis is not to produce more scientists and technologists, but to produce a generation which is more conscious about the impact of science and technology on modern society, whom coombs calls as "scientifically

literate citizens". Coombs also highlights the problem of training and retaining science and mathematics teachers.

The question of definition of science and technology has also seized the attention of educationists. According to coombs, science is absolutely international in nature as "fire burns the same in Greece and India ", while technologies are more restricted to the societies where they have originated. That is why the new field of "appropriate technologies" for the developing countries has emerged in literature on education. In this context, coombs also gives specific objectives for the following kinds of education:--

- a) Science education,
- b) Technology education,
- c) Vocational education.

Towards the end, the author also spells out the implications of science and technology for our civilization in general, and for the systems and method of education in particular. He shares with John Vaizey the perception that with the rapid changes in science and technology, the systems of education have the real danger of falling in to the inevitable lag in adopting to their rapidly changing environment, and raises the bold question if education will become a dinosaur of modern civilization? Let us read directly from coombs:

Coombs, Philip H., <i>The world crises in education</i> Ibid, (pp.246—250).	Text 3.5
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3.9 "Future shocks" of Science and Technology

Keeping in view the present rate of development in science and technology, one may be thrilled to foresee the astonishing impact of technological changes on society around the turn of the century. For this we may refer to Alvin Toffler's classic book entitled, "Future Shock" and read a few extracts on Technological change. According to Toffler, normal human beings may find it difficult "to keep up with the supercharged pace of change" and many of them "will plunge in to future shock". In a highly convincing style, Toffler recounts the present trends of developments in various aspects of technology and foresee the stupendous impact of this "great growing engine of change" on entire socio-economic structure of the future societies. In this brief extract, he visualizes the impact of technology on urbanization, transportation, computer science and communications.

Toffler, Alvin, "Technological Change" extracts from <i>Future Shock</i> in Cross Nigel et. el.: book entitled, "Man -Made Future," Hutchinson, Educational, London 1974, (pp. 39—48).	3.6
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3.10 Self-Assessment Questions

1. Is the scientific process neutral in its approach towards culture and society. Discuss the role of scientific thinking in modern times and offer arguments *for* and *against* this claim.
2. Has the mechanization process affected the life style in the rural Pakistan? If so, discuss the nature and extend of changes brought by this process in a typical rural community of our country.
3. Define relativity and dialectical thought in science and demonstrate their role in developing tolerance and scientific humanism.
4. Critically examine the science education curriculum of secondary level in Pakistan and identify five major areas which need immediate improvement.
5. Are the "Future Shocks" given by Alvin Toffler *visionary*, or *realistic*. Substantiate your view-point with sound reasoning based on present trends and developments.

3.11 Bibliography

1. Coombs, Philip H., *The world Crisis in Education*, Ibid.
2. Faure, Edgar et. el.: *Learning to be* : Ibid.
3. Galbraith, John Kenneth, "The Imperatives of Technology" from Cross Neigel et. el.; *Man Made Future*, Hutchinson, educational London, 1974.
4. I.B.E. Unesco, *Science and Technology education* Information File No. 4, 1986, IBE—Unesco. Geneva.
5. Jones, J. Christopher, "The Need for new Methods", from cross Neigel, et. el.; *Man Made Future*, Ibid.
6. Page, Charles H., & Maclver, Robert M., "Technology and Social change" from *Society Today and Tomorrow*, Ibid.
7. Traverso, Adriano, Buzzati, "The Scientific Enterprise, Today and Tomorrow", Unesco, Paris, 1977.
8. Toffler, Alvin, "Technological Change" extracts from *Future*.

UNIT-4

**POPULATION DYNAMICS AND
SOCIO - ECONOMIC DEVELOPMENT**

4.1 Introduction

The classical observation of Thomas Malthus that "the power of population is infinitely greater than the power in the earth to produce subsistence for man" is perhaps more valid today than two centuries back when it was made by him. Obviously, the world and its resources are finite and, therefore, there has to be an absolute upper limit of the size of population which can be efficiently supported by these resources. The following figures will show the rate of increase of population in the world during the last 2500 years:-

Year	Estimated Population
500 B.C.	150 million
001 A.D.	250 "
1000 A.D.	350 "
1600 A.D.	500 "
1650 A.D.	550 "
1750 A.D.	750 "
1800 A.D.	1000 "
1900 A.D.	1600 "
1930 A.D.	2000 "
1960 A.D.	3000 "
1975 A.D.	4000 "
1987 A.D.	5000 "

The doubling time for the world population has been:

From	To	Period in Years
0	1650 A.D.	1650
1650	1850	200
1850	1930	80
1930	1970	40
1970	2000	30

The rate of growth can be visualized from the fact that more than 65 million people are added to the world population every years. Out of these 65 million, 3 million people are added in only one country - Pakistan. What are the implications of this tremendous growth of populations in the world and Pakistan in terms of socio-economic development of the people in general, and particularly for education, is the main question, which has been addressed in this unit.

4.2 Objectives

It is assumed that the study of this unit will enable the students to:

- a) analyse the world population situation and find out its impact on the developing countries of the world.
- b) Demonstrate relationship between size of population and essential aspects of socio-economic development viz: per capita income, housing, employment, health, agriculture, transport, communications, literacy and education.
- c) Indicate future trends of population growth in the world and find out its dispersal in various regions of the world.
- d) Identify important dimensions of population phenomena in Pakistan and relate these dimensions with development in various sectors of economy.

4.3 Significance

By far the most crucial factor affecting education in present era is the explosive growth of population resulting in tremendous increase in the number of children in the school age group. The pressure is more acute in the developing countries where, according to Philip H. Coombs, the educational systems "have to run fast just to stand still in relation to their existing participation ratios and faster yet to gain new ground". Internationally speaking, there has been an increase of about 200 million children in the primary age group in developing countries of the world between 1960 to 1980. As such the huge educational burden is falling largely on the countries which are already facing critical back logs of out-of-school children.

In Pakistan, the present population of school age children (5-10) is estimated to be around 14 million out of whom only 9.5 million children are enrolled in schools (both public and private). This constitutes only 65% of the total children of the relevant age cohort. Sexwise participation rate for male and female population is around 80% and 46% respectively. In quantitative terms what it means is the fact that Pakistan has a back log of about *Five* million children who continue to be deprived of any education. If it is decided to universalize primary education today, we will have to create schools, provide furniture and teachers for five million children. Added to this is the critical phenomena of addition of three million children. Every year. The present school facilities can hardly accommodate 2.2 out of 3.0 million additional children per annum. The position of literacy is as dismal as it was two decades ago. Hardly 27% people are literate, while the rate of literacy for female population in the rural areas is among the lowest in the world.

What kind of school are we giving to our children? According to a national survey, about 1/3rd schools are shelterless; they do not have any furniture whatsoever, and the average number of teachers per school is only 2.5 against a minimum requirement of five teachers plus a whole, time headmaster-headmistress to manage and supervise the institution. The situation at other levels i.e. secondary and college is equally dismal. The participation rates at middle/high/college levels are 30, 18 and 3 percents only against world average of 46, 28 and 8 percents for the developing countries. Pakistan is spending only 2% of its G.N.P. for education against a world average of 3% for the developing countries. The situation is more critical for Primary education in the country. Keeping in view the existing resource position of the country, is it really possible to increase the allocations for just one sector of education at such a stupendous rate? What about middle, high college, university, professional, technical and vocational education? This is just one implication of the population pressure. The *three* million additional people would also need food, health facilities, transport, shelters, and above all employment. Is it really possible to increase all these facilities indefinitely without *controlling* the present trends in population growth? These and many other similar questions have seized the attention of educational planners in the country. It is high time that population pressure is considered as the No. 1 problem of the country as it threatens to shatter the entire socio-economic fabric of our society.

4.4 Future Population Situation and Resource Constraints

One of the major problems confronting policy makers and planners all over the world is the question of exact projections about the rate of world population growth in the future. In this connection, various international agencies, particularly the United Nations has made various forecasts based upon certain assumptions. Following are the world population estimates by U.N. for 2000 A.D.

U.N. low variant	5.5 billions
U.N. medium variant	6.1 billions
U.N. high variant	7.0 billions

In July, 1987, the world has already crossed the 5.0 billion population figure. Therefore, the first assumption does not appear to be realistic any more. There is no doubt in the fact that the birth rate has dramatically decreased in the world. But this tendency is not uniform in various regions of the world. Unfortunately, the decline in fertility is not very conspicuous in the developing countries of Asia, Africa and Latin America, whereas zero population growth has been achieved in Europe, U.S.A. USSR, Canada, and Japan. This question has been analysed in depth by Paul

Demeny and Leon Tabah for the International Conference on Population held in Mexico City in August, 1984.

Another important question for the future is the availability of resources to meet the challenge of the growing population. In 1983, an historic statement on population and natural resources was approved by the IUCN (International Planned Parenthood Federation). The document is entitled as "World Conservation Strategy". It discussed the following resource challenges which are likely to be confronted by mankind in the future:-

1. Biological diversity – preservation of various important animal and plant species,
2. Cropland resources,
3. Food resources,
4. Water resources, and
5. Energy resources.

Let us go through these three important articles from the quarterly PEOPLE and find for ourselves the future challenges of population pressure and resource constraints:-

Demeny, Paul, "1984 and After" Tabah Leon, "Spirit of the Future", IUCN – IPPF, "Population Trends – Resource Challenges", from the quarterly PEOPLE, IPPF, London, Vol: II, No. 1, 1984, pp. 5-8, 9-11, and Earthwatch supplement pp. 2-6.	4.1
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EXERCISE

Discuss the problem of increasing population pressure with two experts, one each in agriculture and energy and find out implications of rapid population growth for these two vital sectors of economic development in Pakistan.

4.5 Educational Implications of Population Trends

The last two decades have witnessed tremendous increase in social pressure for expansion of educational facilities and their qualitative improvement. According to Coombs, "the most important of these powerful forces are; a) population growth and migration, b) urbanization, c) advances and knowledge and technologies, and d) social and economic changes, and not least, e) national development strategies, and f) growing international interdependence". The pressure of these forces is more acute in developing countries, and it is likely to intensify by 2000 A.D. when 80% of the

projected 6.2 billion people of the world will be living in these countries. It has been estimated that fifty per cent of the increase in primary level enrolment between 1960 to 1980 was offset by population growth. According to Coombs, the education systems of developing countries have to run fast just to stand still in relation to their existing participation ratios and faster yet to gain new ground.

Coombs has analysed the situation from various angles, particularly, the following:-

- a) Uneven geographic and age distribution
- b) Migration and urbanization,
- c) Conditions and Learning needs in rural areas.

Let us go through Coombs' analysis from the text.

Coombs, Philip H., <i>The World Crisis in Education</i> , Ibid., (Chapter-2: the Rapid Growth of Learning Needs) pp. 33 - 65.	Text 4.2
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4.6 Increasing Demand for Education

According to Faure Commission Report, although the 'population explosion' reality is much publicised, yet for our purposes, the more relevant issue is the phenomenon of "pupil explosion". The demand for education has increased more rapidly than demand in any other social sector. It can be demonstrated from the fact that while the overall increase in the world population between 1960 to 1968 was in the vicinity of 17 per cent in 8 years, the corresponding increase in the school age (5 to 19 years) population was approximately 20 per cent during the same period. According to the Report, it is estimated that by 2000 A.D., the number of people in the school and university age groups will increase by more than 1000 million, or the world is adding an additional population of 36 million "potential students" per annum. Needless to mention that this pressure will become more acute in the developing countries of the world. The report spells out the following issues/pertaining to this critical situation in a convincing manner:-

- a) Economic development requirements and their impact on education,
- b) Political considerations such as reduction of illiteracy for forging national unity, and equating education with national emancipation and decolonization process,
- c) Social demand from community and parents who consider

According to the authors of the report, the reasons may be varied in various countries or regions, but the fact remains that educational expansion has become a universal historical phenomenon which is irreversible. The impact of this phenomenon is very crucial in the following sub-sectors:-

- 1) Primary education,
- 2) Literacy,
- 3) Financing for education,
- 4) Regional disparities in education,
- 5) Education for girls and women.

Let us read relevant sections from the Report for a clearer perception of the situation.

Faure, Edgar, et. el.; <i>Learning to be</i> : Ibid., Chapter-2 on Progress and Dead Ends including Sections on Needs and Demand, Expansion and Limits, Resources and Mean, and Imbalance and Inequality), pp. 24-25, and <i>Gaps</i> , pp.92-99.	Text 4.3
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4.7 Demographic Situation of Pakistan

The most important single factor which affects socio-economic development in Pakistan is its demographic situation. With roughly 33 million people in 1947, our population has increased three times in forty years. The present population of the country is around 110 million (1988-89 estimates) and it is expected to reach a figure of about 147 million by 2000 A.D. The current rate of growth is around 2.9 per cent per annum while the rate of growth in other South Asian countries does not exceed 2.0 per cent per annum. Pakistan is doubling its population exactly according to Malthusian prediction of 25 years, while other South Asian countries will double in 40 years. Perhaps the implications of this phenomenon will be most colossal for the education and health sectors as Pakistan will add 30 million children to its population in about a decade. This means that we will have the highest dependency ratio amongst the developing countries of the world.

This alarming situation needs to be critically studies with particular reference to the following dimentiosn of the population complexio:-

- a) distribution and density of population by provinces,
- b) Rural-urban distribution and migration,
- c) International migration,
- d) Age and sex composition,
- e) School age population,
- f) Female population of child bearing ages.

- g) Working age and dependent population.
- h) Fertility and morality levels.

Let us study the populations situation of Pakistan from the following relevant book:-

Rukunuddin, Razzaq, and Faruqi, Nasim Iqbal. <i>The state of Population in Pakistan</i> , N.I.P.S. 1988, pp 11-15, 21-22, 31-38, 45-46 and 67- 69.	4.4
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4.8 Population Pressure and Socio-Economic Development in Pakistan

If the present trend of increase @ 2.85 per cent per annum continues, the population of Pakistan will be around 147 million by the year 2000 A.D. How this annual addition of about 3 million people in the population of Pakistan is going to affect the various sectors of socio-economic development of the country is perhaps the most critical question which must seize the attention of policy makers, planners and intellectuals of the country. It is estimated that about 40-50 billion additional rupees are required to be invested every year to maintain the present level of per capita income and consumption. In terms of per capita income Pakistan ranks 116th among 144 countries of the world. This level is abysmally low and needs to be improved. So the country will have to face the dual pressure of maintenance of the present level of development on the one hand and to demonstrate some improvement in the standard of living of our people by the turn of the century on the other. This is indeed a Herculean task full of all kinds of hazards and anticipated failures. Dr. Razzaq Rukunuddin and Nasim Iqbal have analysed the impact of population pressure on the following sectors of socio-economic development in Pakistan in a very effective manner:-

1. *Economic Development* – GNP, GDP and per capita Income, Savings and Investment, Balance of payments,
2. *Literacy and Education* – Primary, Literacy, female education and educational attainment.
3. *Health Facilities* – health services,
4. Housing,
5. Labor force and Employment,
6. Land utilization and agriculture,
7. Energy
8. Transport and communications, and
9. Rural Development.

Let us go through this book and critically examine various conclusions of the authors.

Rukunuddin Razzaq and Nasim Iqbal, Farooqi, <i>The State of Population in Pakistan</i> , N.I.P.S., Islamabad, 1987, pp. 125 - 149, 151 - 163, 169 - 173, 193 - 194, 223 - 225, 237 - 242 and 247 - 252.	4.5
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EXERCISE

Obtain data on projected population increase in your district and prepare an educational plan (comprising No. of institutions, No. of teachers and estimated expenditure) for your district emphasising:-

- 1) Universalization of primary education upto 1992 - 93,
- 2) Provision of secondary education (class IX - XII) to 50 % girls and 75% boys of relevant age group by 1992-93,
- 3) Expansion of college education (classes XIII-XV) facilities for 10% girls and 15% boys of relevant age group by 1992-93,

4.9 Self-Assessment Questions

1. Using the analysis of IUCN - IPPF Report on world conservation Strategy, find out the implications of population pressure for Pakistan in the areas of:-
 - a) Crop land resources,
 - b) Food Resources,
 - c) Water resources, and
 - d) Energy resources.
2. Critically study the section on conditions and learning needs in rural areas by Coombs. Using the data from Pakistan situation, analyse the implications of the following factors for expansion of education in rural areas:-
 - a) Increasing poverty,
 - b) Economic Changes, and
 - c) Social Changes.
3. Study the Chapter on Population from the 7th Five Year Plan (1988-93) and offer a critique on the chapter suggesting alternative strategies to overcome the difficult demographic situation.

4. Keeping the Existing trends of population pressure in view, calculate the projected population in the primary, middle, secondary and college level age cohorts by 2000 A.D. and find out the following requirements:-
 - a) No. of institutions,
 - b) No. of teachers, and
 - c) Financial outlays required for each level.

5. Is the population phenomena more *visionary* than *real*? Can the possible danger of population explosion be diffused through rapid exploitation of resources? Write a critical appraisal of the situation and offer your professional suggestions to overcome the situation in an effective maner.

4.10 Bibliography

1. Coombs, Philip H., *The World Crisis in Education* Chapter-2: the Rapid Growth of Learning Needs) and Chapters on Population Growth - Migration and Urbanization), Ibid, 1985.
2. Demeny, Paul, "1984 and after", Quarterly PEOPLE, IPPF, London, Vol: II, No. 1, 1984.
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4. Faure, Edgar, et. el.; *Learning to be*; Ibid, (Chapter-2: on Progress and Dead Ends including Sections on Needs & Demand, Expansion and Limits, Resources & Means, and Imbalance and Inequality), and Gaps.
5. Hayes, Louis, D., "*The Crisis of Education in Pakistan*", Vanguard, Books Ltd., Lahore.
6. IUCN - IPPF, "Population trends - Resource challenge", Quarterly PEOPLE, IPPF, London, Vol: II, No. 1, 1984.
7. Ministry of Education, Curriculum wing, "National Source Book on Population Education", Islamabad, 1974.
8. Ministry fo Finance, Government of Pakistan, "Seventh Five Year Plan (1988-93), Islamabad, June 1988.
9. Rukunuddin, Razzaq, and Faruqi, Nasim Iqbal, the *State of Population in Pakistan*, N.I.P.S., 1988.
10. Shakil Ahmad Qazi, "Some aspects of Population Redistribution in Pakistan (26-29) (185-196) in Koswiski, Leszek A., and Mahmood Elahi. "Population Redistribution and Development in south Asia", D. Reidel Publishing Co., Boston, 1985.

11. Tabah Leon. "Spirit of the Future". Quarterly PEOPLE, IPPF, London, Vol: II, No. 1, 1984.

EDUCATION AND DEVELOPMENT

5.1 Introduction

Since the World War II, education has assumed a new role in the developed countries of the world. Education is being considered as a critical input in socio-economic development which has definite impact on the productivity of the individuals as well as the national economies. This new role was instrumental in pushing expenditures on education to as high as 10% of G.N.P. in some of the developed countries of the world in early seventies. The increased inputs in education both in the developed and developing countries necessitated critical reappraisal of the situation through empirical studies. The findings of these studies and analytical reviews by experts are indeed interesting and provide substantial evidence about the inter-relationship of education and development processes in our times. This unit reviews some of the important articles on the subject and exposes the readers to the challenges which the developing countries are likely to confront in the coming few decades.

5.2 Objectives

It is hoped that the study of this unit will enable you to:

- a) analyse the emerging trends in the role of education as a development activity,
- b) relate education with economic productivity and overall well being of the individuals and the societies,
- c) identify the impact of social structures on education and the role it can play within the framework of respective social philosophies,
- d) indicate the specific contribution of various kinds of education, viz: primary education, non-formal education, and literacy training in the development process,
- e) determine the relationship of education with employment situation and analyse the causes of increase in the unemployment of educated youth, and
- f) relate education with economic productivity of individuals and society in Pakistan.

5.3 Significance

One of the indicators of the central role which education is likely to assume in the total development process of the developing countries is the fact that education has now become a priority item on the agenda of all the development agencies, including U.N.D.P., world Bank, Asian Development Bank, UNESCO, and O.E.C.D. etc. Education has also been shifted to a higher priority position in the bilateral developmental programme between the developed and developing countries of the world. Much of the literature which is pouring from the international agencies assigns education the key catalytic position for triggering the development process at a faster rate than any other sector of the economy.

In an interesting Asian Seminar on Education for Development, Dr. Soedjatmoko, Rector of the U.N. University, has gauged the entire spectrum of developments which are fast taking place in the world and analysed their implications for education in the developing countries of the region around the turn of the century. Let us peruse this interesting article to appreciate the complexities of the present scenario of our situation and the challenges of the twenty first century.

Soedjatmoko, Dr., "The Twenty First Century Challenge to Learning", from <i>Education for Development Challenges, Dilemmas</i> , APEID, Unesco, Bangkok, 1986. (pp. 3 - 10).	5.1
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5.4 Education, Economic Productivity and Well Being

It is axiomatic that education contributes to economic productivity of both the individuals and nations. The nature and extent of this contribution is, however, being investigated in a systematic manner both by the educationists and economists, as well as by 'education economists'. By education economists we mean the group of experts who have adopted economics of education as a whole time profession and are well conversant with the dynamics of both the disciplines. More pointed researches on this emerging interdisciplinary field of specialization are available in developed countries with market economies than in developing countries.

In a highly professional study report, Robert H. Haveman and Barbara L. Wolfe have synthesized a wide range of researches on the question of Education and Economic Productivity conducted in the United States. The authors have summarized the findings of a wide range of studies conducted by various universities, research organizations, and individual professionals in their illustrious article entitled, "Education, Productivity and Well Being: on Defining and Measuring the Economic characteristics of Schooling". Some of the major themes of the article include:-

1. *Education and Productivity – Full and Partial Measures* – Discusses how different dimensions of productivity are refining our old concepts of standard productivity indexes and include the well-being aspect as against the standard “direct return approach”, and the “growth accounting approach”.
2. *Education Services and Economic Welfare* – This section discusses Education service as public and private “goods”. According to the authors, in the higher education sector, collective provision plays a small role relative to that in sectors providing lower levels of education. This is because elementary or secondary education is generally mandatory while the individuals exercise private choices for higher education. The authors also discuss the human – capital based effects, fertility effects, health effects, consumption effect, labour market search-time effects, and income distribution effects of education.
3. *Education and Economic Well-Being: Some Evidence on Indirect Channels of Impact* – this section includes a critical analysis of fertility effects, infant mortality, child health, and child quality effects, personal health effects, crime effects, and income distribution effects of education.
4. Implications for Policy – Towards the end, the authors conclude that the total well being approach will have far reaching Policy implications as it emphasises a more comprehensive outlook as against the standard estimates approach which does not place equal emphasis on health and longevity, fertility and child quality, income distribution, and social cohesion effects of education.

Let us have a fuller view of the situation directly from the authors:-

Haveman, Robert H., Wolfe, Barbara L., “Education, Productivity and Well Being”, from <i>Education and Economic Productivity</i> (edited By Dean Edwin), Ballinger Publishing Co., Cambridge, U.S.A. 1984, (pp. 19 – 49).	5.2
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5.5 Education and Economic Development

Among the various demands for expansion of education, economic development requirements play a very significant role both in the developed and developing countries of the world. According to Faure report, “great economic movements have always been accompanied by an expansion in education. The facts today confirm that the requirements of economic

development and the appearance of new employment possibilities are a strong stimulus to expansion of education". This demand is particularly created by the following groups:

- 1) out-of-school youth,
- 2) young educated people who find their education as irrelevant to the economic situation, and
- 3) professionals who find their training as outdated.

Economic development is not foreseeable if the education systems do not respond to the unique requirements of various groups so as to enable them to play their productive role in the society.

Another important dimension of education's increasing role in economic development is through the elimination of gaps between:

- a) the population and G.N.P. increase in the developing countries,
- b) the economic development of the highly industrialised and developing countries of the world,
- c) number of educated youth and employment opportunities available to them, and
- d) urban and rural populations.

The Faure report analyses various approaches to overcome this disequilibrium through educational development efforts designed for greater economic progress. Let us read a few extracts from the report:

Faure, Edgar et. al.; <i>Learning to be</i> , Ibid, "Economic development requirements" (pp. 28 - 30. Gaps, 92 - 99).	Text 5.3
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5.6 Education, Social Structure and Development

The initial euphoria that all kinds of education necessarily leads to development is subsiding and is being gradually substituted by the contention that besides development, education is also an instrument so perpetuation of existing socio-economic order reflected in social classification of the people. All kinds of education may not lead to development, but a particular kind may promote development within the parameters of the social structure of the society in which it operates. Thus education in a socialist, capitalist, or mixed economy country will lead to a particular kind of development in relation to the economic, political and cultural framework of the society.

Bill Williamson, looks at the entire phenomena of education and

development from a sociological point of view. He analyses the fact as to how different types of social structures shape education and how education and social structure influence development. He undertakes in-depth comparisons across societies of the relationship between models of development and the form, content and distribution of education. He examines the education system of the following four kinds of society.

1. *Capitalist Societies* – Britain and Federal Republic of Germany.
2. *Developed State Socialist Societies* – USSR & East Germany.
3. *Dependent Societies* – Ghana and Tanzania, and
4. *Underdeveloped Socialist Societies* – Cuba and China.

Each of the above four case studies focus attention on issues like equality, relevance and development (the outcome of political changes in the distribution of power), permeates the respective systems of education.

According to Williams his aim "is to relate the concern of the sociology of education with processes of social reproductions through education to the broader problems of development and underdevelopment in different types of society: It is because of the fact that education "involves choices not only among competing priorities but among different social values and models of development. The question of planning for education in this context does not remain a purely "technical question of what changes need to be brought about than the political one of who shall benefit most from changes which are implemented". "Whatever the direction of changes", says Williamson, "there is always a complex equation to be solved – who benefits? Who bears the cost?".

Williamson discusses the issue in the introductory chapter under the following topics:-

- a) Education and social reproduction,
- b) Education and Economics development,
- c) Rural-urban imbalance in education,
- d) Relevance in Curriculum, and
- e) Equality and inequality.

Towards the end, the author makes important conclusions about a) Theory, b) Method, and c) Policy about his contention that the "form, content and distribution of education reflects the distribution of power in society; education always reflects the compromises of politics; it follows, therefore, that changes in education always follow on form changes in the distribution of power".

With these important observations of Williamson, you may be motivated to read a few extracts from his book.

Williamson, Bill, " <i>Education, Social Structure And Development</i> ", The MacMillian Press Ltd., London, 1979, (pp. 1 - 24, 207 - 210).	5.4
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5.7 Diversification of Education and its Impact on Development

It has been time and again stressed that all kinds of education may not prove to be equally contributive to the development process. The diversification process of educational institutions has resulted in significant impact on the development of a country. It is the kind of education which is imparted outside the formal classroom system generally known as "out-of-school" or "non-formal" education which has proved to be more relevant for a number of clients. These programmes generally include functional literacy programmes out-of-school vocational training programmes, practical training programmes for young school dropouts. One common characteristic of all these programmes is the fact that they play a compensatory role because the school is no longer considered to be capable of satisfying the entire spectrum of increasingly diversified educational needs of a variety of clientele.

IIEP - Unesco, conducted a Seminar on the subject in October, 1983. This Seminar inter alia addressed itself to the important question of how diversification of education (or introduction of non-formal education) has contributed to the development process in terms of economic effects such as:-

- a) job opportunities,
- b) workers' productivity,
- c) local technological creativity, and
- d) equalisation of incomes and individual status.

The Seminar also considered the political, social and pedagogical effects of diversification which also have significant bearing for the socio-economic development of a society. Let us read some relevant extract from the Seminar Report.

IIEP - Unesco, <i>Educational Planning in the Context of current development problems</i> , IIEP Seminar Report, IIEP, Unesco, Paris, 1984, (pp. 41 - 47).	5.5
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5.8 Primary Education as Instruments of Rural Development

The majority of people in developing countries of Asia, Africa and Latin America still live in rural areas. Their development seems to be a key-note of policy statements in these countries. With the increase of political consciousness, primary schooling is being considered as a panacea of all maladies in rural communities. How far this articulation is based on empirical realities? Is a question, which is being widely debated in literature on Education and Development.

Udo Bude has critically examined the role of primary schools in rural development of Africa. According to Bude, the real criteria for development in rural areas is based on the "satisfaction of basic needs", which means the provision of a minimal living standard for the poorest population groups of the society. This living standard has been well defined by him both in quantitative and qualitative contexts. In order to reach the rural masses, all development efforts must be based on a three - pronged criteria, viz: i) social justice (as the motive of development), ii) Creation of *implementation capacity* to ensure distribution of resources to the intended recipients, and iii) Opportunity of *participation* to those who are involved in the development effort.

Bude is critical of the existing African situation in primary schooling and suggests a model for *reformed* primary school which would play a dual role of 1) education and, 2) socialization in cooperation with local rural community. He spells out the details of the proposed model and illustrates its limitations and strengths in:

- a) Contribution to overall economic development of the individual and the society,
- b) Increasing agricultural productions (relationship of years of schooling with rural productivity),
- c) Socio-political development.

Bude shuns off the initial exaggerated and more politically motivated role of primary schooling in economic development and concedes to a 'limited' but 'essential' role of primary school in economic development and concedes to a 'limited' but 'essential' role of primary school in the development process in rural areas. Let us read Bude's article and relate his findings to our situation.

Bude, Udo, "Primary Schools and rural Development: the African Experience" from <i>Education and Development</i> , (Edited by Roger M. Garrett), Croom Helm, London, 1984, (pp. 200 - 223).	5.6
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EXERCISE

Suppose you are asked to implement Bude's model of relating primary education to rural development in your district. What kinds of i) social, ii) economic, and iii) political problems would you confront and how would you overcome them to ensure maximum efficiency.

5.9 Education and Employment

One clear indicator of education's role in national development is the extent to which it is related to the manpower requirements of the country. By no stretch of mind we can imagine a situation where an unemployed (not under employed) population can prove to be contributive to the economic development process of a country. Educational policy makers are becoming more skeptical about the potential of the education systems in overcoming the challenge of unemployment. "The point at issue", says Coombs, "has a potential political hurricane wrapped inside it". The intensity of the situation in Pakistan can be gauged from the fact that two years back when 22,000 posts of primary school teachers were created in the New Light (Nai Roshni) schools of the country, the number of applications received from matriculates, F.As, B.As, M.As, B.Sc.s, was in the vicinity of 0.5 million, all of whom were supposed to be unemployed. Naturally all of them could not be accommodated and more than 4,75,000 candidates had to be rejected for one reason or the other. The number is not decreasing, as every year 2,50,000 matriculates are being added to the unemployment stock as all of them cannot afford to pursue higher education or join a vocation. In a way, therefore, education is becoming counter productive as it is not responding to the growing requirements of the economy, which demands a different complexion of secondary education. According to Coombs, we are ignoring the "time-honored symbiotic relationship between education and work" which was "the basic rationale for the great post war educational expansion in the 1950s and 1960s". He further stresses the fact that "simply expanding the existing educational system indiscriminately without reasonably clear answers to these basic questions would inevitably lead to gross imbalances and waste".

Analysing the educated unemployment situation in the context of developing countries, Coombs finds that the jobs in these countries are limited to the urban sector which can hardly employ 10 to 15 percent of the total labour force. Moreover, there is a "striking incongruity between the purposes of education and the realities of economy". Further more, the demographic factors are operating independent of the economic factors in these countries. Coombs has quoted results of researches of educated unemployment from various Asian countries including Pakistan. According to Coombs, the tragic irony about the Asian situation is revealed from the fact that "unemployment tends to be highest for those with the most years of

education". Based upon the existing data, Coombs makes certain predictions about the future and offers a few conjectures which are quite revealing.

Let us read directly from Coombs:

Coombs, Philip H., " <i>The world Crisis in Education</i> " Ibid, (pp. 194 – 204).	Text 5.7
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5.10 Economics of Education in Pakistan

Unfortunately very little empirical work has been done in Pakistan to demonstrate the impact of education on individual's productivity and income level as well as overall national development. Pakistan Institute of development Economics (PIDE), Islamabad, has undertaken a project on Economics of Education and publishes occasional articles and research papers on the subject. Some of the studeis conducted in Pakistan on the subject are listed below:

1. Guisinger, S.E., J.W. Henderson, and G.W. Scully. "Earnings — Rates of Return to Education and the Earnings Distribution in Pakistan". *Economics of Education Review*. Vol 3, No. 4, 1984.
2. Hadley, L., "Preliminary Estimates of *Rates of Return* to Education in Pakistan". *Pakistan Economics and Social Review*, vol XVI, No. 4, 1977.
3. Hamdani, K.A. "Education and the Income Differential: An Estimation for Rawalpindi City". *Pakistan Development Review*. Vol XVI, No. 2, 1977.
4. Haque, Nadeem ul. "An Economic Analysis of Personal Earnings in Rawalpindi City". *Pakistan Development Review*, Vol XVI, No. 4, 1977
5. Pakistan Ministry of Education, and International Institute of Educational Planning. "Higher Education and Employment Opportunities in Pakistan". Paris: (IIEP) UNESCO, 1985.

In an interesting study on "Family Background and other Determinants of Earnings, and Rates of Returns to Education in Pakistan", Shahrukh Rafi Khan and Muhammad Irfan of P.I.D.E. have not only surveyed the existing literature on economic returns of education at various levels but also given their own finding on the basis of the data collected by them. According to their fidnings, there exists a positive linear relationship of rates of returns with the level of education. Because of larger out migration of workers, the returns to the Primary level came closer to the secondary level. The returns at the higher education level remained constant.

Khan and Irfan find substantial change in the employment market with the return of workers from the Middle East. The possibilities of finding work for a "school evader" may be curtailed with the availability of more semi-skilled workers in the market. Their findings also show that in case of higher level of education, family background plays an important role on the earnings of the graduates. Father's income and mother's education were also found to be most important factors in determining earnings of individuals.

Let us go through the major findings of this important research:

Khan, Shahrukh Rafi, and Muhammad Irfan, "Family Background and other determinants of Earnings, And rates of returns to education in Pakistan", Pakistan Institute of Development Economics, Islamabad, 1985 (pp. 17 - 31).	5.8
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EXERCISE

Organize a discussion session with three Professors of Economics, working in Colleges and Universities, and present group reaction on the following three aspects:-

- a) economic returns of education to individuals,
- b) education and economic development of the country,
- c) unemployment of educated youth and its implications for development.

5.11 Self-Assessment Questions

1. According to Haveman and Wolf, the higher education plays a limited role in collective provision of "goods" relative to elementary or secondary education. Discuss this observations and offer your suggestions to maximize benefits of higher education in national development.
2. According to Williamson, the question of education planning is more *political* than *technical* as it involves the pressure groups of beneficiaries and tax payers. How would you interpret this observation in the context of Pakistan.
3. Critically examine the I.I.E.P. Seminar conclusions that non-formal education is more directly related to *economic* development and productivity than formal education.
4. What are the major gaps between education and development in Pakistan? How can we overcome these gaps through?
 - 1) Provision of Literacy,
 - 2) Primary Education,

- 3) Secondary Education,
- 4) Technical and Vocational Education, and
- 5) Higher Education.

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POLITICS AND EDUCATION

Introduction

Education is essentially a social activity which interacts with society in two ways. Firstly it receives support and assistance from the society to sustain its programmes, and secondly it endeavors to reform and improve society through innovation and reform. Politics is the most important institution through which a modern democratic society can operate in an effective manner. It is impossible to alienate any facet of educational system from the political framework of the society. Modern societies are bound to maintain a delicate balance between political institutions and the education system right through the policy formulation, planning, financing, implementation and evaluation stages.

The present unit entitled, Politics and Education endeavors to expose senior students to varieties of situations in which politics and education interact with each other. These situations certainly create stresses for both which may sometimes lead to conflicts of a profound nature and disturb equilibrium.

6.2 Objectives

It is hoped that the study of this unit will enable you to:-

- 1) Describe the ways in which the political system influences the educational planning process.
- 2) Enumerate various socio-economic disparities and inequalities which foster political interventions in the educational systems.
- 3) Indicate economic considerations in educational development.
- 4) Identify emerging socio-political trends in the world which are likely to affect educational systems around the turn of the century.
- 5) State the increasing relationship between politics and education, particularly higher education institutions and Secondary level students of Pakistan.

6.3 Significance

By its very nature, education is a social process which can thrive through interaction with socio-political forces and the equilibrium which it may create in tackling these forces. No education system can survive by adopting an ostrich type approach in the context of a political situation which provides its justification through legislation, its sustenance through financial allocations and its growth through perspective planning and development. Education in the contemporary world is a crucial function of the society, and is considered "too important to be left alone to the teachers or educationists".

Politicians, public representatives, economists, planners, religious leaders, parents representatives and student activists are equally concerned with it and need to be reckoned as such to make education as meaningful institution for all.

Let us look into some of the critical issues which have been created by the socio-political milieu for education in the modern world:

- 1) Public participation in education (need for democratising education),
- 2) Emphasis on equal access to education – (elimination of injustices, inequalities and disparities in education),
- 3) Political education – through democratization, awakening of political consciousness, debate of ideas, and confrontation of opinions,
- 4) Education and economics – each individual must become a conscious consumer and an enlightened agent of development,
- 5) International education – inculcation of values of tolerance and cooperation between nations – ensuring peace and prosperity in the world.

Let us go through some of the relevant sections from our text to fully grasp the critical relationship between education and the socio-political milieu in which it functions.

Faure, Edgar, et. el.; "Learning to be", Ibid., pp. 70-75, and 150-159.	Text 6.1
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6.4 The Politics of Education Planning

The role of educational planner is indeed very sensitive. According to Prof. Rowley, "every education plan is a political document". We cannot, therefore, reject political considerations as unnecessary political interference in a highly technical or professional undertaking. If we do so, the entire plan may flounder because of lack of political will which is necessary to approve and execute the plan through established bureaucratic channels. Education cannot and does not operate in a vacuum. It can only function in a political-economic framework. Rowley considers the education system as "an instrument of power and a foundation for the authority of the state". Like any other organ of the government it needs the support of legislation, judiciary and the executive. It continues to occupy a critical position among competing interests for power, influence and authority reflected by the political parties, government, bureaucracy and students as well as teachers organizations. It requires understanding of the political process and statesmanship to tackle

the educational issues of modern times. If the educational planner does not have the ability to function in state of ethical paradoxes, he may have to either, "like Socrates pay the price of defiance, or change his employment".

In a very interesting discourse on the subject, Prof. Rowley has enumerated the fundamental hinderances to educational planning which ties down the educational process to the prevalent politics of a society. These hinderances include the existing hierarchical order of power, the conflicts of the emergent classes, competition for power, religious pressure groups, national versus regional language groups, political pressure groups and the bureaucratic system. No realistic educational planner can afford to deny the existence of these pressure and insist on eschewing them, particularly in developing countries where the organizational basis is not straightened enough to ensure continuity of the educational process in a more professional sense.

Let us enter the exciting scenario set forth by Prof. Rowley in the following document:-

Rowley, C.D., "The politics of Educational Planning in Developing Countries", IIEP, Unesco, Paris, 1971, pp. 11-17 and 24 - 42.	6.2
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6.5 The Political Economy of Education

Every nation attempts to educate its future generations within the framework of its value system. This value system is generally reflected through the social, economic, educational and cultural institutions. No political system can afford to remain indifferent to these institutions and still claim to be concerned with the welfare of its people. According to Prof. Weiler, "Education, by any definition, is an intensely political matter". It is impossible for an education system of our times to remain outside "the hot and cold winds of politics" as advocated by some experts. Being a Professor of Education and Political Science, Prof. Weiler has the advantage of looking at the inter relationship of Politics and Education from a wider perspective. According to Prof. Weiler, the politics of education in any society have to deal with the following four major issues:-

- a) The role of education in the allocation of social status and privilege,
- b) Education as a source of social beliefs and norms,
- c) The relationship between education and social change,
- d) The claim of education on public resources.

Because of the above critical role which education plays in a Society, it has the "potential of becoming a major source or object of social and political conflict" which compels planners to look at the phenomenon

more seriously than before. This brings Prof. Weiler to discuss the key issues involved in the politics of educational planning, viz:-

- a) Planning and participation,
- b) Planning and Implementation involving,
 - resource allocation and utilization,
 - international politics, and
 - the politics of bureaucracies.

Toward the end, Prof. Weiler discusses the role of planning in Bringing reforms both generally, as well as with specific reference to educational reforms. All educational reforms are intrinsically tied down to the social development programmes of a country. For example, the question of introducing reforms in science and technology curricula cannot be separated from the broader social and economic issue of manpower and complexion of future labour force. Similarly the question of introducing international, national, and regional languages in schools is a highly 'political' and 'social' issue which cannot perhaps be settled in a narrow "curriculum reform" domain. It is through these procedures that all political systems legitimize their power and come to be recognized and acknowledged. Prof. Weiler calls this phenomenon as the "legitimation by procedure" which is essential to maintain the credibility of any political system.

Let us go through Prof. Weiler's critical analysis of the interrelationship of politics and education from the following article:-

Weiler, Hans, N., "The Political Economy of Education and Development" from the quarterly PROSPECTS Issue No. 52, (Vol. XIV, No. 4), Published by Unesco, Paris, 1984, pp. 467-477.	6.3
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6.6 Disparities and Inequalities in Education.

Perhaps the root cause of politicisation of education lies in the fact that pressure groups are formed between the various categories of "haves and have nots" of education. These groups exert immense pressure to ensure clear access of their children to higher echelons of education which guarantees social mobility and status. The situation is more critical in the developing countries where people have long been subjected to colonialisation resulting in a sudden upsurge of aspirations for quick progress after the attainment of independence. Education in these countries, says Philip H. Coombs, is considered as "the instrument that would enable any nation to bring about fundamental social change, including the eradication of long-standing inequalities and injustice". The traditional

leaders in these societies, generally coming from the feudal classes are wary of explosive role which mass education may play in eroding their established authority.

Some people, however, are still skeptical to consider education as the panacea of all ills and lay more emphasis on the social, economic and political reforms which must either precede or accompany educational reforms to achieve the desired goal of eliminating injustices and inequalities from the society. These experts themselves form a pressure group and remain on the lookout to exercise political control in a subtle but consistent manner. Philip H. Coombs has endeavoured to analyse the wide spectrum of disparities and inequalities appearing in the form of geographical and regional disparities, sex disparities, socio-economic, and cultural or ethnical disparities and suggested possible ways to reduce these inequalities by raising and answering the following cogent questions:-

- 1) What do educational disparities mean?
- 2) How can their presence be determined?
- 3) Are statistical tables alone adequate for the purpose?
- 4) What is meant by equal education?
- 5) Should a country strive to equalize only initial access?
- 6) Should it strive to ensure equal participation as well? Or,
- 7) Should it even aim for equal learning achievements by all so that everyone emerges from the system, "equally educated"?

Let us join Coombs to see the rising "genie from a bottle" in the form of multitude of disparities and inequalities and the manner in which he intends to control this genie by putting him to eradicate these inequalities.

Coombs, Philip H., <i>The world Crisis in Education</i> , Ibid., pp. 211 - 239.
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Text 6.4

6.7 Emerging Socio-political Context and Education

While it is important to reckon to socio-political forces which affect education in the contemporary world, it is more critical to foresee similar forces which will operate in full swing in the early 21st century, because "children who enter school today will be about thirty years old at the dawn of the next millennium and will therefore, still be starting their professional career". To plan for education of our future generation means to provide the necessary measures for carrying out a political intention". Hummel, Charles endeavoured to visualise the future social, economic and political trends on the basis of the past and present experiences and worked out their implications for the education systems of the world. These trends range from a slowing down of economic growth, emergence of an international

economic order, impact of mass media, culturalisation of education, acceptance of life long education, democratization of education, strengthening of non-formal education, to increased international and regional cooperation in education.

Let us go through the succinct analysis by Charles Hummel and enter the next millennium with him with an open mind.

Hummel, Charles, "Education Today for the World of Tomorrow", I.B.E, Unesco, Paris, 1977, pp. 9-12 and 181-186.	6.5
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EXERCISE

Study the manifesto of any renowned political party of Pakistan. Find out the party programme in education and present a critique of the programme in terms of emerging socio-political realities of the Third World.

6.8 Politics and Education in Pakistan

Like many other developing countries, Pakistan is also confronted with the problem of political pressures and their influence on education. Many educational decisions are politically motivated resulting in a "major debility" of the system to respond to "needs of learning and skill development". Mr. Hyes has seen the phenomena in a historical perspective starting from the time of the report of the National Commission on Education (1959) and proceeding through the events of 1971 elections and the establishment of a political government in the country. He has critically examined the politicisation of education and emergence of strong student pressure groups (or parties) led by so-called "professional students". He enumerates the causes of student activism since 1983 when student unions were banned but the student politics continued under the grab of "religious groups" or education related issues like postponement of examinations or walkouts from examination halls because of alleged difficulty of examination papers.

* Views expressed by Mr. Hayes are his own and do not necessarily correspond with the views of Compiler of this Unit or A.I.O.U.

Mr. Hayes divides the student groups in Pakistan into the following three broad categories:-

- a) Rightists __religious in orientation
- b) Leftist __with marginally Marxist orientation,
- c) Regional __basically cultural groups restricted to some areas.

Pakistani students, says Mr. Hayes, "are basically negative in orientation. They do not concentrate their efforts to bring something about, but instead are opposed to an idea, event or programme".

Let us read directly from Hayes and find out the impact of politics on education, particularly student activism in Pakistan.

Hayes, Louis, D., <i>The Crisis of Education in Pakistan</i> , Ibid., pp. 169 – 180.	Text 6.6
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EXERCISE

Organize a discussion session with student activists, teacher representatives and politicians (local level) and discuss the relationship of education and politics in Pakistan. Write down your impressions of the discussion around the following three topics:-

- i) Advantages of increasing relationship of politics and education.
- ii) Problems created by political intervention in education.
- iii) Suggestions of the group to improve the relationship in a constructive manner.

6.9 Students and Politics in Pakistan

During the struggle for independence, the students played a very active role in politics and received training in organization, mass mobilization and leadership from the seasoned politicians. This established a tradition of student activism even after the attainment of independence, and defiance of the authority continued to be the norm of student politics. Moreover, the students in Pakistan could not remain aloof from worldwide movements of student activism emanating from genuine concerns and conscientious motivation. According to the Report of the Study Group on Student Problems in the Universities, published by the U.G.C., the student politics in Pakistan was influenced by "social upheaval brought about by the wars in Indo-China, social antagonism, disparity between the rich and the poor, and a growing sense of political and social consciousness". One reason of student involvement in politics, the report states, lies in the fact that parents have lost traditional control over their wards as they are too busy in grinding out a living for the family. Some of the characteristics of our students are, "irresponsible", "conscious of rights", "indifferent about duties", "lazy", "extremely emotional", "devoid of reason and logic". Another main reason of student activism is the feeling of insecurity resulting from wide-spread unemployment. This is again due to the colonial tradition

of preference for a white collar job by the youth. According to the Report the students can be divided into four groups in terms of their attitudes viz:

- 1) Student activists or politicians.
- 2) Well-to-do-students__who take pride in violence.
- 3) Reformers or idealists.
- 4) Serious students devoted to studies.

The political parties have realized the power which a young, militant and emotionally charged group of students can muster in bringing about change or at least creating nuisance for the authorities. So almost all the political parties have their student wings under one name or the other. This has brought violence and indiscipline to the campuses. The Study Group does not recommend active student involvement in politics as it is a "mature game and should be left to the adults after they had enter life".

Let us go through this important report to have a good peep into the causes and effects of student politics in Pakistan as they do affect educational climate in the country.

U.G.C., "Report of Study Group on Student Problems In the Universities", U.G.C., Islamabad, 1975, pp. 28 - 41.	6.7
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6.10 Self - Assessment Questions

1. One of the reasons for politicisation of education lies in the fact that equalization of educational opportunities is being considered as the basic right of all citizens. Please offer a critique on this statement in the light of analysis given by Faure Report?
2. Is educational planning a technical or a political process? Critically really a panacea of all socio-economic ills? What are *strengths* and *limitations* of education systems in reforming modern societies?

Using Hayes' analysis and U.G.C. observations of political situation and its impact on education in Pakistan, please examine if this interaction of two social force has been harmful or beneficial to the educational system in the country.

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**CURRICULUM DEVELOPMENT PROBLEMS
AND PROSPECTS**

7.1 Introduction

Curriculum planning in a development country is among the most challenging assignments of an educational planner. Any person engaged in this activity has to respond to a variety of conflicting demands from the politicians, bureaucrats, economists, religious and ethnical pressure groups, parents and children. Besides the pressures, he has also to reckon to the huge volume of research emanating from a professional organizations, having a lot of bearing on the needs of children and their psychological problems at different stages of development. Simultaneously he has also to ensure that the technical requirements of this important professional undertaking are also not overlooked or de-emphasised during the process.

The process of curriculum development and evaluation has been among the important activities of the Ministry of Education during the last two decades. It is still an ongoing activity which has triggered a lot of interest in educational circles of the country. This unit is intended to cover a few important aspects of this activity so as to enable the readers to appreciate the curriculum development process right from the inception to the evaluation stage.

7.2 Objectives

It is assumed that the study of this unit will enable you to:

- 1) Identify the significant changes in society, which are influencing the curriculum planning process in the modern world.
- 2) Delineate the steps in the curriculum development process and present a schematic design of curriculum in a few selected subject areas of relevance.
- 3) Indicate the multifarious factors affecting curriculum change leading to new goals and objectives for curriculum planning process in our times.
- 4) Analyse specific problems involved in planning of primary level curriculum for developing countries.
- 5) Critically examine the process of curriculum development in Pakistan and narrate the special problems confronting policy makers and planners for qualitative improvement of education in Pakistan.

7.3 Significance

The curricula that we teach in schools have traditionally been class ridden. Until early 20th century there has been a strong tradition of 'noble' professions and manual occupations. With the onslaught of science and

technology and democratization of education coming in the wake of decolonization, this distinction is fast disappearing in all parts of the world. Because of rise of public education up to the secondary stage, there is a general availability of almost every subject to common man. But there is a hierarchy within subjects which still persists because of long tradition of 'prestige' assigned to certain subjects. According to Faure Commission, "the subjects of traditional curricula are given a value that often bears little relation to their educative or social usefulness. Literature and history are generally invested with greater prestige than geography or economics; and the study of classics takes precedence over learning about the contemporary world. Even science as a whole suffers from such prejudice: pure science is often more highly regarded than applied science". According to the Commission, education in our times suffers from a few gaps.

between: its content, and the living experience of the pupils,

between: the system of values that it preaches and the goals set by the society,

between: its ancient curricula, and modernity of science.

The curricula should be so designed that they enable the fullest possible realization of the potentialities of every being; they should assist every person in LEARNING TO BE which involves:

- ... Learning to live,
- ... Learning to learn,
- ... Learning to think freely and critically,
- ... Learning to love the world and make it more human,
- ... Learning to develop in and through creative word."

These considerations have led the Commission to concede that there cannot be under valuation of any aspect of life—intellectual, physical, aesthetic, moral or social, and therefore, we cannot neglect or subject matter at school. Let us go through some of the relevant aspects of the Commission Report to fully appreciate the significance of curricula in the educational process.

Faure, Edgar et. al., "Learning to be" Ibid. pp. 64 – 69, 180, 183, 188, 194, 203, 213	Text 7.1
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7.4 Definition and Scope of Curriculum Development

Curriculum occupies the most pivotal position in the educational process. It is through the curriculum that the entire learning process is concretized for the children, the parents and the society. Because of this

important role, curriculum has always been under attack from various quarters. A Curriculum in a typical school is expected to simultaneously play a triangular role of perpetuating the centuries old content of more established nature, adjusting to the contemporary modern-day needs of the individual and the society, and preparing the individuals to play a dynamic role in the future world "of their own" which has yet to assume a definite form. It is this conflicting demand emanating from highly conservative to highly radical pressure groups which keeps the curricula to 'economic development' and enabling students to 'survive in difficult contexts' etc. which makes the job of curriculum development still more challenging in these countries.

The first and foremost task is, therefore, to arrive at a workable definition of curriculum which would be acceptable in the modern context. According to the Unesco Seminar held in Hamburg, Curriculum comprises any educational activity generated by the school and directed towards a purpose, whether it takes place within the institution or outside it. According to Hainaut, a curriculum is an educational project, defining:

- a) the aims, goals, and objectives of educational action,
- b) the ways, means, and activities employed to achieve these goals, and
- c) the methods and instruments required to evaluate the success of the action.

Hainaut also explains the curriculum process in detail and enumerates the factors involved in determining curriculum. Let us go through Hainaut's interesting article and have a good peep into the curriculum development process right from the inception to the evaluation stage:

Hainaut, L.D., "Guiding Principles for Curriculum Development" from <i>Curricula and Lifelong Education</i> (edited by Hainaut L.D.; etc. ed.) published by Unesco, Paris, 1981, pp 81 – 103.	7.2
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7.5 Factors Affecting Curriculum Change

Our attitude towards curriculum has been generally conservative accepting a body of knowledge that has to be transmitted to the new generation. The phenomenon of gearing curricula to needs and demands of our times is of recent origin. Curriculum reform now seems to be the concern of every pressure group of a society ranging from politicians to the social welfare workers. Internally, the teachers and the educational administrators consider it to be their established prerogative to undertake curricular reforms

in the light of changes in private and family life of both the individual and the society. Besides the present day contest, a curricular reform undertaking has to take full cognizance of the factors that may emerge as a reality after a decade or two when the children of today participate in the actual life activities of their time, i.e. somewhere in early 2000 A.D. So the curricular reform undertaking has to keep a working balance between the triangular forces which bind it to:

- a) Perpetuation of established content inherited from the past,
- b) Relevance to the present day needs of both the individual and the society, and
- c) Projection and incorporation of future requirements of the individual and the society to enable the individuals to respond to their times.

Hainaut and Lawton, in their article on Sources of a Content reform geared to life long Education have examined the factors which have resulted in the obsolescence of curriculum and the factors involved in curriculum change. These factors are;

- a) Changes in society and changes in values e.g.,
 - From elitism to egalitarianism,
 - From patronage to efficiency.
 - From a static to a dynamic education,
- b) Economic changes and the requirements of the world of work,
- c) Political changes,
- d) Changes in knowledge and culture.
- e) Changes in the education sciences.

Because of the constant change in curricula, the roles of change agents have also undergone substantial change. The change agents involved in the curricular reform process are the initiators, the decision makers, and the curriculum designers. However, these change agents will play different roles in societies having different political systems and the level of decentralization as well as the democratic tradition within which the system is bound to operate. In a highly democratic and decentralized system, even the parents and the children. Will be involved in the process alongside the specialists and the senior educational administrators.

Let us read the text to the article to fully comprehend the nature of changes and the role of change agents in curriculum reform process:

Hainaut, L.d, and Lawton D., "the Sources of a Content reform geared to Lifelong Education", from <i>curricula and Lifelong Education</i> (edited by Hainaut, L.D.) published By Unesco, Paris, 1981, pp. 29 – 43.	7.3
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7.6 Education of the Complete Man – Searching for Goals of Education

The most important question for societies today is the crystallization of their goals of education. Once the goals are fairly specifically determined, the entire system of education can be re-structured accordingly. These goals are predominantly subjected to the broader goals of the society on the one hand and the will and subjective choices of those participating in the educational activity on the other. With the increased means of communication between various societies, we find much more convergence of goals in modern times than ever before. Are we really moving towards the evolution of a universal framework of goals for mankind or is it still a dream of the future?

Besides the broader social and political considerations for devising goals of education, we also need to reckon the role of present functionaries of education, viz the students, teachers, administrators and parents who play a significant role in the formulation of these goals. A host of literature on education is also adding new dimensions to our thinking on goals of education. According to Faure commission, there are as many options for education as there are societies, historical phases, and dominant ideologies. There are as many choices to be made as there are futures imagined and wanted. The Commission examines the issue in sufficient detail and formulates a set of goals of education, which may be adopted by various societies with necessary adjustments according to their own unique circumstances. These goals may be summarised as below:-

- a) Scientific Humanism: Which rejects any pre-conceived, subjective or abstract idea of man directed towards action and primarily in the service of man himself.
- b) Creativity: Liberating all the creative potentialities of action and thought:
- c) Social Commitment Preparing man for life in society through active participation in the functioning of social structures and through a personal commitment in the struggle to reform them.

- d) Towards the Complete Man: the physical, intellectual, emotional and ethical integration of the individual into a complete man is a broad definition of the fundamental aim for education.

These indeed are the parameters of goals within which the development of curricula and learning materials can be conceived and realized in our times. Let us read relevant section on Goals from Faure Commission and see as to how does it relate to our own situation in contemporary Pakistan.

Faure, Edgar et. el.: "Learning to be" Ibid, pp. 145 - 159. (Chapter on Goals)	Text 7.4
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7.7 Changes in Qualitative Dimension of Education Through Innovations in Curriculum

Quality and standards of education are a relative matters devoid of any general or all-pervasive connotation. With the linear expansion of education during the last two decades, there has been a wide scale criticism of the quality of education. People all over the world have a tendency to prefer the quality of education of the "good old days" over the present day school operations and a general longing for an increased quality without definite parameters of the proposed qualitative changes in mind. This is perhaps not possible as the process of history cannot be reversed so easily. What we can think in our times as a possibility, according to Coombs, is to "formulate standards and programmes that will prepare young people to function effectively on the rapidly moving and changing frontiers of the future". The main reason for this turmoil over quality of education is the shift of education systems from the elitist model to "massified" education models which endeavour to "develop the potential of every member of each new generation, whatever that potential may be." This massified system, according to Coombs has created the problem of not only updating and strengthening the existing curricula, but also the need to adapt the curriculum and methods to a more diversified student body- to faster and slower learners, to more and less academically motivated, to the wide spectrum of interests and career aspirations of students and to the college-bound and the terminal students as well as the "undecided".

Bringing curricular change is not something which comes with a policy statement alone. It involves a broad based consensus and support the administrators and the supervisors working at the different rungs of the educational system. It also involves updating and supply of text books and teaching materials, training of teachers, preparation of teacher manuals, production of aids and instructional materials as well as updating of methods and media to suit the desired changes in curriculum. Philip Coombs is

optimistic about the curricular improvement process when he concludes that "curricular changes and improvements have been making greater head way in the educational systems of most countries over the past ten years than perhaps ever before".

Let us share with Coombs his perception of equalitative dimension of education and the role of curricula to strengthen this dimension in the present times.

Coombs, Philip H., "world Crisis in Education", Ibid, pp. 105 - 116.	Text 7.5
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7.8 Problems of Curriculum Planning at Primary Level

The phenomenon of primary level curriculum is indeed very complex. It is because of the fact that basic education is now being universally recognized as the human right which no democratic government can afford to deny. The first basic problem at this stage is that of numbers. With the increasing number of students at the primary level, the primary school has to cater to a variety of educational needs emanating from differential motivations, locations, socio-economic situations, aspirations, values systems, and psychological barriers. Most of the children attending primary schools are rural while all of the curriculum planners are urbanites in orientation; most of the children belong to low socioeconomic strata of the society with little motivation or preparation for schooling while the demands of societies on primary schooling have increased manifold as this stage has the potential to play crucial role in the development of all round personalities of the future citizens of the world. The demands created by the psycho-pedagogical researches for this stage are indeed immense and await incorporation in school curricula in an effective manner. The poor "child" at the primary stage is confronted with a multitude of expectations of the parents, politicians, curriculum planners, economists, psychologists, teachers, administrators, social and religious leaders, and host of other adult leaders who consider this stage as most critical in the formulation of cognitive abilities, requisite skills and desirable attitudes for a healthy citizenry of the civilized societies at the juncture of the 20th and 21st centuries.

While all this theorisation and rhetoric continues to pile up in professional literature on education, the primary school in a typical developing country persists as a low key activity confronted with problems of low enrolment, high dropouts, non-availability of adequately trained and motivated teachers, lack of buildings and facilities, irrelevant curricula, unsuitable textbooks frightening examinations and a generally non-conducive environment for creative work of any kind. These and many other

questions are confronted by an educational planner who has been assigned the task of formulating suitable curricula for this level.

In an interesting pithy study conducted by IIEP – UNESCO, on “Planning the Primary School Curriculum in Developing Countries”, Mr. Hawes has enumerated these problems in the context of various socio-economic parameters of the developing countries. According to Mr. Hawes, the most significant considerations for planning curriculum change at this stage are community support, financing, massive participation, and perspective planning. He has also attempted to raise and answer various questions of relevant nature which have immense bearing on planning curricula for primary level. Let us go through this study and relate its findings to our situation.

Hawes, H.W.R., “Planning the Primary School Curriculum in Development Countries”, IIEP, Unesco, Paris, 1972, pp. 13-23, 35 – 44.	7.6
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EXERCISE

Please read relevant policy reports from Pakistan and discuss the questions raised by Mr. Hawes with a senior educationist of Pakistan. Please answer these questions with special reference of Pakistan:-

- 1) What kind of change?
- 2) What machinery?
- 3) What policy decisions? etc.

7.9 Schematic Design of Curriculum Development

The curriculum development and evaluation process has become a highly organized and systematic activity which requires special qualifications and experience. The curriculum designer is more directly concerned with qualitative processes rather than quantitative expansion. He seeks guidance from the national development policies as well as surveys on felt needs of people. An effective curriculum development process essentially proceeds through the following three stages: -

- 1) Formulation of Educational objectives,
- 2) Identification/organization of learning experiences, and
- 3) Initiating evaluation (before, during and after implementation).

APEID-UNESCO conducted an interesting workshop on Teacher Education and Curriculum Development in 1975. This workshop inter alia presented a systematic model of curriculum development using examples

from three important areas of national development., viz: health and nutrition, employable skills, and rural transformation. The report of the workshop includes a set of guidelines which are meant to assist the curriculum designer right from the conception upto the evaluation stage of the curriculum using examples from the three identified content areas. This part of the report will provide some material to those who are not actively involved in the curriculum development process to appreciate the process and to share the concerns of the curriculum designer in a developing country like Pakistan. Pakistan was also represented in this workshop which was held in Quezon city Philippines from 19th to 31st May , 1975. Let us read the relevant Chapter of the report to appreciate the technique of curriculum development and its allied aspects.

APEID – UNESCO, "Report of the workshop on Teacher Education and Curriculum Development Held in Quezon City, Philippines, from 19 th to 31 st May, 1975, pp. 14 – 29.	7.7
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EXERCISE

Obtain a report of curriculum outline on any subject of primary or secondary stage in Pakistan produced by a national or a provincial organization, and present a critique on this report using the model developed in the APEID-UNESCO Workshop.

7.10 Analysis of Existing Curricula of Pakistan

The present education system of Pakistan is organized at various stages, viz: Primary Secondary (including higher secondary) and higher education. The curriculum of each stage has different orientation and demands. While the curricula of Primary and Secondary Stages are formulated by the Ministry of Education (Curriculum Wing), the curricula of higher education level is formulated by the Universities themselves whereas a few guidelines may be provided by the University Grants Commission in certain identified subject areas. There appears to be a continuity in conceptual development between the primary and secondary stage curricula because of uniformity of approach. The curricula of higher education levels, is, however, more diversified because of autonomy of Universities to formulate their own curricula. The curricula of primary and secondary stages (upto class X) have undergone thorough revision during the last two decades. The process is continuing and it is planned to complete the revision process upto grade XII during the next few years.

Hayes has analysed the existing curricula of Pakistan at various stages. He has also examined the process of Islamization of education, particularly curriculum and textbooks in Pakistan, which have undergone

significant changes during the last few years and the ways in which it has affected the process of curriculum development in Pakistan. He also gives an assessment of the criticism against the curriculum revision process and some of the fundamental issues with which the Policy makers of the country are confronted in present times. In this context he has particularly analysed the problems of women education and language curriculum in Pakistan. It is always difficult to have an objective view of contemporary issues confronting national policies of far reaching significance. Any how, it may be worth while to share with Hayes his perception of the situation and crystallize our thinking by referring to other pertinent resources which may be available on the subject.

Hayes, Louis., "The Crisis of Education in Pakistan", <i>ibid.</i> , pp. 99-111 and 145-156.	Text 7.8
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7.11 Self Assessment Questions

1. Define the concept of "Learning to be " and identify the changes which are essential for realising this concept through curriculum development in modern time?
2. Critically examine the curriculum development process given by Hainaut and suggest if it is equally applicable in developing countries of the world.
3. What are the factors affecting curriculum change? Could we build up a hierarchy in terms of relevance of these factors? If so, please re-state these factors hierarchically and substantiate your contention with profound reasoning?
4. The Problem of designing a variable curriculum for primary level is among the most challenging task of an educational planner. Examine the premises on which Hawes has given a model of primary level curriculum for developing countries of the world. Is this model equally applicable to Pakistan?
5. Hayes has enumerated only a few problems of curriculum planning in Pakistan. Present a critique on Hayes' article and identify the problems which are missing in Hayes' analysis?
6. Being a senior educator, you must have been involved in the curriculum planning process in Pakistan. What are the major problems and issues which are confronted by a curriculum planner in Pakistan? What are the possible ways to overcome these problems.

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UNIT-8

**METHODS, MEDIA AND
MATERIALS IN EDUCATION**

8.1 Introduction

During the last three decades educational systems all over the world have witnessed significant changes in the complexion of devices available for education. With the introduction of educational television and computers in fifties, the educational systems in developed countries were confronted with the euphoria for electronic devices and every new gadget available in the market was taken as a panacea for all maladies in education. The trend is now shifting and there is a vivid wave of realism which stresses re-examination of our earlier attitudes and adoption of technologies which are 'appropriate' to the existing structures and help to promote the learning process. This process is called the intensification process which relies more on the ingenuity and skill of teachers than the vast array of gadgetry available to them. There are examples of successful adoption of new media which are available to innovative teachers as resources. In this unit, an attempt has been made to survey the existing situation with regard to the wide spectrum of educational technologies, and the problems associated with their use by the educational systems. The unit also includes extracts from prominent resources which re-examines our earlier attitudes towards these media and endeavour to build up a more realistic approach in the coming few years. The unit further re-examines the emerging concept of distance education and its particular relevance to developing countries which are struggling to reach masses of their people in the shortest possible time.

8.2 Objectives

It is assumed that the study of this unit will enable you to:

1. Describe the manner in which new methods and media are being used by contemporary educational systems for quantitative expansion and qualitative improvement of education.
2. Identify major issues emanating from the wide scale use of electronic media of education.
3. Analyse implications of unplanned use of media and suggest alternative approaches for intensification of learning process.
4. Define the role of advanced educational technologies in higher education and identify the problems of selection of appropriate technologies for this level.
5. Examine the scope of distance education in meeting the challenges of education in the developing countries of the world.
6. Indicate latest trends in the use of media and the precautions against the euphoria of educational technologies which are being used in developing countries, tending to build up more

realistic approaches for meeting the challenges of their educational systems.

8.3 Significance

The need for application of scientific and technological knowledge to the processes of education (both quantitative and qualitative) is being widely felt in all countries of the world, irrespective their rate of development. This need is perhaps more acute in the case of developing countries which are desperately looking for alternative methods to ensure equal access to quality education to a large number of their citizens in the shortest possible time. Recent times have witnessed a massive shift from spoken word to a wide array of media including computer and satellite assisted instructional technologies. These technologies make it possible for students of Japan to share the laboratory experiences of a class in any part of Europe of U.S.A. and also to obtain written data sheets of various experiments simultaneously alongwith their 'co-students' in these countries. The barrier of distance has indeed been over come for those who can afford to buy, use and maintain modern educational technologies.

Faure Commission has critically examine the increasing role of new methods sand media in the educational process. Discussing the role of various methods in the instructional process, the Commission warns against the tendancy of de-emphasising spoken or written word in the context of technological discoveries, and poses the pedagogical challenge of adopting appropriate media for relevant processes of education. " Instead of setting various methods against each other," the Commission stresses that "it is more constructive to list the resources they offer and determine methodically the conditions in which each may be used to supplement the others". The Commission endorses the observation of the Director General of Unesco who said that, "the written word must not be pitted against the image, for a truly modern education, from the level of elementary literacy training to the top levels of higher education, should integrate word, wound and image".

Keeping these psychopedagogic considerations in mind, the Commission analyses the role of various methods and media in education ranging from classroom dynamics to the use of radio, television, computer assisted teaching, space communications, and systems analysis etc. for various levels and processes of education. The commission suggests a few elements for contemporary strategies by laying down the following principles:

"The new educational ethos makes the individual the master and creator of his own cultural progress. Self-learning,

especially assisted self-learning, has irreplaceable value in any educational system”.

“The accelerating and multiplying effect of new techniques of reproduction and communication is basic to the introduction of most educational innovations”.

“Widespread and efficient use of new technologies in education is only possible if sufficient change takes place within the system itself”.

Let us read a few relevant parts of the Commission report to fully appreciate the significance of the emerging techniques of education.

Faure, Edgar, et. el.; “Learning to be”:, Ibid, pp. 61 – 63, 116 – 133, 209 – 215.	Text 8.1
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8.4 Problems and Issues of Electronic Learning Process

With the onslaught of electronic learning revolution, our attitude towards teaching learning process is undergoing a substantial change. The impact of electronic learning technology on education is all-pervasive, affecting the important domains of knowledge, skills and attitudes. This requires a cautious handling of the situation before we are led astray by the euphoria of modern gadgetry in isolation from the hard core requirements of the teaching learning process. In an interestingly Socratic manner, Mary Alic White, Director of the Electronic Learning Laboratory, Teachers’ College, Columbia University, New York, U.S.A., has raised a series of questions to further probe into a few relevant issues pertaining to the impact of electronic learning devices and the possible policy of the world during the next few years. The series of thought-provoking questions raised by Ms. White may be summarized as below:-

- a) First of all, we should establish the base-line to find out the extent of use of currently existing technology by children and adults; having done this initial exercise, we would have the necessary hind-sight to:
- b) Make comparisons (of the role of different media in learning) for the future,
- c) Determine the conditions necessary for learning effectively from the technologies,

- d) Ascertain what information will be better or faster or uniquely presented by the new technologies.
- e) Establish how electronic learning differs from print learning.
- f) Decide what the conditions are for successful teaching with the new technologies.
- g) Examine how our lives will be changed as a result of the new information in communication.
- h) Evaluate what is good instruction in electronic learning, and
- i) Ascertain what public policy issues are likely to arise from the answers to these questions".

Ms Mary does not raise the questions only but attempts to answer them in sufficient detail from her own experience. According to Mary these questions are necessary to initiate research into this vital area of concern for teachers, administrator, planners and policy makers of our times. Let us go through her article to find out the impact of electronic learning revolution and to analyse the possible issues which may also confront us in Pakistan during the next decade.

White, Mary Alice, "the Electronic Learning Revolution", from the quarterly Propects, No. 49, Vol: XIV, No 1, 1984, pp. 23-33.	8.2
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8.5 Information Explosion and Educational Process

With the massive increase of knowledge, the schools are no more in a position to handle the situation with conventional teaching methodology. Obviously the school timings cannot increase indefinitely while there is no end to the process of knowledge explosion which has just started in the 20th century. The only possible way to face the challenge is by adopting a new approach towards teaching methodology, production of textbooks and audio visual media. The crux of the problem is to ensure effective assimilation of maximum content of knowledge by the students in the shortest possible time. In an interesting article on the subject, Prof. Yuri Babanski, Vice-President of the Academy of Pedagogical Sciences of USSR has examined experiences of some secondary schools in various parts of Russia which are endeavouring to meet the challenge of information explosion through optimization of the educational process. He calls this process as the intensification of teaching which should be brought about with out over

burdening the pupils and the teachers. Besides adopting a special criteria to select the most essential areas of content, the teacher also needs:

- to create a specific system of teaching materials, equipment and methodological means of using scientific information in the teaching process and
- to be equipped with a theory and with methods for optimizing the teaching process.

Prof. Babansky, in his interesting article analyses the criteria for a) selecting the most fundamental educational content, b) intensification of teaching through recasting and enriching teaching materials, c) developing teaching methods which ensure rapid absorption of scientific information, and d) optimizing instruction within the available period of schooling. He has illustrated his view point with quite a few examples of secondary schools from various parts of U.S.S.R. which are consciously implementing the above strategies under a variety of conditions. Let us go through this interesting articles alongwith the Preface of Unesco's publication on Media Education, which summarises the essential elements of various other articles on the subject written by international experts of repute from USA, Europe and a few developing countries.

Babansky, Yuri, "the Information Explosion and Optimizing the Educational Process" from Media Education, (edited by Morsy, Zaghoul), Unesco, Paris, 1984, pp. 5-12, and 127 - 147.	8.3
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8.6 Role of Teacher in Use of Various Methods and Media of Education

The central role which a teacher plays in the teaching-learning process has not much changed over the years. In a typical high school even in developed countries, teacher still is the key figure who makes important decisions about the use of various methods or media. The classes are organized in a structured manner with teacher coming one after the other and teaching the subjects assigned to them in a 'class room situation'. Unlike the primary or higher education, which are more amenable to integration and de-structuring, situation in a high school still continues to be predominantly determined by the subject/teacher/class/period organization of more conventional nature. The amount of independence available to a learner for learning is still marginal. His ability to manipulate the environment around him continues to be restricted because of the existence of a pre-determined set of activities meant to be taught to the students.

O.E.C.D. (Organization for Economic Cooperation and Development) under their CERI (Centre for Educational Research and Innovation) programme, conducted various studies on the Learning Systems which were synthesised in a workshop in 1971. This workshop inter alia designed a strategy to research for more systematic and effective ways of organizing instruction by using new methods of visual and oral communication transforming the learning atmosphere from a predominantly "teacher based" teaching to an "environment based" learning.

The workshop produced a very comprehensive report. In the words of the report, "by an environment-based system is meant a shift in emphasis, from the teacher teaching to the learner learning in an environment where technological aids as well as the teachers are available as resources". This has changed the role of the teacher from the sole transmitter of knowledge to a professional manager who ensures that learning takes place in a systematic manner. This requires that the schools are provided multi media packages of learning with maximum freedom to choose from one or the other and also to create or develop their own materials, wherever deemed necessary by them. These packages should be produced in modular forms giving freedom to teachers for local modifications. The report has also visualized the essential steps which are a pre-requisite for the development of an effective learning package. These steps are:

1. statement of objectives,
2. Description of target population,
3. Decision on content and sequences,
4. Initial preparation of materials,
5. Trial and revision,
6. Large scale production and continuing revision of materials,
7. Implementation, and
8. Revision—Evaluation.

Let us read the report for further details of each step of the process.

CERI (Centre for Educational Research and Innovation) Report on Educational Technology: The Design and Implementation of Learning System. O.E.C.D., Paris, 1971, pp. 15—27	8.4
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8.7 Communication Technologies in Higher Education

With the acceleration of the process of knowledge explosion, the need for use of new communication technologies is likely to intensify at various levels of education. Whereas the curricula at first and second levels

of education continue to form a basis of education on more or less established principles, the higher education systems are directly confronted with the challenge of knowledge explosion and therefore, need to respond to the situation by adopting a new methodological approach towards the problems. There is a wide array of technologies available to the system to meet this challenge. The crux of the problem lies in the fact that we appreciate the potential of these technologies in optimizing learning and their relative limitation in de-emphasising the interactive process which continues to occupy a critical role in 'essentials' of learning process. The higher education planners and administrators are thus confronted with important decisions about:--

- what technology is best for a certain level/subject, or in teaching learning/administrative process,
- how it may be employed to maximum advantage,
- what support systems are needed, and
- when is the best time to purchase a certain technology and how cost benefit can be best assessed.

In an interesting working group meeting organized by Unesco Regional Office, Bangkok, a group of experts assembled in Bangkok in 1985 to examine the promise and prospects of various technologies and crystallised issues pertaining to decisions about the use of these technologies in higher education. The group was conscious of the fact that bearing in mind the cost involved in acquiring these technologies, it is important "to ensure that maximum advantage is taken of the potential that the new technology has for facilitating and improving research and teaching process". The report has surveyed the potential and limitations of various technologies ranging from print medium, television, video-cassettes, video-disks, computer based education to electronic mail and telephone system service higher education. The report has also developed criteria for selection and use of various technologies and examined the necessary conditions under which the use of these technologies can be maximized. The report has also provided preliminary insights into the evaluation aspect by devising a few check lists which may facilitate the selection of a valid media mix for higher education. Let us go through this report to examine this important role of new technologies in higher education.

Unesco, "The Use of Advance in Communication Technologies for Higher Education Purposes", Report of a Technical Working Group Meeting Held in Bangkok in June, 1985, Unesco, Bangkok, 1986, pp. 3—24.	8.5
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EXERCISE

Suppose television is to be used as a medium of enrichment of teaching in the higher education system of Pakistan after two years, you are assigned to prepare a plan for this purpose by the authorities. What will be the essential considerations for this plan in terms of;

- | | |
|-----------------------------------|-----------------------------|
| a)Subjects/Levels | b) Timing |
| c)Reception in Classes, | d) Monitoring, Supervision, |
| e)Administration/
costing, and | f) Evaluation. |

8.8 Emerging Concept of Distance Education

During the last two decades, distance education has emerged as an alternative mode of education to respond to the educational needs of millions of people of the developing countries in the shortest possible time. Starting with a modest nucleus of a correspondence institute or a media centre, there is a mushroom growth of full fledged Open Universities in many countries of the world. At present there are eleven such Universities in the Asian region while a few more are in the pipeline. The Open Universities in Asia have even formed themselves into an association known as AAOU (Asian Association of Open Universities). The massive expansion of the distance education is based on the rationale growth through life long education. The Open University system ranks among the most prominent educational innovations of the twentieth century.

We are reproducing here under two very comprehensive articles on distance education which cover a wide range of issues associated with this method and offer sufficient research evidence to substantiate their viewpoints.

Dr. Gupta, Director, Model Institute of Education and Research, Jammu, India, synthesizes the findings of various recent researches on distance education under the following topics:--

- a) Characteristics and models (of distance education system),
- b) Model of learner—centered distance education,
- c) Learner characteristics,
- d) Process variables,
- e) Learning outcomes

In another article, Dr. Prof. Ahmad Noor Khan, Director, Research and Statistical Centre, AIOU, Islamabad, has surveyed the growth of distance education institutions in Asia-pacific region and illustrated the concept of distance education through various models which are currently in vogue in the world. Some of the prominent models are as below:-

- a) The correspondence school model,
- b) The multi-media model,
- c) The consultation model,
- d) The integrated model.

Dr. Noor has also delineated the details of distance education system as an innovation in non-formal education and related it to the world of work to meet manpower needs in both the developed and developing countries of the world. Let us read these interesting articles:

<p>Gupta, Arun K., "Learner-Centered distance Education: a Research based framework", and Khan, Ahmad Noor, "Distance Education: an Innovation in Non-formal education and the World of work", from Pakistan Journal of Distance Education, AIOU, Islamabad, Vol: II, Issue No. 1, pp. 7—16, 23—32, 1985.</p>	<p>8.6</p>
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EXERCISE

Discuss the concept of distance education with the local Regional Director of AIOU and at least one of its senior tutors and a few students and offer critique on the:

- a) role of AIOU in equalization of education opportunities in Pakistan,
- b) advantages and limitations of distance education in Pakistan,
- c) functioning of AIOU as an institution of distance education problems and issues.

8.9 Towards Realistic Adoption of New Media in Education

With the introduction of modern technologies in the world in early 60's there was mad rush for adopting these technologies for educational purposes in the educational systems of the developed countries. Educational television, radio, and computers were considered as key agents for qualitative change irrespective of the inherent characteristics of the educational structures on which they were super-imposed. The established conventions of the educational systems were disdained being traditional and only the new

mechanistic devices were considered to provide better answers to pedagogical questions of fundamental nature. Obviously this was not possible and hence after initial setbacks, the educational systems were constrained to re-examine their initial premises about the role of educational media in bringing qualitative change in the educational process. This realistic outlook was further assisted by the financial squeeze with which these systems were confronted during seventies.

Philip H. Coombs has examined the phenomenon of early euphoria for educational technology of modern realism of mid eighties. The first realistic trend was introduced when the educational technologies were re-defined in the context of processes of education ranging from classroom methods to simple school devices whose ultimate objective was to induce learning. There was a severe reaction against rejection of the established methods for so-called new media which heavily relied on "machine", and educational technology was re-defined as a combination of the best of the old and the modern methods in an integrated manner geared to maximize learning by yielding better results. Coombs has also analysed the rise and fall of instructional television and increased emphasis on appropriate technologies introduced in early seventies which utilized the local communication media to meet the needs of out-of-school population.

In order to provide a more realistic out-look for education in mideighties, Coombs emphasizes the need to acknowledge some of the basic realities of our times. These are:--

- education has made tremendous head way in most of the world over the past three decades,
- education today as at its disposal a far broader and stranger set of tools to work with than ever before,
- the urgent need for radical educational change—changes that moves forward, not back to the "good old days"—has come to be more clearly and widely recognized.

It is in this perspective that Coombs attempts to redefine educational technologies appropriate to our times. Let us read more from Coombs.

Coombs, Philip H., The World Educational Crisis, Ibid, pp. 125—135.	Text 8.7
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8.10 Self-Assessment Questions

1. One important issue raised by Ms White for educationists is to "decide what the conditions are for successful teaching with the new technologies" Keeping the existing educational conditions, in view, please state if the use of educational technologies is justified in Pakistan.
2. Please define the intensification process in learning. How would you apply this method in a typical secondary class.
3. CERI approach towards educational media requires complete decentralization of secondary school curriculum. What would be the major bottle-necks if this approach is used in Pakistan.
4. Evaluate the functioning of the Allama Iqbal Open University. Is it justified to expand the use of distance education to meet the educational challenges of Pakistan in late eighties.
5. Keeping the existing trend in view, analyse the use of the following educational technologies for improvement of learning at higher education level:
 - i) Television,
 - ii) Computer, and
 - iii) Video—Cassettes.

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UNIT-9

EXAMINATIONS AND EVALUATION



9.1 Introduction

All Education Commissions reports and Policies in Pakistan have advanced series of recommendation to reform the Examinations system during the last forty years. Quite a few international experts have also visited the country and made in depth analysis of the system. These experts have presented critical analysis of the maladies created by the retrogressive system of examinations and offered suggestions of far reaching significance. Unfortunately the problem is so inextricably riveted to the unstable political conditions of the country and the authoritarian, non-participatory cultural attitudes that any objective investigator would find that only marginal adjustments have been injected in the system introduced during the colonial period towards the end of the nineteenth century. This is happening inspire of the fact that the country now has a good number of experts who have received advanced training in this discipline from developed countries of the world and are certainly in position to immensely contribute towards the improvement of the system. Besides these experts, the country also has at its disposal a vast body of literature produced elsewhere in the world and significant number of researches conducted in Pakistan. This unit is intended to cover national and international experiences on the subject to expose our students to the 'hard core' of the examinations system and to present before them the problems and issues of the system as it operate in Pakistan.

9.2 Objectives

It is assumed that the study of this unit would enable you to:

- 1) identify major historical developments introduced in the discipline in advanced countries of the world,
- 2) enumerate important critical issues in testing and measurement,
- 3) delineate details of the examination systems and some of the major unresolved controversies with which the system is confronted towards the end of eightees in Pakistan,
- 4) synthesise various efforts of the reform of examination system in Pakistan made by national and international experts as well as government committees and organizations.

NOTE: This unit should be studied in conjunction with Unit—10 on "National Education Policy".

9.3 Significance

The system of examinations, popularly known as testing and measurement in the West, forms the hard core of the qualitative dimension of education in any country. Generally in the developed countries, most of the examinations are conducted at the classroom/institutional level. These tests are occasionally supported with the standardized national/regional tests which assist the institutions to continuously measure the achievement/progress of their wards on broader norms. Whatever the form of examinations, they become the final measure of the successful implementation, of education policies and curricula and the manner in which these politics and curricula were translated into classroom practices through the utilization of various methods, media and materials. It is through these examinations that we find "conclusive evidence" about government policies and plans on education.

In order to appreciate the significance of the examinations system, we must look at the existing situation both from a global and national perspective. The Faure Commission considers the examination phenomena as an integral part of the democratization process in education which may accelerate or retard the provision of equal opportunities of education to all, irrespective of any other considerations. Elaborating their concept of equal opportunity further, the Commission states that:

"Equal opportunity for all does not mean nominal equality, today; it means making certain that each individual receives a suitable education at a pace and through methods adopted to his particular person".

Looking at the phenomena from a national point of view, we find that the situation continues to be far from satisfactory. In spite of sporadic efforts of various Commissions and Policies, the system continues to be based on the same philosophical foundations on which it was started around the close of nineteenth century during the colonial era. According to a very comprehensive study conducted by Dr. M.A. Bhatti, et. al.; the system is alleged to be "invalid, unreliable, inefficient and adversely affecting the future of thousands of students. It encourages and rewards memorization, resulting in imperfect discrimination of students for higher education. Grades awarded to students do not take into account their morals, patriotism and achievements in affective domain. Results of an external examination cannot thus be regarded as the total and true index of students' abilities".

Let us go through these important study reports to comprehend the intricacies of the examination situation both from global and national perspective.

Faure, et. el.; "Learning to be" Ibid, pp. 74—77	Text 9.1
Bhatti, M.A. et.el.; "Secondary Education Boards: An Overview, "National Education Council, Islamabad, 1987, pp. I to viii, 52—62.	9.2

9.4 Examinations and Evaluation—Historical Perspective

Examinations, in one form or the other, have always been an integral part of the education process. The function assigned to the examinations 'system' in early times has generally been very simple. It is around the turn of the twentieth century that more substantial questions like objectivity, validity, and reliability were raised and answered by professionals belonging not only to pedagogy but also to various branches of social sciences. The movement has gathered a new momentum with its expansion from narrow range of examinations and testing (generally restricted to evaluation of student performance on various tests) to evaluation which refers to plan, project, program or materials evaluation. It would be interesting to chronologically study the brief history of the "evaluation movement" through various models which have emerged since the turn of the century and the philosophical foundations on which these models were formulated.

Guba, Egon G., and Lincoln, Yvonna S., in their study on "Effective Evaluation" have summarized various models which have emerged in American literature during the last several years. According to the authors, earlier literature on examinations and evaluation used the terms interchangeably and was influenced by the following factors:--

- 1) Both measurement and evaluation were inextricably tied to the scientific paradigm of inquiry,
- 2) Evaluation and measurement were focused on individual differences,
- 3) Evaluation and measurement had little relationship with school programmes and curricula.
- 4) Evaluation was oriented to standardized and objective measures that were norm referenced.
- 5) Evaluation and measurement as conceived fit in well with the prevailing industrial metaphor that was guiding the schools.

The following models have developed during the last fifty years to specify roles of measurement and evaluation and to define evaluation from various important stand points:-

- 1) *Tyler rationale* – developed by Rolph W. Tyler (1929) which differentiated the concept of measurement and evaluation, using measurement as one of the tactics of evaluation.
- 2) *Countenance Model* – developed by Stake R.E. (1967) which emphasized on the input-process-output matrix.
- 3) *C.I.P.P.M.* (Context-Input-Process-Product Model) developed by Stufflebeam, D.L., (1971) which emphasized on decisions which were to be made on the basis of evaluation.
- 4) *Gold Free Model* – developed by Scriven, M., (1972) which emphasized on effects rather than goals.
- 5) *Connoisseurship Model*, proposed by Eisner, E.W., 1975) utilizing the professionally trained human being as a measurement instrument, because all evaluation involves 'appreciation' and 'criticism' which is only possible through human intervention.

Let us study a brief history of measurement and evaluation in American education from the following important source:-

Guba, Egon G., and Lincoln, Yvonna S., "Effective Evaluation", Jossey Bass Publishers, Washington, 1982, pp. 1-22.	9.3
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9.5 Critical Issues in Testing and Measurement

There is a wide spectrum of issues relating to testing and measurement with which educationists are confronted in both the developed and developing countries of the world. The kind of the issues which a centralized system of examinations like ours creates are quite different from the decentralized system of examinations in a developed country like United States. It may be interesting for us to study some of the issues on testing and measurement of an advanced system like that of U.S.A. and see if some of them have any relevance in our situation because other than the public (terminal) examinations, most of our examinations are also class/institution based and suggested similarities with decentralized systems. Clark Trow has analysed some of these issues in the American system, particularly in the:

context of teacher preparation, which has substantial relevance to classroom situations both at the secondary and post secondary levels. These issues are contained in his interesting series of articles on:

- 1) *The Credentials Mill in a Technological Age*: This article emphasises on the concern of educational institutions becoming as credential's mills without caring for necessary competencies which must be attained by students.
- 2) *Behavioural Objectives* – Much of the difficulty in testing arises when the objectives of any particular unit of study are not specifically stated in behavioural terms.
- 3) *Marks, Grades and Scores* – Some of the issues contained in this article are the varying criteria employed by different teachers, the subjective nature of the value judgments, the instability of the measures, and other subjective considerations in evaluation of student performance.
- 4) *Marks, Norms and Proficiency* – In spite of its evil effects, competition has become the essence of modern ways of life. You have to compare one student with the other in terms of their performance. The article contains brief discussion on "norm referenced" and "criterion referenced" evaluation.
- 5) *Grades and Objectives in Higher Education* – The article analyses difficulties associated with the continuation of the grade (A, B, C, D) system and the – functions it serves. These functions are selection, motivation, guidance, and instruction.

The author intends to suggest to replace the existing model of Assign-Test-Mark with Assess-Teach-Evaluate which requires a fundamental change in the present instruction model of:

'Apprehend – Accuse – Prove guilty – Punish' to the "medical model" called: 'refer – diagnose – treat;

Let us go through these interesting articles.

Trow, Clark, Wm., "Paths to Educational Reform", Educational Technology Publication, Englewood Cliffs, New Jersey, U.S.A., 1971, pp. 108-151.	9.4
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EXERCISE

Compare the following two approaches in measurement and study their implications for improvement of examinations system in Pakistan:

1. Norm referenced,
2. Criterion referenced.

9.6 Problems of Examination System in Pakistan

The system of examinations in Pakistan is beset with various critical issues which continue to remain unresolved inspite of volumes of literature written by national and international experts and organizations during the last forty years. The present system of examinations is essentially based on the 'Matriculation system' first introduced by the English in the Universities of Punjab, Madras and Calcutta around the end of the nineteenth century. Whereas there have been tremendous changes in scientific and technological domains resulting in new outlook for education in the eighties, the examination system seems to perpetuate the generic characteristics on which it was patterned by its originators. Our thinking on examinations oscillates between extreme internalization to existing externalization and all experiments to maintain a workable balance between the two approaches seem to have floundered for one reason or the other.

In a brief article on the subject, Mr. Ijaz Elahi Malik of the Central Bureau of Education, Islamabad, has examined various issues involved in examinations and suggested certain steps that could be taken to improve, if not replace, the system to yield better results. Mr. Malik has raised and answered the following important questions in his paper:

1. Does the system of examinations adequately cover the functions for which it is created?
2. Should examinations be internal or external in form?
3. When, where and how often these should be held?
4. Are they fair?
5. How to reduce malpractices and restore confidence of the public in examining bodies?

Using the existing data and series of reports published by the Ministry of Education as well as a few renowned international experts, Mr. Malik has attempted to answer these questions in a very cogent manner. Let us go through Mr. Malik's article and see if we find the system responsible" for many of the weaknesses of the country's education" as observed by the National Commission on Education in 1959:--

9.7 Reforms of Examinations in Pakistan

Perhaps the most critical issues which influences the entire process of education in Pakistan is the examination system inherited from the colonial past. Unfortunately most of our efforts to improve curricula, textbooks, and teaching methods have stumbled because of the perpetuation of a system of examinations which has been least amenable to reform and innovation. The system has mostly been confronted with following maladies inspite of sporadic efforts to inject a few marginal improvements in the wake of various educational reforms since 1960:--

1. Controversy over internal versus external systems of examinations; also known as Semester versus annual system of examinations.
2. Lack of training of teachers in the preparation of valid and reliable test items.
3. Perpetuation of malpractices in the conduct of examinations.
4. Emphasis on essay examinations, resulting in rote memorization and 'selective' studies/guess work on the part of students.
5. Erosion of teachers credibility in running internal/or partially internal system of examinations because of corruption, administrative influences and political intervention at the local level.

These and many other maladies of similar nature have resulted in the perpetuation of the old hackneyed system of examinations in Pakistan. A few efforts at reforms were made in the wake of the reports of National Education Commission 1959, Education Policy 1972, and National Education Policy 1979. In a report on "Examination Reforms in Pakistan", compiled by the Curriculum Wing of the Ministry of Education, Government of Pakistan, Islamabad, we find a good summary of the efforts made by various experts (both national and international) as well as Committees constituted by the government to reform the examination system in Pakistan. It would be interesting to read the entire report, but here-under we are including the following few extracts for in-depth study of a few important issues of examinations in Pakistan.

1. Introduction - giving background of the present examination system and some of the major problems.

2. Report of the National Seminar on Reforms in Examinations and evaluation held at IER, Hyderabad. (1975).
3. Report of the U.G.C Study Group on Examination (1975).
4. Analysis and Synthesis of the recommendations relating to Examination reforms in Pakistan.

Curriculum Wing, Ministry of Education, Government of Pakistan, "Examination Reforms I/c Pakistan", Islamabad, 1977, pp. 3—11, 103—112, 127—135, 172—177.	9.6
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EXERCISE

Conduct a mini Seminar of at least five colleagues of your institution on the Examinations System and present your recommendations for the improvement of the system within the context of present day problems faced by Pakistan.

9.8 Recommendations of the Education Policy 1972 and National Education Policy, 1979

Here-under we are reproducing extracts of the Education Policy 1972 and National Education Policy 1979 to enrich our section on Reforms of Examinations System in Pakistan.

"THE EDUCATION POLICY - 1972"

Annual Examinations

1. The existing system of examinations is one of the root-causes of the general malaise in our education system. At present, there are internal examinations from Class I to Class IX under which students are failed or passed on the basis of annual tests. There is no system of observing, recording and evaluating the performance, behaviour and aptitudes of the pupil throughout the year. As a result, the passing or failing of students in the annual examinations invariably becomes merely matter of the pupil's memory. The high percentage of failures not only leads to heavy drop-outs but also brings a life-long feeling of frustration and inferiority in the affected students. This is not only a national waste, but adds to our society a large mass of demoralized, dissatisfied and psychologically handicapped personalities.

2. To make the education system fruitful, it is essential to alter radically the present examination system. There will, therefore, be no annual examinations, in the existing sense, up to Class IX.

Cumulative Records

3. In place of single annual examinations, a system of continuous evaluation of the progress, aptitudes and problems of students by the class teachers will be introduced. Progression in the primary classes will be automatic. Thereafter of to Class IX progression will be based on a combination of periodical-cumannual examinations and a continuous, scientifically graded assessment of the student's achievement, general behaviour and aptitude. For this purpose, a cumulative record of each student will be maintained by every school.
4. Eventually, there will be no failures and no repetition of classes up to Class IX. A system of giving special attention to students who do not show satisfactory progress in class work will be evolved with the help and co-operation of parents.
5. In Classes X and XII the system of terminal examinations by the boards of Intermediate and Secondary Education will be continued for the time being. However, every effort will be made to eliminate the malpractices in the conduct of these examinations in which students, parents, teachers, examiners and employees of the boards are now commonly known to indulge.
6. The terminal certificates granted as a result of these examination will in future also indicate the percentage of marks obtained by the successful candidates in each subject.
7. Some of the existing Boards, of Intermediate and Secondary Education are currently required to deal with an unwieldy number of students. Additional Boards of Intermediate and Secondary education will, in general, be established for every 25000 students. To meet the present need, three additional Boards will be established, one at Rawalpindi (for Rawalpindi Division). One at Bahawalpur (for Bahawalpur Division) and one at Gujranwala (for the two districts of Gujranwala and Sialkot). In regions where the student population is spread over wide areas, additional Boards may be established even for less than 25000 students. Accordingly, additional Boards will also be established at Khairpur and Saidu Sharif.
8. At present, the Boards of Intermediate and Secondary Education confine their activities to the conduct of examinations. As provided in their charter, their activities should also include functions comparable to those of affiliating universities such as the preparation of curricula in collaboration with Curriculum development

bureaus/Centres and the conduct of research and evaluation projects. To this end, and to ensure uniformity in standards and procedures, a Committee of Chairman of the boards will be formed.

9. The examination system after Class IX will be kept under continuous review and evaluation with a view to streamlining, revising or in any other way changing it. For this purpose, Standing Committees of Examinations will be constituted under the National and Provincial Education Councils.

“THE NATIONAL EDUCATION POLICY – 1978”

Evaluation and Examinations

1. It has constantly been observed that one of the fundamental reasons for the deterioration of educational standards is the perpetual continuation of an obsolete system of external examinations which encourages learning by rote and subjects the students to various stresses and strains. Efforts will, therefore, be made to improve the public system of examinations at the end of classes X and XII. Public examination at the end of class X will be gradually substituted by internal system of evaluation. The progress of students will be determined on the basis of periodic-cum-annual examinations and continuous assessment of the students achievements general behaviour and attitudes. During the transition period, however, the grades obtained in various subjects in internal evaluation will be shown side by side with the results of the external public examinations.
2. The Admission policies to higher education institutions and professional colleges will be substantially improved. Besides the marks of the public examinations, the marks obtained in internal evaluation alongwith the results of the aptitude and admission tests will also be given adequate weightage at the time of admission. The improvement of examination system will entail a substantial change in the role of the Boards of Intermediate and Secondary Education from merely examining bodies to research-oriented professional organizations primarily concerned with the development and standardization of achievement, aptitude and admission test.

9.9 Self-Assessment Questions

1. Faure Commission considers the problem of examination closely linked to the process of democratization of education in our times. Present critique on Faure's observations on the

role of examinations in equalization of educational opportunities.

2. Compare the implications of C.I.P.P.M. model (developed by stufflebeam) and Goal free model developed by scriven) and analyse the importance of decisions and effects for curricular improvement.
3. There is a revolt against the "norm-referenced" approach in the form of introduction of "criterion-referenced" approach in many countries of the world. What are the academic consequences of both the approaches for curricular reform and improvement.
4. Analyse the advantages and disadvantages of the Essay and Objective Type Tests and suggest a workable model which combines the strengths of both these types for adoption in Pakistan.
5. Compare the provisions of the Education Policy 1972 and the National Education Policy 1978 and present a critique on these provisions, emphasising the following issues:--
 - 1) Do these provisions conform to the international trends on examinations?
 - 2) Do these provisions suggest definite solution of the controversy over internal and external examinations?
 - 3) Is there a danger of over-centralisation of the examinations system through the implementation of these reforms?

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