

“Read in the name of the Lord who created”  
(AL-Qur’an XCVI)

**UNIVERSAL**

**QUALITY**

**EDUCATION**

**A CHALLENGE**  
**TO**  
**THE WHOLE WORLD**

**SECOND REVISED EDITION**

**BY**

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those involved in any way with education. The subsequent few chapters are an eye opener for all those who deal with the destiny of this country.

Prof. Dr. Muhammad Daud Khan, Former Vice Chancellor, Khyber Medical University, Peshawar.

The book on Quality Education by Prof. Dr. Sirajuddin Ahmed caters to the needs of all those concerned with education. It not only points out problems that have been a great hindrance to education but provides workable solutions too. After going through the book, I am convinced that those who have a chance of reading the book must read it again and those who have not been able to read it, must read it, otherwise they will miss information that they cannot get elsewhere.

Prof. Mohammad Ibrahim Khattak, NWFP Agriculture University, Peshawar.

The book on Quality Education is a unique contribution to the basic problems of education being a harmonious blend of instructions meant for all those engaged in the process of education at all stages. The working teachers, parents, administrators and even general readers can derive useful instructions from it. For the developing countries, the book is an essential manual of guidance. The language of the book is simple, lucid and fluent which would certainly make appeal to the student community. This book in hand will guide us to the problems which we are to face in the 21st century.

Prof. Fatehul Mulk Khel, Academic advisor, FCA/FYA Hayatabad, Peshawar.

The chapters on educational process highlight the scientific approach to achievement of quality education, the knowledge of which is a must for bringing about a change in our outdated system of education. To my knowledge no book has been published as such on Quality Education in Pakistan.

Dr. Sardar Ali Khan, Former Vice Chancellor Gomal University, NWFP.

## COMMENTS BY EMINENT EDUCATIONISTS

Well researched and highly readable. The various concepts, contemporary issues and recommendations propounded in the book can benefit most of the developing countries by providing excellent guide lines and advice for improving the educational system.

Mr. Misbahullah Khan, Vice Chancellor Iqra University, Pakistan.

This book must be kept by every teacher, every faculty, every university, perhaps every parent and the students all alike. It is a treatise. If you really want to appreciate the book, you must buy it read it and keep it on your bedside.

Prof. Dr. Nassiruddin Azam Khan, Former Minister of Education and Health NWFP.

In addition to be instructive, the book is also highly entertaining. The chapters on education have been particularly illuminating for me personally. Those of you, educationists, who aspire to be good teachers must study his chapter on the principles of education. Siraj has done a tremendous service by focusing our attention on the need for strengthening the affective domain.

Prof. Dr. G. M. Khattak, Former Chairman, University Grant Commission, Pakistan.

Very insightful, very penetrating, very stimulating, and in a certain way a book which is additive to the stock of knowledge. Believe me I was impressed. I simply complement Dr. Siraj for having taken this pioneering step and I congratulate him heartily.

Prof. Dr. Abdul Mateen, Former Vice Chairman, University of Peshawar.

The book on quality education has indeed filled a major void in this area. The first few chapters on the technical aspects of teaching, training and evaluation should act as bible for all



**DEDICATED**

**TO**

**My Late Father  
Alhaj Sofi Muhammad Riaz Uddin  
who remained a dedicated teacher  
and a true spiritual father to  
all his students all his life.**

## MESSAGE FROM THE AUTHOR

The quantitative aspect of education deals with the numbers required for achieving universal literacy, basic education for all, facilities for higher education according to national needs for those who have the merit and vocational education for the rest. Education is a continuous process from cradle to grave and should be a serious concern of, literally, every individual on earth.

Quality of Education pertains to learning process. The contents of learning vary from class to class, from school to school, from subject to subject, from formal to informal, but the principles of the process of learning remain essentially the same for all. This process must meet the needs of four questions:- 1) Why to learn? 2) What to learn? 3) How to learn? 4) How to know that learning has achieved its goals and objectives? The answers to these four questions make up the process (cycle) of learning and must lay the foundation of education. Every one must understand that the process of all educational activities is based on the same principles but the contents are different.

This book attempts to make readers grasp this concept without which quality education cannot be achieved. The standard of education will be raised if quantitative aspects of education are met and universal quality education is ensured. This conceptual understanding is a must for every stakeholder in education before education can take off for the welfare and survival of human race. The secret of eradicating poverty, prejudice, disease, crime, violence and terrorism from the world lies in achieving universal quality education which is the fundamental human right of every one.

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## **FOREWORD TO THIRD EDITION**

It gives me immense pleasure in writing foreword for the 3rd Edition of this highly valuable book on Quality Education by my esteemed teacher Professor Dr Sirajuddin Ahmed. He is not only a renowned Professor of Medicine but also a teacher of the teachers and an immensely effective mentor. He has the privilege of being among the first few medical educationists in the country who introduced the concept of “medical education as a specialty” and established the first Department of Medical Education in this province, at Khyber Medical College. He retired as Principal / Dean of Khyber Medical College and Peshawar Medical College (PMC) got the honor of having him as its first Chairman of Department of Medical Education.

While reading this book you will clearly find that the learned Professor has great passion for promoting values-based quality education as he sees it the only way for nation building across the societies. This book speaks loud of that. It has very feasible suggestions for incorporation into overall educational system of the country, particularly the medical education system. It also propounds highly specific formulations that could be realized by various stakeholders of the educational process within their limited scope and sphere of activities.

The Mission Statement of PMC is to produce doctors with 'Excellence in Professional Competence & Ethical Values'. I can very confidently say that this book would go a long way in realizing our common vision. The book is expected to create great ripple effect that will heavily contribute towards development of our nation through holistic reforms in the educational system and related public and private sector educational institutions.

The author has personal opinions on certain issues which may be different than the vision of the college and as such may not represent the official policy of the institution. However in line with the institutional policy of personal "freedom of expression" any faculty member has the right to express his own views on any issue.

We are proud to share this valuable book as first output of the college's Department of Medical Education. We pray for the long life and health of Professor Sirajuddin Ahmed, for contributing yet other similar outputs particularly at a time that we mostly need it.

**Prof. Dr Najibul Haq**  
Principal/Dean  
Peshawar Medical College, Peshawar



## **FOREWORD TO FIRST EDITION**

This country (Pakistan) was born with only a handful of health professionals facing enormous challenges. While acknowledging the contribution of the first generation of health professionals in closing the quantitative gap, it was increasingly realized that our people deserve and demand a better quality health care appropriate to their needs and requirements. It is established that quality of health care entirely depends upon the quality of education. It is axiomatic that the key to any form of medical education lies in the hands of teachers. Thus the medical teachers form the center of attention. A vast majority of medical teachers have had no formal training in pedagogy, the professional qualifications do not automatically confer this and experience alone is not enough in this rapidly advancing world of science and technology.

This non-voluminous work with enormous and comprehensive impact lays down the guide lines for planning, implementation and evaluation of education, emphasizing the need for constant watch for new concepts and appropriate strategies.

I have the privilege of being associated with Professor Sirajuddin Ahmed for a long time. He has a well known academic ancestry and is an insatiable educationist. He has made an indelible record of distinguished contributions at the institutional, national and international level in this field. It is accepted that what is applicable to medical education is largely applicable to other forms of education.

**PROF. NASSIRUDDIN AZAM KHAN**

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Former Minister for Health, Education  
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# **PREFACE I**

by  
**DR. SARDAR ALI**

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DERA ISMAIL KHAN, N.W.F.P.  
MEMBER PUBLIC SERVICE COMMISSION  
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SECRETARY HEALTH  
GOVERNMENT OF N.W.F.P.**

This book a combination of inter-related and interdependent articles/essays has been written by an experienced teacher with a keen awareness of our national failures in social, economic and human development, who identifies the defective and inefficient system of education as the basic cause for these failures. As evidenced from the sub-title of the book, it is addressed directly to the teachers, parents, students, administrators and planners of education in the developing countries. The book basically deals with the formal institutional education in Pakistan and other developing countries from primary to the post-graduate University level and also deals with the subject of continuing education after the institutional education has been completed.

An apparently different, but highly pertinent subject of "Priorities of Public education" based on ten topics has been introduced. These topics relate to our national life and tend to give character building direction to our educational system. Four other essays closely related to medical and health education have been included in the book. I'll make short comments on the essays in the subsequent lines.

The glaring inadequacy of our system of education, both qualitatively and quantitatively and its damaging effect on our national life is being felt by many of our educationists and other people in authority and having genuine concern with education.

The literacy rate in Pakistan is still 45 percent after fifty one years of independence and we have failed to produce a matching manpower in the highly technological and competitive world of the present time. The economic performance of the nation is unsatisfactory and there is wide-spread disappointment amongst the young qualified people due to unemployment. There is lamentable erosion of our social and moral values which is unbecoming of an honorable nation. The author has pointed to the vicious inter-relationship of bad education and poor moral values in almost all the chapters of the book.

To ensure the establishment of purposeful education, the author describes the scientific process of evolution of syllabi for imparting purposeful education. The first step of the process is to establish National Goals of education. The performance level of an individual on completion of the course is to be clearly defined for each discipline. These National Objectives will be further translated into specific learning objectives. The specific learning objectives will be achieved through adopting an instruction strategy or curriculum according to known principles of learning. The whole process spread over these chapters has a strong scientific basis and makes a compelling case for change in our present system of education. Assessment of educational achievements or examination has been described under the chapter, "How to evaluate the achievement of purposeful education." The subject has been discussed exhaustively, and as its importance warrants, it covers almost one fifth of the whole book. The merits and demerits of different types of examinations have been lucidly brought out. The educational value of the examination has been forcefully highlighted and introduction of transparency and objectivity has been convincingly advocated. This chapter deserves a serious attention of all those who wish to rectify the present unsatisfactory system of examination in Pakistan.

In the light of his vast experience as a teacher, the author recognizes the existence of "Basic Needs" of a successful educational strategy and has discussed the needs under the headings of students, teachers, parents, facilities, administration

and planning. Many useful and practicable suggestions have been made in this article.

Education does not come to a sudden end on completion of an academic course or on admission to a University degree. There must be a process of continuing education after obtaining the formal qualifications and acquiring the ability of self education. The author attributes our failure to produce quality manpower for national development to the failure of the educational institutions to create in students an urge for self learning, research and continuing education.

As indicated in the beginning, the book has a chapter on the important subject of "Priorities of Public Education." This article picks up some aspects of our national life which need special attention. These priorities have been discussed under the headings of:

1. Education on Morality and Ethics,
2. Public Health Education,
3. Education on Population Control,
4. Education on Environmental Pollution and Preservation,
5. Agricultural Education,
6. Economics,
7. Sociology,
8. Politics,
9. Public Services and
10. Advances in Science.

The author strongly pleads education and public awareness in all these areas.

On the question of Education on Morality and Ethics the author points to the falling standards of the moral values and stresses the need for education on character building and developing healthy attitudes. The subject has also been discussed in the sub-chapter dealing with the Affective Domain of

*Educational Objectives.* The moral and ethical standards he advocates conform to the acceptable and most decent form of secular behavior and are also in full conformity with the teachings of Islam.

Under the heading of "Public Health Education" many problems influencing our individual and national health have been touched upon. Although not strictly organized as a step-wise action oriented program for public health education i.e. Sensitization, Information, Education and Motivation; the author provides plenty of relevant material which can be easily made into an action oriented program when needed.

The last portion of the book has three essays, each discussing a separate subject in considerable detail. The subjects discussed are: How to stop AIDS, Quackery and Smoking. These are very important subjects of Public Health Education and of very specific concern of the author who is a former Professor of Medicine and Principal of Khyber Medical College. He has provided immense information in a very interesting and readable form. Any of the essays can be easily re-adjusted in the form of result oriented Health Education Program.

The essay on AIDS provides detailed information in a very comprehensible form. It creates an image in the reader's mind that the human race can be freed from this very dangerous disease. The author uses very strong and motivating and persuasive arguments for prevention of AIDS and banks heavily on Quranic teachings. Himself a scientifically trained man, he probably finds the Quranic teachings as a safe refuge for the muslim world against the fast spreading scourge of AIDS.

Eradication of Smoking and Quackery have also been discussed with a strong logic equal to the damage they are causing to the human race, Quackery, ofcourse specifically in Pakistan.

In the end I may say that the whole book is an outcome of very strong feelings of an outstanding teacher on the educational and other problems faced by the developing nations with special

reference to Pakistan. He has been free and lavish in expressing his feelings and conveying it to his readers. The chapters on educational process highlight the scientific approach to achievement of quality education, the knowledge of which is a must for bringing about a change in our outdated system of education. To my knowledge no book has been published as such on quality education in Pakistan, and therefore it may be included in the syllabus of teachers training institutes . The book, as the tone suggests, has been written with a sense of urgency. It is strongly recommended for reading by all those, addressed to, in the title of the book. The book may be utilized by the national planners for introducing a change and to establish a system of quality education in Pakistan. The problems of education may get complicated more and more with the passage of years and then the book written against the prevailing background may become less relevant to offer a solution to our problems then. I therefore hope to see this book in the hands of readers very soon.

## PREFACE II

by

**DR. MR. RUHUL AMIN**

**DIRECTOR ARHAD INSTITUTE OF EDUCATION, PESHAWAR**

**FORMER PRINCIPAL**

**ISLAMIA COLLEGIATE SCHOOL**

**UNIVERSITY OF PESHAWAR**

I consider it an honor and privilege to be associated with the writing of a preface to this compilation of thought-provoking and informative articles on various aspects of the system of education in vogue in the developing countries, with special reference to the conditions obtaining in Pakistan. It is highly commendable that Professor Sirajuddin Ahmed, who has otherwise been a pre-occupied physician, dedicated himself to make a valuable contribution to an area which is generally ignored by those very people who are its beneficiaries.

The articles are so much broad-based that these would be of interest to students, teachers, parents, community leaders and government functionaries who would realize the true significance and value of education for the economic, social and spiritual prosperity of the future generations.

Professor Sirajuddin Ahmed has very skillfully and methodically explained some concepts which are of practical value. At the time of reading the draft, I felt as if the following saying of the wise personalities served as his light-houses:

- \* Human history becomes more and more a race between education and catastrophe. (H.G. Wells)
- \* The future of the state will and must greatly depend upon the type of education we give to our children. (Quid-e-Azam Muhammad Ali Jinnah)
- \* If you give a man a fish he will eat it for the day but if you teach him how to fish he will eat it for the rest of his life. (Chinese saying)
- \* Education is what survives, when what has been learnt, has been forgotten. (B.F. Skinner)



Some of the articles have been written in such a simple style that even ordinary educated people will be benefited, some are specially related to those engaged in medical profession and on the continuum are articles which deal with specialized aspects of education like formulation of objectives, teaching strategies and techniques of assessment. The chapter on teaching strategies, in my opinion, is the most valuable one containing practical suggestions/tips which can revolutionize the teaching learning process. It deserves to be a part of the syllabus of the pre-service programs for teachers of all levels of education. Similarly the discourse on Assessment Techniques is a worth reading treatise for those officers who work in examination bodies.

In spite of the fact that some topics are based on higher-order concepts, the manner of presentation is so interesting, lucid and nearer to real life situations that comprehension of the content becomes quite easy. Let us hope that this sincere effort serves as a stimulus for others to carry on with the mission.

## ACKNOWLEDGEMENT

First of all, I feel deeply indebted to World Health Organization that undertook the mission of training teachers for medical Colleges of developing countries in the early seventies and I was one of the first few fortunate ones in Pakistan who benefited from this training. Consequently all that I have written in the subsequent pages emerge from that training for which I am specially grateful to the past and present personnel of World Health Organization. Particularly I can not resist naming Dr. Bahman Jourabchi, the Director of WHO Regional Teachers Training Center at Shiraz, Iran, in the seventies, a Pediatric Cardiologist and a dedicated educationist, who played the key role in spreading the knowledge of Science of Education in Medical Colleges of the Eastern Mediterranean Region. I also acknowledge my thankfulness to many authors of the published books, and of articles and handouts released by the World Health Organization and the College of Physicians and Surgeons of Pakistan from time to time that have been extensively used in the preparation of this write-up. I am equally grateful to my colleagues in the Center of Educational Development in Khyber Medical College Peshawar who have always helped and supported my efforts to educate and get educated. I would like to express my deep appreciation to Professor Nassiruddin Azam Khan, Professor Alaf Khan, the late Dr. Sardar Ali, Mr. Abdullah, Mr. Ruhul Amin and Dr. Khabir Ahmad for participating in reviewing the text and making invaluable suggestions. I owe thanks to Mr. A.G. Bhatti and Mr. Zahoor, the artists from Khyber Medical College, for sketching the tables and figures. Dr. Najibul Haq's assistance in this work is fondly acknowledged.

The preparation of this manuscript was made possible by the active support of my wife and children who not only spared me long hours that belonged to them, but also taught me the use of computer for making the script and a hot cup of tea or coffee at suitable intervals to energize my thoughts.

Needless to say that this book would not have seen the light of the day without the support and co-operation of the National Book Foundation of Pakistan who published the first two editions.

Lastly, I record my gratitude to Peshawar Medical College for undertaking to publish the second revised edition of this book. I am also thankful to Spinzer Printers who have been extremely understanding and helpful.

For the preparation of the revised edition I have derived strength from the response of many readers of the first two edition to whom I am grateful.

***SIRAJUDDIN AHMED***

# INTRODUCTION

This book is being written in perspective of the educational situation in Pakistan but is equally relevant to readers in other underdeveloped countries and will be of benefit to all those who hold a stake in education anywhere. I have tried my best to express myself in as simple a language as I am capable of. In order to be understood by the not so well educated in my country, I have set aside economy of words for clarity of expression for which I may be forgiven. However, meaningless verbosity has been avoided to maintain lucidity of what I wish to convey to the readers. I shall welcome any comments on my omissions and errors.

My interest in education that perhaps I inherited from my forefathers was reinforced in my practical life which started in 1958. Soon after getting the degree of MBBS, I got the golden opportunity of entering teaching profession at the newly-created Khyber Medical College, Peshawar. [The initial brief experience of teaching made an indelible impression on my young mind about the paramount importance and multifaceted value of this the oldest of all professions, but since my first love was the art and science of healing, I had to leave Khyber Medical College in quest of specialization in Medicine, the insatiable desire of which took me to United States of America and Great Britain. Once I got my Postgraduate Medical Degrees, I wasted no time to return to Khyber Medical College in 1964 to accomplish the marriage of Medicine and Teaching as Assistant Professor of Medicine. I relished shouldering the dual responsibility of treating and teaching, trying to learn more and more regarding both from my patients, students and colleagues.

It took me a few years before I could realize that teaching in medical colleges was regarded an art rather than a science and good teachers were supposed to be born and not made. Moreover medical teachers were appointed on the strength of their medical qualifications and were not required to have any training or qualification in how to impart education. Similar was the case

with all other professional colleges on the campus of university of Peshawar, including Engineering, Agriculture, Law, Commerce, etc. Even non professional colleges and university departments selected their teachers on the basis of Masters or Doctorate degrees in their respective subjects and did not require any qualification in teaching. This was the time when the developed countries had evolved the science of education and were engaged in putting it into practice.

During this period, the World Health Organization was encouraging the establishment of centers for educational development in the form of regional and national teacher training centers in all parts of the world, for promoting the training of teachers of medical colleges in how to educate the medical students. I attended many workshops and availed fellowships, organized by WHO within the country and abroad and subsequently facilitated many workshops and conferences for all the Medical Colleges of Pakistan, for the training of Pakistani Medical Teachers in how to educate.

In the second half of seventies my own children started going to school, and it was then that I learned that even the majority of school teachers of the time were unaware of the science of education and parents, whether literate or illiterate, were mostly ignorant of educational principles. In fact, I found most teachers reluctant to discuss the issue or even read about it; lack of time was the usual excuse, while others pretended that they knew it all. On a visit in company of a WHO expert on education to a College of Education, I found that the state of affairs over there was as pathetic as elsewhere. It is no wonder that after the creation of Pakistan, year by year, education in most spheres, at most levels has deteriorated and degenerated to a degree that it has produced a large number of ignorant, incompetent, irresponsible, dishonest, unpatriotic and selfish usurpers of the rights of others. It is here that the difference lies between literacy and education. In my opinion the present system of education is turning out more literate than educated. It is hardly ever realized that good education alone can bring about awareness, knowledge, skills and change of attitudes for better

that ultimately determines the difference between the developed and underdeveloped nations. The role of socioeconomic factors in the development of a country depends largely on the proficiency and character of its players that in turn is subservient to good education. Unless the rulers of the underprivileged nations understand this truth, their nations will continue to suffer from ruthless exploitation, ill health, poverty and hunger. As a doctor, I have no right to teach teachers how to teach. As a medical teacher, I have gained some knowledge and experience of principles of education that are applicable in all educational spheres, at all levels, even in your own homes, where education begins. As a patriotic Pakistani, I feel duty bound, to share what I know about education with all those who are concerned with education. I understand that this small book by itself cannot overnight reverse the falling standards of education in Pakistan, nor can it turn back the clock of mental decay of our youth at once like a magic wand, but it is my humble attempt to show the direction to those who care.

At best this write up is an attempt to promote awareness about various aspects of educational process, hoping that the readers who are interested in education as a profession will follow the lead by going for more intensive training in education. This collection of articles is not and cannot be a substitute for a comprehensive training of teachers that has become a prerequisite of becoming a teacher and examiner of any subject at any level in this modern age. It can also be said of all those persons who sit on the selection committees, boards and commissions for admission to schools, colleges and universities and for entry into civil and military services, that, without having the knowledge and training on how to examine and evaluate, they will hardly be able to do justice to their jobs and to the candidates.

Through the subsequent pages, the readers are introduced to a logical approach towards various steps in education that have become the basis of educational practices in the developed countries, but still remains a theory in the developing world, not even vaguely known to the majority of those concerned with education. It is hoped, that the knowledge of these fundamental

principles of education will provoke even those who have already entered the teaching profession to undergo further training in the science of education, in order to bring about a change in the present outdated and archaic system of education in their poor countries. It is re-emphasized that unless the education is reformed in poor countries like Pakistan, it will continue to produce a large number of ignorant, incompetent, irresponsible, selfish and dishonest personalities, to the detriment of the future of their nations, and no socioeconomic, legal, political or religious force will be able to motivate the people to hard work or to abolish dishonesty, corruption, crime and violence from the society.

Needless to say that the greatest responsibility for education falls on the shoulders of parents, who have not only to lay the foundation of good education, but have to perpetually supplement and support the efforts of educationists. I have no doubt that parents will find this short presentation of immense benefit for educational upbringing of their children. Last but not the least, the administrators and planners of education too will have to understand these fundamental concepts of education if they wish to steer their nations out of the existing quagmire of ignorance. It will not be wrong to say that education is virtually the concern of every member of the society and therefore everyone will find this manuscript of great interest.

The real beneficiaries of an improved system of education are the students themselves, who hold the keys to the destiny of their nations and who alone can in the final analysis save their nations from sinking into oblivion. It is hoped that students will read, understand, imbibe and own the spirit of these basic rules of education, in order to promote their intellectual abilities, refine their skills and behavior and mould themselves into wholesome personalities for the ultimate glory of their nations. Since education is an unending, ever changing, ever expanding, life long and perpetual process, it obviously recognizes no boundaries and crosses the barriers of formal institutional education. I have highlighted this inevitable aspect of education by including in this book a few essays on topics which demand



the greatest public attention as we enter the twenty first century. Half a century of education in Pakistan has been wasted for lack of understanding of the educational process. It is high time that we wake up and revamp our educational system towards the achievement of our national goals and aspirations. In support I quote the Secretary General of the United Nations, Kofi Annan, who has said,

"Education is a human right with immense power to transform. On its foundation rest the corner stones of freedom, democracy and sustainable human development.....on the eve of the 21st century, there is no higher priority, no mission more important than education for all."

May Allah grant us the collective strength and vision to revitalize our nations through imparting correct, purposeful and effective education to the children and adults of our countries. Ameen. This is notwithstanding the fact that prayers alone will get us nowhere unless we as individuals as well as collectively pull up ourselves for a determined, persistent and consistent effort to face the challenge of revamping the entire system of education in our countries.

Finally, I have to admit that I have used generously Islamic teachings in support of what I have said because I am borne and brought up in a conservative Muslim family. I believe that religion is a means to making any one a good human being and has helped me a lot in this context. Whether I am a good human being or not is not for me to judge. I suggest that any religion which can make you a good human is worth adopting and any that makes you selfish, mean, wicked, violent and inhuman is worth discarding. Such open mindedness must remain the focal point of good education.

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**PART I**  
**FORMAL EDUCATION**



## HOW TO ABOLISH IGNORANCE ?

### IGNORANCE AND DEMOCRACY:

It is encouraging indeed that in recent years different authors have expressed concern in the national press about the failure of the successive Pakistani governments to increase the literacy rate of its people and to reverse the deteriorating standard of education in Pakistan. I believe that introduction of democracy in the illiterate society of my country has done more harm than good to the nation. Overwhelming corruption in Pakistan has its roots in the ignorance of the electorate of this country that come from the poor class and are generally lured into voting for the most dishonest persons mostly from the rich class. As a result, democracy in an ignorant society provides a golden opportunity for the corrupt elite to perpetuate their domination and exploitation of the down-trodden. In Pakistan all the elected governments came into power by minority vote since only less than a third of adult population voted in every election. Each time the political party that came in power, its leaders considered it their right to loot the public ex-chequer and violate merit to favor their party-workers and supporters. And whenever the party in power fell out of power the common man clapped and danced out of joy in the streets of all the major cities of Pakistan. In fact the four consecutive elected governments of the nineties proved to be governments of the rulers for the rulers by the rulers. Such dishonest and self-centered politicians in power had no interest in education beyond lip service. Our dismal failure on the economic and political fronts can be easily traced back to the lack or almost absence of education among the poor and oppressed masses.

## **LITERACY, QUALITY EDUCATION & ECONOMIC DEVELOPMENT**

Removal of ignorance of the people of Pakistan through imparting literacy and quality education is a fundamental right of the people for their emancipation from domination of the rich that requires to be tackled on war footing but has been ignored by every government in Pakistan including the military regimes that ruled this country for more than half the time. Only liberation of minds through education will bring out enthusiastic participation of masses in national politics with emergence of honest and selfless patriotic leadership and a generation of hardworking enlightened proletariat who will bring peace to Pakistan and accelerate the production and development of this country. This is the only route to economic prosperity. Realizing this fact, Japan focused on education and issued a Fundamental Code of Education in 1872 that announced public commitment to make sure that there must be "no community with an illiterate family or a family with an illiterate person". As a result, in less than three decades Japan achieved nearly 100 percent literacy and could publish more books than each of the Great Britain or the United States. This led to the remarkable economic prosperity of Japan. This was despite the fact that Japan had no natural resources and till today its economic prosperity depends entirely on its human resources. In the post-Second World War era other countries like China, Taiwan, South Korea, Hong Kong, Singapore and Malaysia followed the same road and joined the ranks of developed nations. In fact literacy offers the only quick route to education resulting in genuine democracy, empowerment of the poor majority who can rule the country and alleviate poverty by striking at the roots of poverty and allowing the poor to stand on their own feet. A study of 190 states by the World Bank reveals that 16 per cent of their global wealth comes from physical capital i.e. roads, buildings, machinery etc., 20 per cent from natural capital i.e. minerals, forests, agricultural yield etc., and 64 percent of the riches of nations are human capital. This clearly demonstrates the importance

of developing human resource through universal quality education that should dictate, to every government, the priority of education.

### **NEED FOR AWARENESS:**

As a first step every literate patriotic Pakistani must exert to bring about awareness about the need and importance of literacy in the poor people of this country. Universal literacy will lead to education that will lay the foundation of genuine democracy in which lies the salvation of developing countries.

Needless to say that without education poor people of the developing countries will continue to be exploited by the rich class either through sham democracy or dictatorship as is the case in most developing countries today. The educated of the nation are obliged to launch a movement with the participation of the journalists through the media for spreading awareness on the necessity of literacy.

### **UNIVERSAL LITERACY:**

Literacy opens the gateway to knowledge. Knowledge leads to wealth and power. It does not mean that education cannot be imparted to the illiterate or the illiterate are not educated. Indeed some illiterate in Pakistan are far more educated than many literate ones and have yielded a lot of wealth and power in their short spans of life. But such persons are unusual and uncommon. However, literacy offers the quickest route to the vast amount of knowledge that is in written form to a large number of people and opens their minds to numerous possibilities. In fact, literacy offers a shortcut to education. It is obligatory to be literate in order to have access to the unlimited knowledge that has descended to us since the dawn of history and is expanding every minute because of creativity of the educated. Universal Literacy is the first step for eradication of ignorance from the society. This remains, in quantitative terms, the first and foremost unquestionable educational goal of Pakistan. The very first question that lurks in the mind of every sensible

Pakistani is to why the Islamic Republic of Pakistan has failed to achieve hundred per cent literacy in more than six decades of independence, despite the fact that the very first words that Allah conveyed to our Holy Prophet Muhammad (PBUH) were:

*" READ: IN THE NAME OF THY LORD WHO CREATED,  
CREATED MAN OUT OF A CLOT OF CONGEALED  
BLOOD.*

*READ! AND THY LORD IS MOST BENEFICENT,  
HE WHO TAUGHT BY THE PEN,  
TAUGHT MAN THAT WHICH HE KNEW NOT.  
(Alquran XCVI Verse 1-5)*

The prophet Muhammad (PBUH) declared seeking education compulsory for every Muslim male and female. " The prophet (PBUH) is quoted to have said, "Go in search of knowledge even unto China."

## **REFORMING BASIC EDUCATION**

### **THE PRESENT POSITION**

It is shameful indeed that Pakistani nation is one of the nine accounting for 70 per cent of world illiterates. In terms of literacy it occupies 112th position out of 125 nations. While countries like Sri Lanka and Maldives have achieved 90 and 97 per cent literacy respectively, Pakistan is still struggling in early sixties. According to "The state of the world's children 2002" released by UNICEF the enrolment rate of children in schools in Pakistan was only 46 percent while India had achieved 76 percent, Nepal 66 percent and Bangladesh 82 percent. According to UNESCO's Education For All (EFA) Global Monitoring Report 2007, out of 77 million out-of-school children (age 5-9) in the world, the highest numbers are about 25 million in sub-Saharan Africa, 8.1 in Nigeria, 6.4 in Pakistan, 4.5 in India and 3.6 in Ethiopia. It has been further revealed that India succeeded in reducing the number of out-of-school children from 15.1 million to 4.5 million in only two years while Pakistan continues to have half of its children, predominantly

belonging to the poor class, roaming in the streets as beggars, criminals, child laborers, addicts or at best students of Dini Madrassas (religious schools). Most of the 97 percent of the youth of Pakistani nation that provide the work force for the nation, including 50 per cent out-of-school children and 47 per cent emerging from the primary and secondary education, have no useful cognitive abilities, vocational skills or character that can make them stand on their own feet. The rest of the 3 percent that enter higher education are so poor in professional knowledge, skills and character that no one wants to hire. World Bank statistics, dated August 13, 2007, confirm that only 22 per cent of girls have completed primary level schooling in rural areas of Pakistan as compared to 47 per cent of boys.

The National Education Census of Pakistan 2006 revealed that out of 50,585 villages 10,908 had no educational institutions. According to State Bank of Pakistan Annual Report 2006 the enrollment in higher education in Pakistan is only 2.9 percent, one of the lowest in the world. Presently, in Pakistan, 39 percent of children drop out from primary education and another 20 percent drop out before completing secondary education (i.e. a total of 59 per cent) that makes achievement of universal literacy a very distant dream indeed. Commendable efforts were apparently made by the government of President Musharraf promising great strides in education in the next decade but it turned out to be a lip service because our national budgetary allocation till 2006-2007 still stayed at 2.2 per cent of the GDP with promise of 0.3-0.5 % increase in 2007-8 as against 6 percent recommendation of World Bank. Moniza Inam in an article in Dawn, Islamabad February 25, 2007 states, "South Korea invests \$130 per person every year in basic education, Malaysia spends \$128, India invests \$9, Pakistan \$3 and Bangladesh \$2". These facts knock down the tall claims of all the successive governments of Pakistan in the field of education.

## CORRUPTION IN EDUCATION AND GHOST SCHOOLS

At present education in Pakistan is riddled with

inefficiency, favoritism, nepotism, and blatant corruption that have not only destroyed the standard of education but have also allowed precious resources to go waste. A recent survey by a national paper has revealed gross mismanagement and corruption in the educational sector particularly in primary education in rural areas. Schools were made, teachers, clerical staff and peons etc. recruited on paper but do not exist, and hence are popularly called ghost schools and ghost members of staff. Salaries and maintenance funds are drawn by persons who are not traceable. Many schools in remote areas of the province of Punjab remain locked for most of the year. Many are lying without students and many have students but no teachers. Political supporters are employed as teachers who draw salaries but never ever attend the schools. Many thousand haunted school buildings are used as cattle sheds and warehouses by landlords or hide-outs by criminals.

These facts have been confirmed by the government of Punjab through an advertisement in the national press on 27th of March, 1998. According to Dr. Dodo Mahiri, general secretary of Sindh Tarraqi Pasand Party, as published in the Frontier Post of November 13, 1997, "as many as 4,000 school buildings in Sindh Province were in possession of the influential landlords that were used by them as their otags (cattle sheds)." According to National Education Census of Pakistan 2006, 12,737 ghost schools existed through out the country only on paper while others had buildings but no student or teacher. The largest number of non-functional institutions i.e. 7,442 were found in the province of Sindh alone, with 4,125 refusing to provide information. Similar revelations of massive abuse of public funds have been made in all the provinces and tribal areas of Pakistan. In April 2006 Consumers Rights Commission of Pakistan presented a survey according to which 30,000 ghost schools existed in the country and drew regular funding from the government. Large sums supposedly spent on development and maintenance of educational institutions; in fact, fill the pockets of some bureaucrats and politicians. Who are these bureaucrats and politicians? They are mostly from families



of the feudalists, industrialists and big businessmen who consider it their birth right to swindle the national wealth and keep the poor illiterate or poorly educated. We have inherited this situation as a part of over all mounting corruption from the previous governments. It is no wonder that Pakistan stood second in the world in corruption according to Perception Corruption Index (CPI) published by Transparency International in 1996. We should be grateful to the government of Pakistan for lowering the position of Pakistan to 42nd in the world in 2007 in spite of the fact that this government legalized corruption of scores of politicians by closing their cases in the National Accountably Bureau and later granting a blanket pardon to all through National Reconciliation Ordinance. As a result, the annual loss to the nation from corruption for 2007-8, according to a report of World Bank & Planning Commission of Pakistan, stood at Rs. 150 billion. The efforts of the Government of President Musharraf are claimed to have reflected in overall improvement of the economy. However this has shown no impact in the education sector. This is the state of affairs of education in the government sector. I wish the people of Pakistan realize the truth of this harsh reality before casting their votes, but this cannot happen without the realization of universal literacy and quality education.

The dream of universal literacy in Pakistan is not likely to materialize, unless this mess in the management of education is cleared up. Unless accountability to community is established by participation of the community in the development and day-to-day management of schools, no progress can be made in education. The curse of the system of transfer of teachers that is one big source of corruption must be abandoned. Teachers should be appointed strictly on merit on contract basis for three to five years. Renewal of their contracts should depend on their performance to the satisfaction of the local management and the community. The authority to hire and fire should be decentralized. Teachers should be given the highest salaries, benefits and *recognition*. *Perhaps such drastic changes in the condition of teachers and administration of educational institutions would produce good results.*



## CURRICULUM AND TEACHERS

The present curriculum of basic education is out dated. The national objectives of education are not followed by the content, instructional strategy and examination system to meet those objectives. We do not have dedicated teachers who are trained to achieve the national goals of education by adopting an all-round coordinating and facilitating approach towards a strategy in accordance with the principles of educational psychology and an objective continuous internal-external examination system for a holistic education.

The present condition of our country is intimately linked with the above deficiencies of basic education. If these are not met soon the future of our dear Pakistan looks very bleak. I do not know what else we need, after 61 years of independence, to qualify this country for the title of a "FAILED STATE". The only way to emerge from this failure is to make basic education, both at the Federal and Provincial level, as our number one priority. The Federal Government should increase its allocation to education up to 6 percent of the GDP as soon as possible and ensure the full utilization of allocated funds on education.

## THE COMMITMENT OF THE STATE TO BASIC EDUCATION

Unfortunately the ruling class in our society has chosen to ignore education in order to satisfy their vested interests. This is despite the fact that the Father of the nation promised compulsory and free basic education in 1947 and the Government of Pakistan is signatory to Article 26-1 of Universal Declaration of Human Rights Charter of United Nations since 1948 that states, "not a single child should be allowed to remain out of school." Further more, every Constitution of Pakistan in Article 37(b) & (c1), since 1956, states, "The state shall remove illiteracy and provide free and compulsory secondary education within minimum possible period." That means this Article of the Constitution of Pakistan has been violated by every government since then. The Declaration of the Rights of a Child that included

achieving universal primary education was adopted by United Nations on December 20th, 1959, to which Pakistan is a signatory. Again the government of Pakistan is a signatory to the Millennium Development Goals of United Nations adopted in year 2000 that guarantees Universal Primary Education by year 2010. According to UNDP, the Government of Pakistan needs Rs. 357 billion to meet its commitment to the United Nations for achieving the MDGs target in the field of education, health, supply of clean drinking water and sanitation by 2015, which has not been provided so far. In fact, it is reported that the Government of Pakistan, till 2007, had not even done the costing of MDGs.

The Provincial Governments must identify their shares in the number of ghost schools and in the number of villages and urban units without schools and make schools in such areas to provide one hundred percent schooling to all the children. Secondly, they should identify schools with the deficiencies of basic needs and make them up. Thirdly, they should investigate and fix responsibility for the embezzlement of the hard-earned tax-payers money, recover the amount spent on paper but not utilized and ensure that such irregularities are not repeated. Finally both the Provincial and Federal Governments must ensure that the money allocated to education is made non-lapsable, released soon after the budget and utilized by adopting a foolproof system of monitoring.

### **CHALLENGE TO EDUCATED INDIVIDUALS**

There are no two opinions about the fact that without literacy the people of Pakistan will remain oppressed and crushed at the hands of the rich. If all concerned take up the task of promoting literacy with a sense of urgency and as a religious duty, they can make the entire nation literate in at least two languages, i.e. Urdu and English, and in science and arts subjects in less than two decades. Since the present rate of literacy is 65 per cent as per report of the Economic Survey of Pakistan in 2007, the nation can achieve universal literacy through a crash literacy program that has to adopt all

possible approaches that come to mind and all possible means that are available and can be acquired.

Therefore all literate Pakistanis must try to accept the challenge of achieving universal literacy . If one literate person undertakes to teach reading and writing to only two illiterate persons, although this may not be possible for all persons to do because of other pressing commitments, a considerable number of illiterate persons can be made literate. Even if ten percent of the literate individuals can perform this national duty, great increase in literacy will occur in a couple of years. In third world countries a large number of children are working as domestic servants or laborers instead of going to schools. Voluntary child labor (not bonded labor), though considered negating literacy, can be permitted where the employers can guarantee to sponsor the schooling of such children or teach them in homes to make them literate. Since the state has miserably failed to promote education and achieve universal literacy in over sixty years of independence, it falls on the shoulders of all educated Pakistanis within and outside the country to build schools and develop and sustain education particularly in rural Pakistan and specially for girls.

### **DINI MADRASSAS**

It is suggested that the large number of seminaries or Darul-Ulooms or Dini Madrassas (religious schools run by the clergy) attached to Mosques that already receive governmental grants, financial assistance from Auqaf (religious property caretaker) Department, donations from the community, from philanthropists from within the country and abroad including massive funds received from Saudi Arabia and USA during the Afghan war against Russia and get regular income from the rented out property of the mosques should be utilized for literacy campaign all over the country. All the mosques are lying vacant and the Imams are free from Fajar (morning) to Zuhar (afternoon) prayers that provides clear six hours for the literacy campaign. After all in olden days MAKTABS (schools attached to mosques)

were the only sources of education to children in many Muslim countries and they did well in imparting enough literacy to meet the needs of the time and even produced many philosophers and scientists of world fame between twelve and sixteenth century. Why shouldn't the government of Pakistan make the seminaries accept to adjust to the needs of the present age and ask them to incorporate the teaching of Languages, Mathematics, Sciences, the use of Computer, Productive Skills and Art Subjects in their curricula for the purpose of imparting literacy and broad-based education to children? Islam is a complete code of life and lays great emphasis on acquisition of knowledge in all aspects of life. Religious schools are obliged to lay the foundation of learning in all relevant subjects. If Christian churches in Pakistan can utilize their resources to have modern schools in their premises, why can't the Muslim clergy take a lesson from them and utilize at least a selected number of our mosques in every village, town and city as primary schools? If our religious leaders concentrate on this mission, instead of indulging in politics, they will contribute immensely to the future of Pakistan.

**PURDAH SYSTEM:** (a system where females hide themselves from exposure to unrelated males usually by wearing veils)

Another major hurdle in achieving universal literacy in our country is the cultural/religious barrier of purdah that is ineptly applied against education of female children. Since girls make the mothers in whose laps lay the upbringing of the future custodians of Pakistan, and since illiteracy is maximum (about 67 percent) in females, their literacy must be targeted on top priority. The religious leaders must play a constructive role in convincing the people that young children up to the age of twelve years do not need the observance of purdah and can be taught together as brothers and sisters in combined primary schools. Ideally primary schools should have female teachers who have more inherent affinity and expertise in dealing with young children and will encourage more participation of girls in education. If female

teachers are not available in sufficient numbers then a mixture of male and female teachers will do. In more conservative communities where people still object to co-education of girls and boys, girls should be allowed to study with boys while remaining in purdah. Where this does not work, schools should run daily double shifts: one for the boys and one for the girls. This last suggestion will help in overcoming the shortage of teachers and schools. However, since according to teachings of the Holy Prophet (PBUH) education of females is obligatory, it is the duty of the religious leaders to convince people that purdah cannot be used as an excuse against education of females.

### **AVAILING PART TIME TEACHERS**

To overcome the shortage of teachers, college and university students and educated members of the armed forces should be encouraged to undertake part-time teaching assignments in primary schools, for remuneration in case of students that will also be a great help to the poor and needy ones. It may be worthwhile to consider organized teaching of the illiterate by the college and university students for a limited number of hours as a precondition for awarding degrees. This, besides being a valuable contribution of senior students towards achieving universal literacy, will be a worthwhile educational experience for such students as well. At the same time the government of Pakistan, along with non-governmental organizations and philanthropists, should construct more primary schools for boys and girls in places wherever they are needed most. In this way primary education can be made more universal.

### **SOCIO-ECONOMIC INSECURITY AS CAUSE OF CHILD LABOR**

A child is the most beautiful and extremely precious gift of God to man that needs tender care and love. Education is his/her birth right that no one has the right to take away. However in developing countries child labor and child illiteracy go hand in hand. The socioeconomic insecurity is perhaps the biggest obstacle to promotion of

literacy and prevention of child labor. The poor parents of many children in the villages or cities need the income of their working children to supplement theirs for survival of the family and visualize themselves socially and economically secure in old age when surrounded by many earning grown-up children. Therefore many poor parents prefer to send their children to work instead of sending them to school. The same applies to orphans from the poor classes who have no other source of income or social security. The States and nongovernmental employers should ensure socioeconomic security to their employees in old age to allay their fear of insecurity and helplessness in old age that will in turn promote the cause of universal literacy and will encourage population control. Many children of the poor work with their parents and uncles in the workshops, cottage industry, businesses, hotels, restaurants, shops, homes and agricultural fields not only to assist their families for no remuneration but more so to pick up the skills that will enable them to take over the family occupations when they grow up.

Many more children prefer to spend their time in learning technical skills by doing apprenticeship for minimal or no wages in various occupations in preference to going to school on the advice of their poor parents who believe that learning technical skills will enable their children to earn livelihood when they grow up but schooling will get them nowhere. The poor parents also realize that even in case their children get educated they will not get employment because children of the rich will get all the jobs because of favoritism, nepotism and support by their influential parents. The poor are also aware of the state of unemployment and poor salaries of the educated in most developing countries. For these reasons coupled with shortage of schools the poor allow their children to do laboring jobs

## **POVERTY AS CAUSE OF ILLITERACY AND CHILD LABOR**

Again many parents do not send their children to



school due to such poverty that they cannot afford even to pay the tuition fee, purchase stationery, school-bags and uniform, pay for transportation etc. In some developing countries like Afghanistan a persistent state of war in the last four decades has resulted in shortage of adult male population who are the bread earners of the poor families. As a result fatherless children have no choice but to do laboring jobs to survive. Child labor, not bonded labor, unfortunately, has become a necessity of the poor people of developing countries. In Pakistan there is such perpetual shortage of schools that more than half the children, almost all from the poor class, have to remain out of schools. When these children wearing dirty old rags also do not have surety of getting the next meals or regular shelter over their heads what can they do? Should they roam in the streets searching food in the heaps of garbage or beg or steal or adopt child labor? When half the children have no schools to go to, what moral justification any body has to prevent them from adopting child labor? On the contrary, the wisest parents of those 6.4 million children who cannot get into schools adopt child labor for their children. In the process they learn useful vocations. The rest become religious extremists, terrorists, criminals and beggars. These are hard facts and compulsions of life in the poor countries that the educated gentlemen from the developed countries of the west and the rulers of the developing countries do not appreciate. The rich nations should not force the poor nations to abandon child labor by imposing economic sanction on them. By such measures they will only aggravate poverty in developing countries that in turn will further increase the gravity and extent of child labor and may even compel child laborers to become beggars, criminals, addicts and terrorists, a sordid phenomenon observed on the streets of the big cities and rural areas of poor countries that makes one feel sick. To counteract this trend, developing countries must provide free and compulsory education to all and the kind of education that, apart from cognitive skills and emotional competence, equips every child with at least one vocational skill.

## **AN INDIVIDUAL EFFORT**

A few years ago an NGO by the name of Zindagi Trust, under the leadership of an eminent young artist of Pakistan, launched a novel method of attracting children of the poor working in the streets to join schools for daily payment of a small sum of Rs.20 under the project called "I am paid to learn", and has reported success. Many other NGOs including the National Commission for Human Development of Pakistan and philanthropists are promoting the cause of literacy. I feel that every one who can afford must generously support such voluntary efforts. When poor parents find that their children can earn while learning or they can have access to education without being a drain on their negligible resources they will happily send their children to school. In fact the majority of poor parents keenly desire education for their children to save them from the state of deprivation that the parents went through in their lives. Furthermore, evening shifts should be organized by all primary schools and electronic media should be used intensively all over the country, so that children of the poor can have an access to education when they are free from work.

## **EDUCATION AND TERRORISM**

### **ILLITERACY OF THE POOR**

In recent years a close relationship between illiteracy and terrorism has emerged. On the average over 50 per cent children of the poor in Pakistan have no schools to go to. Out of every 100 children between the age of 5 and 9, 50 are out of schools, 50 succeed to enter schools, 25 drop out from schools before completing primary education and another 15 drop out before completing secondary education. Out of the 10 passing out from secondary education only 3 enter higher education. This miserable state of affairs deteriorates further and further as you travel up the country towards the mountainous areas of the province of NWFP and along the border of Afghanistan. Here the majority of the children, particularly in Federally Administered Tribal Area (FATA)



and Malakand Division including districts of Swat, Dir and Bajour, remain illiterate and uneducated. It is here that literacy is said to be about 3 per cent in females, 24 per cent in males, majority of the 3.3 million Pakistani children doing child labor are in this region, while, majority of the rest of more than the 3.2 million Pakistani children fall into the trap of Dini Madrassas (many of who breed terrorists) or become child-laborers, criminals, addicts and beggars. Nearly all these illiterate children belong to the families of the downtrodden poor.

### ILLITERATES IN TEEN AGE

When grown up to teen age, many of these children from Dini Madrassas become highly prejudiced religious extremists and terrorists. These religious fanatics, joined by criminals and children of the most injustices-stricken, highly deprived and oppressed poor (the have-nots) are challenging the writ of the government of Pakistan and are out to kill every one who belongs to the government, supports the policies of Pakistani government, comes from the class of the oppressors in society or does not meet their standard of a Muslim. Moreover they are out to destroy every individual, community, business or institution that does not fit into their brand of Islam, even by committing suicidal bombing, which is generally regarded un-Islamic. Who supports them to the degree that they are capable to fight even regular Pakistani armies? Obviously, the enemies of Pakistan and of the Islamic world, fully but covertly, support this destructive uprising with arms, ammunition, means of communication, money and training. This is the reason why terrorism is concentrated in the tribal areas and Malakand division of the province of NWFP of Pakistan and is a consistent threat to Pakistan and the civilized world.

### POOR QUALITY OF EDUCATION

Moreover, what little education is there in this part of the world, it is not liberating the mind. On the contrary, their education deprives them of their inherent abilities of observation, reflection, critical thinking, questioning,

enquiry, reasoning, imagination, experimenting, discovery and creativity. As a result children coming out of such education easily fall pray to extremism and crime. Like all others, these children have unlimited energy that need to be channelized in to constructive and useful activities through modern education. Quality modern education liberates the mind and enables the educated to appreciate the diversity of universe. This leads to early mental maturation. Such educated youth understand the differences of opinions, concepts and beliefs on all issues. They are always prepared to accept and agree to disagree without resorting to any violent methods of resolving differences. No one would be able to easily domesticate, indoctrinate, subjugate, brainwash or prevail on properly educated youth to adopt violence or suicide as a means of countering or suppressing the views, beliefs and actions of others.

## SOLUTION OF TERRORISM

Modern quality education offers the only solution for solving the existing menace of terrorism and suicidal missions in the developing countries like Pakistan, Afghanistan, Iraq, the entire Middle-East and Africa. If the developed nations of the world are sincere in eradicating child labor, poverty, beggary, crime, addictions and all forms of prejudices and terrorism from poor countries like Pakistan, they should come forward with massive help to build schools, provide schools with funds for sustaining free quality education to the poor and training of teachers on mass scale and to invest in sustainable development and industrialization of poor countries to their mutual benefit. To do this, the developed nations must shake off double standards in dealing with the deprived and oppressed people of the world.

At the same time the state of Pakistan must correct its priorities and implement its policies to promote quality universal education by corruption-free and efficient governance, which it did not do in sixty years of independence. These measures will cut the roots of

ignorance, terrorism, crime, addiction and poverty. In this lies the secret of peace for the whole world. Not guns, but quality education has the answer to eradicate such trends as admirably demonstrated by Greg Mortenson, an American mountaineer to k2, by building more than one hundred schools, mostly for girls, in the Northern Areas of Pakistan and Afghanistan who writes in his book titled Three Cups of Tea, "if we try to resolve terrorism with military might and nothing else, then we will be no safer than we were before 9/11. If we truly want a legacy of peace for our children, we need to understand that this is a war that will be ultimately won with books, not with bombs."

The developed world should also welcome the purchase of the products of the poor countries, even if child labor has contributed to their production, to strengthen the economic conditions of the downtrodden families who will, in turn, spare their children for education. Such efforts will also mitigate the hatred created by the guns of the Western countries unleashed in several Islamic countries over the last several decades.

## **DISCRIMINATION AGAINST TEACHERS**

In Pakistan, in the year 2008, an electrician, a plumber, a carpenter, a wall painter, a mason and the like are all the time in demand and each one earns a minimum of Rs.500 (US \$ 8) a day, which is about Rs.12,000 PM, in spite of being completely illiterate. Even an unskilled illiterate manual laborer earns Rs.200 (US \$ 3) a day, which is about Rs.5000 PM. An illiterate electrician or mechanic who services 3 to 4 air-conditioners or television sets a day or a plumber who makes similar domiciliary visits for odd jobs easily earns Rs.1000 (US \$ 16) a day i.e. Rs.25000 a month. But a person with master's degree is most likely to remain unemployed or at the most will get a job of a school teacher. If this is a job on contract in Punjab (believed to be the richest province of Pakistan) his/her starting salary, according to an article written by Eftiqar Haider in Dawn Islamabad dated August 13, 2006, will be Rs.4250 per month

i.e. Rs.142(US \$ 2.4) per day. In case he/she gets a job in a school in the private sector in rural NWFP he will get only Rs.1200 P.M. i.e. Rs. 40 (US 60 cents) per day. With such disparity in salaries of the illiterate and the highly educated who will blame the poor for sending their children to do labor or learn vocational skills in preference to sending them to school? It is a pity that this blatant discrimination against the educated schoolteachers and their students (in public sector) has not been even looked into seriously by the successive governments of Pakistan. On the contrary teachers are blamed for doing double jobs, neglecting their duties, indulgence in politics, instigating violence and strikes in educational institutions. Obviously this is the result of such frustration in schools and colleges due to dismally poor salaries and emoluments of teachers. In turn these conditions discourage the poor from sending their children to school and the educated from joining teaching profession resulting in perpetual shortage of teachers. Furthermore, who ever we get for educating our children in the public sector schools, are those who have been discarded by other professions and are of the poorest quality. Not luxuries but fulfillment of basic needs of teachers is essential to give them peace of mind that releases mental and physical energies for doing their duty. As a result of having deprived, frustrated poor quality teachers, 80-90 per cent of the educated, coming out from the non-elitist schools in public sector and poor quality private schools, are of the poorest quality.

It should be realized that education and industrialization act as catalysts for each other. Increase in economic activities as a result of industrialization creates jobs that provide a demand for education and conversely increase in education creates a demand for more jobs that stimulates economic activities. Therefore development should focus on quality education and industrialization simultaneously to maintain a balance between job seekers and employment opportunities. Pressure should be exerted on the governments of developing countries to enhance the salaries of teachers to at least double of the illiterate skilled

labor and give teachers their due recognition and respect to overcome the shortage of teachers and to attract talent to teaching profession that will in turn improve the quality of education in the public sector schools. The education policies of 1972 and 1979 included proposals of building rent-free houses and scholarships for schoolteachers with local or ex-Pakistan study-leaves for improving their qualifications. Had these been implemented they would have considerably improved the condition of school-teachers. Any help by the states to overcome the economic deprivation of the poor teachers will help to promote education. Increasing employment and earning opportunities for the poor in general and the teachers in particular, introduction of insurance schemes for covering education, health, death, unforeseen damage to property of the poor, provision of food, cloth and shelter at subsidized rates, and interest free loans to the poor for education of children and to establish businesses will not only alleviate poverty but will serve the cause of education.

### **CLASS SYSTEM IN EDUCATION AND HEALTH**

Class system is a product of capitalism that is present in every country that follows this ideology. It is most prevalent in education particularly in developing countries. According to Barack Obama reflected in his book "Audacity of Hope" even United States of America has class system in education. It is sad that for quality manpower Pakistan is depending only on 5-10 percent elitist schools while the talent of the vast majority of the predominantly poor population remains untapped. Furthermore, since the majority of the children of those living below poverty line are out of schools, they are trapped by the Dini Madrassas that provide free education with free board and lodging. It's no secret that many of these Madrassas are breeding places for extremism, terrorism and suicide bombers. The combination of poverty and ignorance provide a highly fertile ground for religious extremism imparted by many, if not all, Dini Madrassas. Unless this combination is broken

by imparting universal quality education to our children, peace will never return to Pakistan and the world at large. No amount of force will ever succeed in crushing terrorism but the force of education will. Why the successive governments of Pakistan have been blind to this obvious discrimination of the poor for quality education and have been allowing the poorest to remain unemployed or at best to become the lowest paid employees, religious fanatics, criminals and terrorists, is difficult to understand. One wonders whether there is a highly short-sighted but an unwritten and unholy alliance between the elitists of the country to keep the poor illiterate and uneducated! In fact, the class system in education we inherited from the colonial past. It was Lord Macaulay who in his address to the British Parliament in 1835 said,

“I have traveled across the length and breath of India and I have not seen one person who is a beggar, who is a thief, such wealth I have seen in this country, such high moral values, people of such caliber, that I do not think we would ever conquer this country, unless we break the very back-bone of this nation, which is her spiritual and cultural heritage, and, therefore, I propose that we replace her old and ancient education system, her culture, for if the Indians think that all that is foreign and English is good and greater than their own, they will lose their self-esteem, their native culture and they will become what we want them, a truly dominated nation.” This highly notorious quotation of Lord Macaulay was also referred to by A.P.J.Kalam, president of India, in his convocation address to Jamia Millia Islamia, New Delhi. (S,Zafar Mahmood, “Learning from President”. The Hindu, 2-9-2004.)

As a result of this policy they created the elitist schools and colleges in India to breed the highly Westernized and Anglicized youth, the Brown Sahibs, who would think and act like the British rulers and would occupy the white collar jobs to help them in subjugating the people of India while the non-elitist schools could produce clerks for their offices while the majority of the poor would remain illiterate



to do the manual laboring jobs. This class system in education was further strengthened in Pakistan after independence by introduction of Cadet Colleges, Army, PAF AND Cantonment Board schools and colleges and induction of private sector in education so that the rich and upper middle class can avail quality institutions while those from the lower middle class and the poor can rot in the ruins of the most neglected schools in the public sector or can remain out of schools. After creation of Pakistan the vast majority of children of the poor remained out of schools (6.4 million between the age of 5-9 years reported in 2007) till this vacuum began to be occupied by the Dini Madrassas from the mid seventies. Unfortunately, to add insult to the injury, this class system has also been introduced in health so that the rich can have quality health care in the private clinics and hospitals while the poor are left at the mercy of quacks and unscientific systems of treatment or at best are pushed around in the overcrowded under-staffed, under-supplied hospitals and neglected Basic Health Units and Rural Health Centers in the public sector. Thus the poor remain deprived of both, education and health, the two basic responsibilities of any welfare state. Class system in education and health must be abolished as being unjust, discriminatory and immoral.

### **POOR QUALITY OF EDUCATION AS CAUSE OF DROP OUTS:**

Another reason given for illiteracy is the high incidence of early dropouts from schools. It is often erroneously said that large number of students who drop out from schools, negating the efforts towards achieving universal literacy, do so for economic reasons alone. In fact when such boys and girls are asked about the reasons for giving up school, they admit to have done so against the wishes of their parents. They usually blame their own loss of interest in education and frustration resulting from their poor performance and repeated failures in examinations. Many others blame the harsh, punishing and uncaring attitude of teachers, the poor conditions of the schools, the boring nature of teaching and

the insecure schools located far away from residential areas. In support of this is the fact that many more students drop out from Urdu-medium schools of lower standard in the public sector than from the English-medium elitist schools of higher standard. In other words, it is the poor quality of education, which is the fate of the children of the poor in Pakistan that is mainly responsible for the large number of dropouts from schools. If we can improve the quality of education in our schools in the public sector by meeting the basic needs of education including better conditions and training for teachers and revamping the system of education so that learning in schools becomes an enjoyable and rewarding experience for our children, there will be no absentees and few dropouts before completion of studies. The education policy of 1972 had a provision for automatic promotion in class I-V on the basis of continuous internal assessment rather than on annual examination. Had this practice been continued it would have removed one cause of tension from the minds of young children and would have substantially reduced the proportion of dropouts from primary education.

### **POPULATION EXPLOSION:**

Continuing illiteracy in Pakistan is also strongly linked with the galloping increase in population that is continuously exceeding the increase in schooling facilities and must be controlled by whatever legitimate methods we can discover to adopt. Least of all, parents with two or fewer children should be given significant financial incentives that should be withdrawn on arrival of a third child. In this context it should be noted that increase in literacy particularly of females is associated with fall in fertility rates that will greatly help in population control. Theoretically human beings are like complex machines with unlimited potentials that can be put to great use for humanity but without their physical, mental, social and spiritual education they remain the simple consumers of resources leading to deprivation and starvation. (refer to part II chapter 2 subheading Education on Population Control).



## PSYCHE OF THE RICH:

Then one should not forget that the psyche of the feudal class and the rich in Pakistan is still anti-education for the children of the peasants, laborers and servants in the fear that education will make these children conscious of their rights and, in turn, when grown up, they will threaten the monopolies of the upper class. The feudal lords fear that if the children of the poor get educated they will no more till their lands or work in their factories and homes as menial workers. If they do they will demand higher wages. They may even get in positions of authority by virtue of their education. As a result, they will threaten the unjustly acquired and undeserved privileges and holdings of the rich. In fact, the majority of the feudal lords can not even tolerate the children of their tenants, laborers and servants to acquire an equal social status or standard of living by virtue of their education. For the same reason the rich class sends their own children to English-medium schools of high quality anywhere within the country and abroad but makes no effort to meet the shortage of schools or rectify the poor conditions of the schools meant for the poor. Justice demands that there should be only one type of schools offering the same quality of education to both the rich and the poor of the country.

The rich politicians are also responsible for promoting politics in educational institutions. This is regarded as the root cause of most of the evil practices in education. The damaging role of politics in educational institutions has been recognized by every one including the Supreme Court of Pakistan. This negative attitude of the rich class towards education of the poor is a major cause of illiteracy and poor quality education and consequent failure of democracy in Pakistan. According to Barack Obama, reflected in his book "The Audacity of Hope", even in USA the public sector schools of the poor are highly neglected. In his other book, "Dreams From My Father", he writes, "I know, I have seen, the desperation and disorder of the powerless: how it twists the lives of children on the streets of Jakarta or Nairobi in much the same way as it does the

lives of children on Chicago's South Side, how narrow the path is for them between humiliation and untrammled fury, how easily they slip into violence and despair.... I know that the hardenign of lines, the embrace of fundamentalism and tribe, dooms us all." At times one is inclined to believe that there might have been in existence an international and intra-national conspiracy between the rich nations and the rich people to exploit the poor nations and the poor people by ignoring the education of the poor nations and the poor people. The support for idealism of democracy (as government of the rich, by the rich, for the rich, elected by the poor), also at times, appears to be a part of that conspiracy to establish the domination of the rich countries and the rule of the rich class. Such injustices are at the root of crime and terrorism in the world.

## **REGISTRATION OF BIRTHS AND DEATHS**

In Pakistan there is no regular system of recording births and deaths. That is a serious handicap in keeping our records reliable for planning the future of the newborn babies as well as in controlling the population explosion. In the pre-independence days new births used to be recorded by the police stations in a birth register and birth certificate were issued accordingly. It is a standard practice in all developed countries that births and deaths are recorded and this practice must be introduced in Pakistan. The results should be saved in computers for full benefits. It should be remembered that children are the most precious gifts of God with numerous potentials as manifestation of God's creativity at its best. Their literacy will open the gates to education that will in turn lead to blossoming of their talents for the good of God's creation making the world of future a beautiful place to live in.

## **ADULT LITERACY**

After dealing with universal literacy of children, the lack of adult literacy also deserves attention. Adult illiteracy is much greater in proportion than child illiteracy and much greater in females than in males in Pakistan and is

hampering the progress and development of the poor countries. While child literacy is a need of the future and can be imparted to children, majority of whom are not working, adult literacy is a need of the present time that cannot be easily accomplished because adults are working full time to earn their bread and butter. The present state of economy and production entirely depends on the efforts of the adult population and the future of our children population lies in the hands of mothers who are largely illiterate. Therefore special efforts are required to achieve 100 percent adult literacy in any developing country as follows:

FIRSTLY, the literacy of the large number of illiterate industrial laborers should be made the responsibility of the industrialists who can be made to arrange two hours daily shift for the literacy program of laborers. The industries should be given income-tax rebate on the expenses incurred on this account that should include the cost of loss of production for two hours a day, while the qualifying laborers should be offered the incentive of increase in wages and prospects of promotion on qualifying.

SECONDLY, there are large number of laborers in the agricultural farms (including farmers themselves), in the business, in the construction work, in the homes, hotels and restaurants and the lowest grade employees in the services who are illiterate. For this large group of illiterate adults, about two hours daily evening shift should be started in selected primary schools all over the country and the nominal expenses for this should be paid by the employers who should be given income-tax rebates in turn. On qualification, some incentives should be given, such as increase in wages and promotions, to the workers.

THIRDLY, it should be understood that illiterate adults may not feel comfortable with being taught by younger teachers who are in a superior position in a classical class-room setting. On the other hand granting adults a high status for their age and adopting a conversational style with two-way flow of information will be more acceptable to the

adults and hence more effective. Adoption of this style will also allow literate children to teach their illiterate parents and literate spouses to teach their illiterate partners. Opening such a dialogue between literate and the illiterate adults will, according to Paulo Freire, promote education of both sides and will create critical consciousness of man's place in society and his relationship with God and his creation.

FOURTHLY, the electronic media should focus on adult literacy that may prove more effective than the classroom teaching, particularly in educating housewives who are unwilling to go out of their houses. Furthermore, for educating purda-observing adult females, girl-schools can be made to organize daily two hours teaching shifts at suitable timings. Literacy of adult females should be focused on priority because of their inherent right to achieve level of literacy equal to males and their greater role than males in the upbringing of children.

### **THE TREE OF EDUCATION**

Finally the rulers must understand that education is like a tree with numerous branches that bear leaves, flowers and fruit. The number and quality of fruit that it bears depend on how well this tree is nourished from its roots. Any attempt to inject nourishment in the branches is likely to fail. Only offering nutrition to the roots of education will allow the trunk and branches to grow and gain strength for producing a plethora of healthy fruit. Basic education forms the roots of education. Wisdom lies in taking a lesson from the nature and setting our priorities right so that solid basic education will lead to enhancing the standard of higher education and promote health, happiness, hard work and hope for progress, prosperity and peace in the world. Basic education, begun at home and primary level, has to lay the foundation of physical, mental, social and spiritual development of the child for an overall sound growth of the personality. If this opportunity is missed the youth of our nation will remain physically unfit, mentally weak, socially immoral and unethical introverts and spiritually bankrupt.

### **THIRTEEN SUGGESTED TARGETS FOR QUANTITATIVE DEVELOPMENT IN EDUCATION:**

1. Facilities for primary and secondary education should be expanded to provide for 100 percent of the children population.
2. Primary education should be priority number one, Secondary education number two and Tertiary education i.e. Higher education number three.
3. Primary education should be made completely free and compulsory for all. Not a single child should be allowed to remain out of school.
4. Secondary education should be made free for the children from the poor and middle classes and even made compulsory in the next phase.
5. Children of the one third of population in Pakistan who are living below poverty line should be given educational allowances/scholarships per child, linked with performance, to supplement the income of the parents up to maximum of two children per family.
6. Higher education should be tailored according to needs of the nation, modernized, provided on merit and made free for the talented children of the poor.
7. The facilities of education in schools run by the government should be improved and at least brought at par with the privately run elitist public schools to abolish the shameful class system in education. This can be achieved in a phased manner if the political will exists.
8. The syllabus and standard of education in the schools in public and private sectors must be the same. Schools in both sectors should be monitored for standard of education and fee structure, so as to raise the standard of both and prevent exploitation of the students by the entrepreneurs and money-spinners in the private sector.

9. Qaid-i-Azam said that educating a male is educating an individual while educating a female is educating a family and in view of the fact that two third of female population in Pakistan is illiterate, female-education should be given priority over education of males.
10. Teachers have a central role in education. Quality of education substantially depends on the quality of teachers. All efforts must be made to attract the most talented for teaching profession. Academies of education must be established for giving pre-service and in-service teacher's training in modern methods of education and management.
11. The starting salaries of teachers in the public sector should be raised to at least double of what an illiterate skilled laborer gets and should be kept in pace with the rate of inflation in the country and must be higher than what the private sector offers. National recognition, status and other facilities and amenities should be provided for teachers to make teaching a highly attractive profession.
12. Efforts must be made to provide the minimum basic facilities including facilities for para-curricular activities, e.g. indoor and outdoor sports, hobbies, cultural and literary clubs and social activities, to all the educational institutions that must be sustained at all costs.
13. Adult literacy programs must be organized all over the country to achieve one hundred percent adult literacy especially in females.



## II

# HOW TO MAKE EDUCATION PURPOSEFUL ?

While illiteracy is one major concern of developing countries, a still bigger concern is the falling standard of education in most developing countries. This fact has been repeatedly voiced by the Federal and Provincial Public Service Commissions, most employers and admission committees of professional colleges and universities in Pakistan. The population explosion in most third world countries, outstripping their resources is preventing the governments from attending to quality of education while the quantitative demands of education are mounting. In Pakistan successive governments have been more occupied with providing more schools, teachers and equipment and attending to their administrative and managerial problems. As a result, the quality of education, particularly at the primary and secondary level, more so in the Urdu-medium schools in rural areas, has been allowed to deteriorate. Furthermore, we have inherited a system of education that is outdated and cannot meet the expanding demands of modern education. Knowledge is growing at a very fast speed and to let our children learn and learn well what is relevant and most useful to the individual, the community and country we need a modern system of education based on our present and future needs otherwise our students will be lost in the maze of knowledge, will make the wrong choices and will be prone to going astray and come out from our institutions not qualified to do any useful work as is the case of most students emerging from the non-elitist institutions in the third world countries. Therefore to reverse the falling standard of education in our countries, the developing nations need to raise the quality of education by adopting a modern system of education, for which apart from facilities



and excellent working conditions of teachers, pre- and in-service training of teachers is urgently and badly needed.

## **GOALS AND OBJECTIVES OF EDUCATION**

### **(A) NATIONAL GOALS:-**

Education puts the nations on the road to progress. Through education humans reach the frontiers of knowledge and search what lies beyond. Education unveils the purpose of life and creates commitment to life. Education provides light for learning from the past, gives food for thought and action in the present and gives insight for looking into future. Education makes individuals fit for survival and useful for the society. Education is the means to physical, mental, Social and spiritual development of the individual. The vast scope of education makes it obligatory for every nation to streamline education by proper national planning, which is the first essential feature of any successful activity. The very first requirement of proper planning is spelling out the national goals of education that should meet the needs and aspirations of the individual and the society. Such goals will provide direction to a meaningful educational process. Any educational program is bound to fail unless its objectives or purposes are clearly determined and stated in writing and are known to all concerned in advance. There is great sense in the statement made by Mager (WHO Educational Handbook 1976) that I quote, " IF YOU ARE NOT CERTAIN OF WHERE YOU ARE GOING, YOU MAY VERY WELL END UP SOMEWHERE ELSE (and not even know it)." In fact, without the knowledge of clear-cut objectives, based on meeting the purposes, needs and usefulness of the learning material, learning will become a boring and meaningless activity for the students. Learning activity without a clear cut objective (target) is like shooting in the dark. Target/objective acts as a great motivational force for the shooting or chase. No shooting or chase is possible unless the target/objective is clearly visible. Any activity in life in general and in education in particular without a clear target (objective) can neither be inspiring nor



meaningful, This is one reason why students lose interest in their education and 50 per cent drop out before reaching grade fifth in the Pakistani schools in public sector. As a result, the majority of educational institutions that are the non-elitist Pakistani schools, colleges and universities in the public sector, which are admitting millions of students every year only to produce graduates that no one wants to hire. More than 90 percent of the products of secondary education are neither fit to enter higher education nor they possess any useful skills to earn two square meals a day. This is because the students and consumers of education are not consulted in making national goals and objectives, nor such objectives are effectively translated into the curricula and implemented for achieving the end products of education that meet the needs of the individual and the society.

### SOME OTHER BENEFITS OF EDUCATIONAL OBJECTIVES

It is also important to remember that determining uniform national goals for education is essential for bringing about national integration, cohesion and harmony and providing our students and the teachers a sense of direction towards the achievement of our national and individual needs and aspirations. Pursuit of national goals and objectives in education will also lead to better utilization of human resources for increased production and faster development, correcting the imbalance in availability of qualified manpower, reducing unemployment and lessening the magnitude of brain drain from developing countries.

### HOW TO MAKE NATIONAL OBJECTIVES OF EDUCATION?

Hence the NATIONAL GOALS of all educational fields at all levels must be determined and written clearly and precisely by appropriate national committees consisting of government- and public-representatives, intellectuals, teachers, students, parents, economists, employers who need them and all others concerned. It is important to remember that education concerns all sections of the society and

therefore such committees should have a wide representation of all the stake-holders. These committees will need to collect relevant data about the expected number and the responsibilities and functions of educated persons entering different occupations or higher studies after coming out of educational institutions at various levels in different fields and will have to accommodate the point of view of all members. Then, from this data, they will have to determine the numerical needs and the job descriptions of what the students will be expected to do on completion of education. An accurate description of the multiple expectations from the qualifying students in accordance with the needs and aspirations of the individual and the nation, at primary level, secondary level, higher secondary level, vocational level, graduate level for professional and nonprofessional degrees and university education level for postgraduate qualifications in all fields will provide clear national goals and a sense of direction for educational process. The position of the projected supply and demand of the educated in quantitative and qualitative terms must be carefully assessed for meeting the future needs of the individuals and the country. It is an exercise that every independent nation must undertake to achieve its own ideals. This approach should not be misunderstood as encroachment on the academic freedom of educational institutions. Absolute freedom only partially exists in the wilderness of jungles. This approach is only intended for maximum utilization of formal education in the interest of the individual and the society in a civilized world. Such educated will be hireable in the job-market like hot cakes.

#### VESTED INTEREST AS BASIS OF EDUCATIONAL OBJECTIVES

It is a pity that after more than six decades of independence, we are still following the outdated system of education the objectives of which were not based on the needs and aspirations of the individual or the masses but were dictated by the whims and desires of the ruling class and upper class of society whose sincerity to the common

man cannot be beyond question. That is why the rulers of the past introduced a class system in education so that the poor and deprived have no chance entering the ranks of the ruling class. As a result, we have not yet shed the influence of the colonial past nor have we started thinking or behaving like a responsible independent nation. Our educationists often talk of lofty philosophical concepts but seldom take into account the down-to-earth basic educational needs and aspirations of the individuals and the society in the planning of education. It is probably because since independence we have been ruled by the upper class of society who are least interested in proper education of the poor classes, who, they think, can serve their interest best with poor education or no education while their own children can afford to go to the most modern English medium schools anywhere in the world. Consequently the institutions in the public sector produce graduates that no one wants to hire.

## **(B) GENERAL INSTRUCTIONAL OBJECTIVES**

Once NATIONAL GOALS of education are defined in broad terms by consensus at the highest level, it will be the first function of the educationists to translate them into GENERAL INSTRUCTIONAL OBJECTIVES (GIOs). GIOs have to be more specific, technical and in detail that will on the one hand meet the demands of the broad national goals and on the other will provide directions to the subject experts on further planning of instruction. These are to be achieved at various levels in different fields of education. Such GIOs will be required to be made at national level in order to maintain a uniformity in the direction provided by NATIONAL GOALS of education. In the making of GIOs, the educational experts will have to ensure that the needs of the individual and the nation are met quantitatively and qualitatively in terms of manpower needed by the governments, the public, the professions, the employers, the universities and so on. Writing of GIOs can be done only by those educational experts who are appropriately trained in the science of education. Since it has to be done at national level, I hope sufficient number of such teachers will be

available in all fields of education, at all levels in the country. Groups of such selected teachers can be given short term refresher workshops through the help of various national and international agencies. Till such time that a competent set of educationists becomes available at national level, the institutions that have trained teachers should feel free to first define the national educational goals with the help of the students, the teachers and the local community and then determine, in the light of national educational goals, the general instructional objectives for their institutions and develop them further as explained below.

# MODIFIED BLOOM'S CLASSIFICATION OF EDUCATIONAL OBJECTIVES

## GOALS



## GENERAL INSTRUCTIONAL OBJECTIVES

- **A. COGNITIVE DOMAIN**
  - TAXONOMY I  
COGNITIVE I (CI)  
TO REMEMBER AND RECALL
  
  - TAXONOMY II  
COGNITIVE II (CII)  
RECALL AND  
INTERPRETATION
  
  - TAXONOMY III  
COGNITIVE III (CIII)  
PROBLEM SOLVING  
(RECALL AND  
INTERPRETATION  
COMPREHENSION,  
APPLICATION,  
ANALYSIS,  
SYNTHESIS,  
EVALUATION,  
AND CREATIVITY.)
  
- **B. PSYCHOMOTOR DOMAIN-SKILLS**
  
- **C. AFFECTIVE DOMAIN**
  - CHARACTER BUILDING AND  
PERSONALITY DEVELOPMENT

For pursuing holistic education of students towards achievement of physical, mental, social and spiritual development Bloom's classification of educational objectives is generally accepted in the developed world. According to Bloom, General Instructional objectives (GIOs) can be divided into three broad domains of Cognitive (Knowledge), Psychomotor (Skills) and Affective (emotional aspects i.e. Character and personality development) that comprehensively cover all aspects of education and provide a frame-work for providing a balanced education. In fact this balanced approach to holistic education is in conformity with Aristotle's view of creating a sound mind in a sound body and abides by the philosophy of many a thinker, including Allama Iqbal, who stressed the training of the body, mind and soul as essential components of education.

I. **COGNITIVE DOMAIN.** This deals with the mental grasping of the total area of knowledge that is available in any form. It includes not only the acquisition of knowledge through the five senses of seeing/observing/reading, hearing/listening, smelling, tasting and touching but also the intellectual ability of understanding for application of knowledge, the latter being more important from practical and educational point of view. This domain of instructional objectives has been further subdivided into eight levels of cognitive abilities called taxonomies. From the lowest to the highest level of cognitive abilities these are: 1. remembering and recalling, 2. interpretation of data, 3. comprehension, 4. application, 5. analysis, 6. synthesis, 7. evaluation and 8. creativity. For convenience comprehension, application, analysis, synthesis, evaluation and creativity can be grouped together as problem solving abilities that constitute the highest intellectual functions. Problem solving abilities are basically present in children but their development can occur only through education. The three broad levels of cognitive domain called **TAXONOMIES** are labeled Cognitive 1, 2, and 3 (C1, C2, C3).

**COGNITIVE 1 (C1)** concerns memory i.e. the ability to remember and recall perceived and memorized facts. This

is a very basic level of instructional objectives to which our present system of education is adherent to a large extent. The teachers impart education through lectures that emphasize perception, memorizing facts and examine the students through writing essays and responding to written and oral questions that simply test rote memory. A student who can recall facts does not necessarily prove that he understands them or can apply them in different situations. Limiting education to C1 encourages cramming of subject matter but does not develop intellectual abilities of students. With the latest development of information technology memory is more and more becoming a function of man made gadgets. Men (women) are required to utilize their energies better in critical thinking to solve problems and create better and more efficient solutions. Once, the emphasis of learning shifts from memory work to critical thinking and reasoning, studies will become more interesting, involving and motivating.

COGNITIVE 2 (C2) refers to the ability to interpret given data with the help of recalled facts. This ability is at a higher level that reflects some understanding of memorized facts and enables the student to draw inferences from observed data by correlation with previously stored data in order to take the next step in application of knowledge.

COGNITIVE 3 (C3) pertains to the ability to evaluate and solve problems and evaluate solutions. This is the highest level of instructional objectives that not only includes the recollection of perceived knowledge but also the application of knowledge by correlation, interpretation, comprehension, critical analysis, synthesis, generalization and extrapolation of data and using imagination, innovations, experimenting new ideas, discoveries and inventions in a confronting situation, in order to solve the problems and also evaluate the effects and after effects of the solutions, before, during and after application. Such ability requires an open minded, alert, observant, thinking, reflecting, inquiring, inquisitive, skeptical, doubting, experimenting, reasoning,



criticizing, imaginative and creative mind on the part of student, and much greater effort and restraint in the right direction on the part of teacher to promote these characteristics of intellectual abilities. Teachers are more prone to spoon-feeding of students that prevents them from exploring, searching and researching independently. A student, who remembers but cannot interpret knowledge, reflect on knowledge, question knowledge, relate knowledge to the world around in past, present and future, disprove or improve on given knowledge, use knowledge in practical life to evaluate new situations, solve problems and to discover, improvise and create new solutions, is of no use to the society. The first step to solution of a problem is the timely detection of impending problem that needs intelligent analysis of the data and events before the problem arises. Such evaluation helps to prevent problems and facilitates timely solution of problems, as the saying goes that prevention is better than cure.

## CREATIVITY AS THE ZENITH OF PROBLEM SOLVING EDUCATION

Creativity means creation of new ideas and their expression in science, arts and culture. Creativity is dependent on open-minded thinking. A creative mind is one, which looks at issues not only from his/her own perspective but takes into account all point-of-views and perspectives. A creative mind is skeptical, imaginative and reasoning and does not accept no for an answer. Students should be taught to accept nothing without getting convinced with reasoning. Even the Prophet (PBUH) once said in reply to Hazrat Ali, "Knowledge is my capital; reason is the basis of my religion....." (Islam & World Religions, by Mahmud Barelvi). Creativity in students results from reasoning and liberation of mind. The ability of free and uninhibited reasoning is the sign of good education and the hallmark of intellectual development. Teachers, in general, are unaware how to develop such problem-solving and creative abilities in



students, particularly in the public sector schools in Pakistan that cover 90 per cent of the student population.

## THE INBORN POTENTIALS OF A CHILD

God has created man in the most excellent of moulds (Al-Quran (Sura At-Teen 95, Aya 4). Education is the physical, mental, social and spiritual growth of the child, which is the perfect creation of God. The mental growth of the child, being one part of education, can be promoted by focusing on his/her inborn potentials. It is every one's experience that Children are inherently observant, reflecting, thinking, curious, questioning, reasoning, imaginative, exploring, discovering, experimenting and creative by nature. They are born with an intense desire to find the answers for every what, where, which, who, when, why and how. What, where, which, who and when, if referred to past, simply test and stimulate the ability to recall, but when forecasting the future, call for thinking and imagination. Why and how always stimulate thinking, reasoning, imagination and creativity. Children must be facilitated to answer every question that comes to their mind like every good scientist and professional worker who has the ability to search for answers to these questions. Unfortunately parents and teachers in developing countries are equally responsible for suppressing these questions of a child from a very early age that prevents the mental development of their children/students. Every normal child has the natural tendency to ask many questions. When teachers and parents make an effort to encourage, guide and support children in finding themselves the answers for their questions, such children will fall into the habit of searching for answers by critical thinking and trying to reach out for all sources of information. Thus, search and research will become an attitude and a way of life of these children. As a result these children will become self-learners and evaluators for life. Will it not be the greatest achievement of parents and teachers for the future of their children? Until this is done at a younger age research activities will never take off at the level of higher education despite the admirable efforts of

Higher Education Commission of Pakistan. Similarly creativity should be encouraged by allowing children to do things themselves. Activities like reading, sketching, drawing, coloring, painting, experimenting, making speeches, writing their own speeches, reflections on the day's events, writing reports, essays, stories and summaries, playing games, building blocks, making toys, learning vocational skills, planning visits, holidays and functions and using internet, etc. while interacting with peers, teachers and parents will promote creativity. Hence there is need for training of teachers on a mass scale in the modern techniques of education to promote the inborn qualities of children while parents must be told that suppressing these traits of children will slow down their mental development. It is a pity that in Pakistan education is practiced as one-way transfer of information and not as an interactive two-way learning involving all means that stimulate intellectual activity. These days in Pakistan the omission of arts, music, hobbies, social-cultural activities and sports from education in most public and private schools deprive our children from the most important instruments of promoting social skills, problem solving abilities and creativity. Even entertainment and fun apart from mental relaxation offer effective opportunities for learning.

**II. PSYCHOMOTOR DOMAIN.** This instructional objective refers to Skills e.g. writing, reading, speaking, listening, debating, reciting, playing, singing, sketching,, drawing, painting, cutting, carving, molding, operating, communicating, cycling, riding,, driving, piloting, navigating, stitching, cutting, knitting, tailoring, washing, cleaning, pressing, repairing, fitting, surveying, examining, constructing, typing, plumbing, cobbling, and so on. Skills are based on knowledge but their acquisition need repetitive performance under certain conditions. Abilities belonging to this domain of instructional objectives need to be laid down in accordance with the NATIONAL GOALS and GIOs in different fields of education at different levels. The perfection of psychomotor abilities requires repeated practice

under supervision as well as opportunity of independent practice. Psychomotor skills have acquired great importance in educational objectives in perspective of the tremendous technological advances made and about to be made in this age of scientific revolution. Never before was a greater need felt for shifting the emphasis of education from lecture room to the laboratory, libraries, workshops, IT libraries and practical fields as it is felt today.

### WHICH SKILLS?

Training of students in psychomotor domain must concentrate on two type of skills.

FIRSTLY, great attention is required to develop the communication skills, i.e. reading, writing, listening, speaking and computer skills especially in developing countries particularly in Pakistan that have suffered enormous deterioration since independence. The computer skills have become a necessity of the modern age. Reading ability has deteriorated in particular since the introduction of computers in the last two decades that needs special attention.

SECONDLY there is great need of giving our students productive/vocational and earning skills that are completely absent in our present curriculum. Today our students completing secondary education have no earning skills and if they decide not to continue higher education (97 per cent of students do not enter higher education in Pakistan) they are not capable of earning two square meals. For this reason many wise parents from the poor class withdraw their children from schools and attach them to professionals for training in professional skills that will enable them to earn when they grow up.

### OTHER BENEFITS OF TRAINING IN EARNING SKILLS

Introduction of earning skills in schools will counter this one major reason for drop-outs of large number of students from schools. Training in earning skills is also good for developing a sense of responsibility and discipline,

stimulating a sense of creativity and creating dignity of labor in students that is sadly lacking in the educated class in Pakistan. How wonderful it will be if every graduate from secondary education is in possession of one earning/vocational skill of his/her choice that may enable him/her to earn in extra time and during holidays to meet his/her expenses as well as to earn his/her living if he/she decides not to pursue further studies. It will prepare him/her for independent, self-supporting and self-respecting existence in student- and practical-life instead of the present practice that makes him/her good for nothing parasite on some one else. This will certainly mitigate the problem of unemployment. Self-respecting independent nations will have to prepare their youth for such life. This will have an overall positive effect on the productivity of the nation and will enable us to smash the begging bowl that our leaders present to the developed nations of the world.

Two of the world's most self-respecting and self-supporting independent nations, i.e. China and Cuba, have already practiced training of school students in productive/vocational skills. It is needless to say that educational development, particularly in skills, should match the needs of the country and be matched by development of employment opportunities by increasing growth in industry and economic activities. It is said that Mohatma Ghandi proposed the inclusion of training of students in earning/productive (vocational) skills in basic education as back as 1920 but was not taken notice of. Later this proposal was taken up by the Congress-governments in several provinces of united India but the Second World War broke out before it could be implemented. Again the Education Policies of Pakistan in 1972, 1979 and 1998-2010 included training of students in productive/vocational skills in secondary education but this has never been implemented so far. Since only 3 per cent of those completing secondary education enter higher education and the rest of 97 percent become a national work force in different vocations, their training in vocations at the secondary educational level is

obligatory and must be included in the objectives and consequent curriculum of secondary education.

### **III. AFFECTIVE DOMAIN**

Affective refers to anything connected with emotions. Emotional intelligence is regarded to be of great consequence for success in practical life. Students with excellent academic record who lack emotional intelligence seldom make it to the top in real life. This is the most neglected area of educational objectives that is the most difficult to achieve and its neglect is responsible for 90 per cent of the ills of the developing nations. Affective domain concerns the area of beliefs, attitudes and behavior resulting from acquisition of deep understanding of all human affairs that requires the greatest effort on the part of teachers, parents and students, so that the students may mature into wholesome and competent personalities. Knowledge and understanding or the lack of either creates beliefs. Beliefs determine attitudes. Attitudes dictate behavior. For instance if the knowledge and understanding of the causes, struggle and sacrifices that went in to creation of Pakistan was transmitted to the younger generations, who have not seen the colonial period, it would have strengthened their belief in their nationhood, enhanced in them love for their country, created in them the attitude of patriotism and reduced the quantum of their exodus to foreign lands in search of better living conditions. We, the older generation, because of this knowledge, realize that whatever we have, we owe it to the creation of Pakistan. In the colonial past there was complete freedom of religion but people had no role in decision-making and were supposed to serve the interests of the rulers. Added to this state of oppression was the socioeconomic deprivation of the Muslims at the hands of Hindu majority that was unbearable and compelled Muslims of India to demand an independent Pakistan at all costs. This knowledge is essential for the younger generations to strengthen their belief in the creation of Pakistan that will, in tern, influence their behavior. Similarly the knowledge of a poor future because of unemployment, poor economic

returns in jobs and absence of merit in selections, appointments and promotions due to rampant corruption, favoritism and nepotism have influenced the beliefs and attitudes of our youth and contributed to their large scale migration to foreign lands.

## NEGATIVE AND POSITIVE EMOTIONS

Learned and educated persons are loving and behave in a civilized manner and the ignorant lack emotional attachment and are barbaric in their conduct. There are negative emotions like depression, too much anxiety, intolerance, frustration, hatred, jealousy, greed, cruelty, revenge, animosity, fear, apathy, hopelessness, despondency, cowardice, and resentment that adversely affect emotional competence and need to be discouraged while educating children. Positive emotions like love, happiness, satisfaction, tolerance, contentment, interest, curiosity, hopefulness, attachment, understanding, empathy, co-operation, kindness, generosity, sympathy, mercy and courage enhance emotional competence and must be encouraged in children and students. Parents and teachers need to pay special attention to small children for emotional development. Children are generally very sensitive and require tactful handling with love.

## IMPORTANCE OF EMOTIONAL INTELLIGENCE IN PRACTICAL LIFE

Research has shown that management of emotions is more than twice as important as possession of professional knowledge and skills for excellence of performance in daily life. Emotions are a part of all human dealings and are involved in every human interaction and relationship. Emotional situations are unlimited in practical life. The expertise to deal successfully with all human interactions, called emotional competence, belongs to the affective domain of knowledge. Such competence is regarded the most important part of human character and personality. Emotional competence requires leadership, initiative, self-confidence, self-awareness, self-control, emotional stability,



courage to take calculated risks and face problematic situations, and conscientiousness. Self-awareness depends to some extent on self analysis but to a greater extent on sincere and honest feedback of others that needs the ability to digest and absorb honest criticism. Successful leaders believe in consultation and try to avail all sources of opinion and are ready to assimilate and internalize what is useful and problem solving. Their ability to cooperate, coordinate, collaborate and develop team spirit is the essence of success. Emotional management needs integrity, honesty, sincerity, punctuality, sense of responsibility, dutifulness, sacrifice, fairplay and justice, truthfulness, trust-worthiness, adherence to promises, pledges and commitments, creditability, dependability, consistency and reliability. Successful managers require humility not arrogance, tolerance, patience, forgiveness, kindness, helpfulness, mercy, generosity, listening ability and open mindedness.

#### EMOTIONALLY COMPETENT PERSONS

Emotionally competent persons have to have a caring and sharing attitude towards every one and every thing, compassion, love, selflessness and a sense of sacrifice. Emotional management also depends greatly on interest, empathy, anticipation, flexibility, adaptability, adjustability, collaboration, tactfulness, communication skills, negotiation skills, trouble shooting ability, persuasion, drive for execution and achievement and resilience. Social skills, optimism, dedication, enthusiasm, hard-work and the ability to concentrate and stay focused under pressure are basic to accomplishing any thing and to settling any problematic situation. Also needed are motivation, motivating ability and convincing power to influence others, the ability to learn from discovery of one's blind spots, mistakes and failures whether personal or those of others as well as not to be over sensitive and too demanding or harsh in criticism of others and the quality to influence others. Emotionally competent people never lose hope in face of failures, are able to overcome all frustrations in life, are pleasant, charming, likable and graceful, cool not impulsive, composed and able

to keep relaxed and control anxiety under pressure, get along well with people and are good at building bridges and winning friends despite being strongly driven by achievements. Adaptation to and accommodation of diversity and changes in life which are the secrets of progress are the hall marks of emotionally competent persons. They are always ready to try improvisations and innovations and enjoy facing challenges. They are good at delegating work and getting work out of others rather than micromanaging every thing themselves. When confronted by awkward workers, they put themselves in their shoes, analyze the causes of such behavior and adopt a workable solution. To adopt a positive approach to all situations is a quality of all great managers. They maintain close contact with all those that matter and a high level of alertness and awareness.

#### INTUITION AND SPEED OF THINKING

Emotionally intelligent people possess the ability of intuition, gut feelings or what is called the 6th sense. These abilities supplement the cognitive knowledge and skills for arriving at sensible and wise decisions leading to accomplishment. A great deal of emotional competence depends on the speed of thinking in response to emotional situations. Those gifted with the ability to think fast for timely response to situations are at a great advantage. This competence can be inculcated by trying to focus on issues without ignoring the collaterals and losing sight of the wider perspective. Emotional wisdom demands an enlightened and thoroughly balanced approach to all life situations in the shadow of empathy, love and compassion for others who are the dearest creation of GOD.

#### LIFE IS LIKE A BICYCLE

Life is like a bicycle that will drop to the ground if not balanced and will have to move on continuously to retain balance. In other words balance and moving forward are interdependent in the journey of life. Like a bicycle, life gives opportunities for exercise, fun and entertainment and is bound to encounter hurdles and risks. Anticipating hurdles



and taking calculated risks are essential for continuing a successful journey of life. Sports, fun and entertainment are essential to keep a balance with serious professional work and are needed for providing mental and physical relaxation and fitness as well as development of friendship and qualities of discipline and leadership through human interaction that are so essential for emotional development. Exercise also gives feeling of wellbeing and improves confidence and willpower for decision making and stamina for hard work.

### **LIFE IS A GAME OF CHESS**

According To Garry Casparov, who was the youngest ever world Chess champion from 1985 to 2000 AD, life is like a game of chess. Every game has to be played according to rules with a strategy for an objective. Determination of objectives, strategy, evaluation and rules are essential components of planning in advance for every successful mission. Every move in implementation is like a war tactic that responds to changing situations with clear anticipation of what it might lead to. The more you analyze every past, present and future move and the farther you are able to anticipate its consequences the more successful you will be. The real secret of success lies in anticipating and understanding problems, the responses of others to your actions and adjusting your moves in the light of this knowledge like in the game of chess.

### **HOW TO DEVELOP QUALITIES OF AFFECTIVE DOMAIN?**

Abilities of the Affective Domain for management of emotions can be imparted by the following methods:

#### **IMPACT OF ROLE MODELS**

The most effective method of character building is through exposure of students to role models. This responsibility falls upon parents and teachers. While parents can influence the character of a few, teachers can influence the personality of thousands in their lifetime. Parents and

teachers cannot impose on students what they do not like for themselves. If parents and teachers want students to be punctual, truthful, clean, polite, tolerant, loving and responsible, they will have to adopt those characteristics themselves. Hence parents and teachers are expected to abide by all the standards of morality, ethics, hygiene and discipline that they expect from students. Educational authorities must make a detailed code of conduct for teachers and ensure its implementation. The underlying principle of this code should be that teachers will display all those desirable characteristics of personality and character that they expect from the students, but will not do things that they do not want the students to do. If this can be done, half the battle is won.

#### INCLUSION OF HUMANITIES IN SECONDARY EDUCATION

Teaching humanities, arts, religions and social sciences at secondary level is extremely important for giving students a grasp of values, citizenship and developing their social and spiritual aspects of education.

#### RELEVANCE OF HISTORY AND CULTURE

The role of history and culture in character building is very important. However the history taught in our schools is the history of Kings, Maharajas, Nawabs, dictators, battles and bravery of those who lived in luxury and usurped the rights of the masses. We have to bring a drastic change in our history books by introducing the history of all the religions, the prophets, saints, reformers, national heroes, great social workers, stalwarts of true democracy, great scientists, philosophers, teachers, writers, poets, doctors, engineers, lawyers, sportsmen, artists, musicians and other professionals who were great achievers in life and made extraordinary contributions to society and are worth emulating and learning from. The struggles of independence of great nations from slavery of usurpers need to be included in history books. Character-building historical events should also be reflected in books of languages and projected on

stage and screen. The rich heritage of the history of religions in general and of Islam in particular and of our culture and traditions need to be emphasized for the spiritual, social, moral and emotional development of our young generations.

#### INTERACTION ON MORAL ISSUES

Debates and discussions on moral and ethical issues should be encouraged in students for highlighting what is right and wrong and to evolve the right course of action in a controversial situation.

#### PRACTICES IN EDUCATIONAL INSTITUTIONS

Administrators and teachers can promote character-building by ensuring compassion, empathy, justice and fair play in all affairs of the educational institution. Emphasizing merit, justice, empathy, honesty, helpfulness and waiting for one's turn in all services in the institutions will lay the foundation of good character.

#### VALUE OF PARA-CURRICULAR ACTIVITIES

Students can attain experiential learning of qualities of character and personality by participating in so called Para-curricular activities. Sports give physical and mental fitness through exercise, teach tolerance, caring, sharing and giving attitude with empathy through inculcating sportsman spirit, teach discipline through adherence to rules, teach anticipation, planning and creativity through using a strategy in games, create friendship and love through comradeship, give happiness through achieving success and develop managerial and administrative abilities through organization of extracurricular activities. Most Hobbies and socio-cultural activities along with sports stimulate the mind, give social sense, provide joy and entertainment, abolish fatigue and boredom from serious work and accelerate the ability of innovation and creativity. These activities should be considered intra-curricular, taken seriously and supervised. Quite erroneously academic excellence is regarded the sole objective of education while, health, character building and personality development, which need active participation of

students in arts, music, hobbies, sports, social work and other cultural activities is ignored.

## EVALUATION OF CHARACTER AND PERSONALITY

Character and conduct of every student should be indirectly observed through out the session but given scores and recorded. Good character and deeds of students should be regularly encouraged, rewarded and counted in the terminal evaluation and grading, while, lapses in ethical conduct will call for timely counseling and guidance. This can best be done by adopting a tutorial system where a group of students are attached to every teacher for the entire period of their stay in the institution. The tutors will be responsible for the personality and character development of the attached students through social interaction and tacit supervision.

## HONESTY

Most characteristics of personality that fall in the Affective Domain are common to all fields of education, while some have more relevance to certain professional fields. For example, honesty is a quality of character relevant to all fields. It is the quality of being frank, truthful, sincere, direct, open, outspoken, straight, blunt, dutiful, and responsible. Honesty makes a person reliable and trustworthy, the most important component of emotional competence. Honesty, if possessed, will eradicate all evil tendencies of a student such as lies, hypocrisy, fraud, cheating, stealing, negligence of duty, irresponsibility, lack of punctuality, breaking of promises and pledges, corruption and so on. As a result dishonesty will always harm someone somewhere and usurp the rights of the rightful. Intellectual dishonesty is a subtle but a highly dangerous form of dishonesty practiced by highly intelligent and educated individuals who neither have conscience nor the love of God that can do more harm than any other crude form of dishonesty.

## REWARD AND PUNISHMENT

HONESTY in students must be guarded, promoted,

encouraged, rewarded and publicly announced. On the other hand, dishonesty must be dissuaded against with love and reasoning, discouraged and condemned. As a last resort, rectifying punishments should be reluctantly considered for those committing dishonesty repeatedly even after removing the causes of such behavior, repeated explanations with love and compassion and warnings provided there is a genuine unavoidable reason for an isolated dishonest behavior. For instance, honesty which endangers an innocent life should be put in abeyance as long as absolutely essential. For such a noble objective, dishonesty may be permissible provided it is not at the cost of others and an honest alternative is not available. All efforts must be made to avoid the use of coercion and punishment in educational institutions, which is usually counter-productive. It is said that all problems of Pakistan will be solved if every one does his duty honestly. If this is so then both teachers and parents must make sure to set an example of honesty for their students and children without which education will be meaningless.

## **JUSTICE AND EQUALITY**

Sense of justice, if inculcated in students, will not only suppress many wicked tendencies like use of unfair means in examinations, fraud, lies, breaking promises, thefts, violence, selfishness, nepotism, favoritism, SEFARESH (Recommending someone for something which he does not deserve on merit) and corruption but will also promote fairness, reasonableness, selflessness, helpfulness, sense of sacrifice, social sense, respect for human rights, regard for the rights of individuals, family and community with a strong sense of empathy, dutyfulness, punctuality, patriotism, humanitarianism and absolute adherence to merit in all selection and promotion processes. Sense of justice, if infused in students, will lead to tolerance, patience, understanding and harmony in society. If all decisions in educational institutions are strictly based on merit, this will set the ball rolling for developing sense of justice in students. This can be further reinforced by giving students the responsibility of decision making in day-to-day affairs

and in the Para-curricular activities, keeping a watch so that they do not violate the policy of merit. Students can be trained to wait for their turn by standing in a line for all the services at the counters. Similarly in all disciplinary decisions in educational institutions there should be no discrimination between the children of the rich and the poor, the influential and the non-influential and so on. All must be treated equal before law and the same law should be applied to all.

### ALL ARE EQUAL BEFORE LAW

Justice demands that the rights of all should be equally ensured. The ruler and the ruled, the haves and the have-nots, the masters and the servants, the producers and the consumers, the sellers and the buyers, the judges and the litigants, all have rights and must stand equal before law. Those who pass judgments on others and are responsible for ensuring and implementing rules of justice including judges, policemen, bureaucrats, politicians, parents and teachers must possess spotless character and exemplary conduct worthy of being role model for the students and the society. This obviously applies to all those institutions that are responsible for justice, peace and order in the society and for upbringing of the young generation. It is very sad indeed that in a survey conducted by Transparency International in 2006 Police and Judiciary were reported to be among the top three most corrupt departments in Pakistan. In recent years the practice of favoritism and nepotism has not spared even some of the highest occupants of our judiciary. The injustices of the law ensuring and enforcing agencies in Pakistan and the injustices in international affairs are the main causes of the emergence of Talibanization and terrorism in this country and the world over. An example of the unjust practices of the most powerful country in the world is when President Bush commuted the prison sentence of Lewis "Scooter" Libby, former chief of staff to Vice President Cheney that was commented upon by Keith Olbermann, which I quote, "As were many Americans, I was outraged by the President's clear statement that our nation's



laws don't apply to the rich, powerful, white Republicans.”

#### ADHERENCE TO MERIT

The practice of ensuring merit will promote in students the sense of justice, equality, patience and tolerance. Merit must alone be the basis of all admissions to institutions, selections and promotions in service matters and in all other competitive fields. It is unfortunate that in Pakistan influential parents use their influence in favor of their children violating the rights of others. When as a result of training justice is adopted as the supreme principle governing the conduct of every individual and every nation, there will be no excuse left for cheating in examinations, theft, robbery, corruption, violence, lawlessness and terrorism and consequently peace and tranquility will return to every home and every heart.

#### THE OUTCOME OF INJUSTICE

Today the world is in the grip of wide spread poverty, deprivation, cruel practices, unrest, corruption, violence, crime, terrorism, bloodshed and wars due to the unjust practices of the society and use of double standards by the individuals and states. The oppression of the have-nots by the haves and depriving the poor of their basic rights of quality education and health care in developing countries like Pakistan, where the rich enjoy all kind of favors from the states including the waving off of huge bank-loans and discrimination in income-tax laws, are the causes of unrest, extremism and Talibanization. A leading article in NEWS International of October 24, 2007 quoted a classified government report submitted before the Public Accounts Committee of the National Assembly that disclosed an amount of over 53 billion Rupees loans which were written off by banks and financial institutions between 2002 and 2007. The 50,000 beneficiaries of this waiver included mainly businessmen, politicians, military officers, bureaucrats and some sitting ministers and chief ministers. Such swindling and loot of public money by the rich class is unjust and cruel indeed. Even in highly developed countries

all are not equal before law or some are more equal than others. Even in USA, according to Barack Obama in his book titled Audacity of Hope , out of the 9 trillion national internal and external debt 47.4 percent goes to the benefit of the top 5 percent of the income-tax bracket. Even today in Pakistan the enforced electricity load-shedding is unequal and discriminatory between various sections of society. The poor are so deprived and suppressed that they do not have the courage to raise their voice against the numerous injustices that are in practice in Pakistan and the rest of the world. As long as nations and individuals shut their eyes to such injustices in society there cannot be any peace in the world.

### JUSTICE CREATES HOPE AND HAPPINESS

Justice creates hope and incentive for hard work in all sections of society. Absence of justice in reward shatters all hopes and the urge for hard work in students, laborers, tenants, servants and all other lower class workers in society who are wrongly blamed for lack of will to work. The absence of justice in Pakistan has crushed the motivation of the poor for hard work, compelled them to adopt unfair and criminal means for living, destroyed the sentiment of nationalism and has resulted in exodus of people to foreign countries. The long-term solution of this state of affairs lies in changing the psyche of the coming generations. This can be achieved by grooming them towards justice. The holy prophet (PBUH) once said, "None of you can be a believer unless you love for your brother what you love for yourself." This also means that what you do not wish for yourself, do not wish for others. The noblest and most admirable goodness lies in wishing for others better than what you wish for yourself. Such saintly attitude is seen in most parents for their children and in many teachers for their students. If all would adopt such a noble approach to others the world will become a haven of peace and tranquility, progress and prosperity and happiness and harmony. This is the spirit of justice and equality that must be nurtured in the minds of the young students. Tell your children that Allah says, "I love



those who do justice.”(Sura Almaidah:5-42). And those who do more for others than for themselves will occupy the highest pedestal among the loved ones. Such are the people who make a mark on history. Those who do not possess sense of justice are not competent to resolve any emotional situation.

## JUSTICE IN ISLAM

Muslims are obliged to offer prayer five times a day, a practice shared by most religions in one form or another. Apart from teaching equality this practice also teaches obedience to God, humility, unity, discipline, cleanliness and provides an opportunity for social interaction and developing comradeship with fellow worshippers. Although egalitarianism is taught by most religions, except one, to the best of my knowledge, but it is emphasized to the hilt in Islam. The Holy Prophet Muhammad (PBUH) ended his last address at Arafat before his death with these words:

“All of you descended from Adam and Adam was made of clay. There is no superiority for an Arab over a non-Arab or for a non-Arab over an Arab, neither for a white man over a black man nor a black man over a white man except the superiority gained through consciousness of God. Indeed the noblest among you is the one who is deeply conscious of God.”

This is the lesson that every child must get in the most receptive period of life to develop his sense of humility, justice and equality. To ensure this, children should be provided equal access to teachers and to all the academic and nonacademic facilities in the schools, colleges and universities irrespective of their nationality, color, religion, ethnic group, social status and gender.

## TRUTHFULNESS

The simple training of a child to speak the truth and abstain from lies can make a great difference to his/her character-building. It is stated in Sahih Al-Bukhari Hadith 8.7 narrated by Abu Bakar:

Allah's Apostle said thrice, "Shall I not inform you of the biggest of the great sins?" We said, "Yes O Allah's Apostle." He said, "To join partners in worship with Allah; to be undutiful to one's parents." The Prophet Muhammad (PBUH) sat up after he had been reclining and added, "And I warn you against giving forged statement and a false witness; I warn you against giving forged statement and a false witness..... " The Prophet Muhammad (PBUH) kept on repeating that warning till we thought he would not stop.

On another occasion according to Sahih Al-Bukhari Hadith 116.8 narrated by Abdullah the holy Prophet (PBUH) said, "TRUTHFULNESS leads to righteousness and righteousness leads to Paradise. And a man keeps on telling the truth until he becomes a truthful person. Falsehood leads to Al-Fajur (i.e. wickedness, evil-doing), and Al-Fajur (wickedness) leads to the Fire (Hell), and a person may keep on telling lies till he is written before Allah, a liar."

A person who tells lies is mean, hypocrite, un-trust-worthy and is capable of breaking promises, committing theft, fraud, murder and all shades of dishonest behavior that he or she can cover by telling lies. In fact, telling lies are at the root of all evil practices. On the contrary truth forms the basis of all good deeds. A truthful person commands great respect because he is straight forward, sincere, reliable, dependable, trust-worthy, a person of his or her word and is loved by every one. Lies lay the foundation of wickedness while truthfulness leads to virtuousness.

## THE ROLE MODEL OF MUHAMMAD (PBUH)

The entire structure of Islam was woven around the personality of the holy prophet Mohammad (PBUH), at the core of which lay truthfulness that was widely acknowledged and respected by friends and foes alike much before the dawn of his prophet hood that earned him the trust and confidence of all those to whom he carried his message. Even Mahatma Gandhi said this about Prophet Mohammad (PBUH): "I became more than ever convinced that it was not the sword that won a place for Islam in those days in the

scheme of life. It was the rigid simplicity, the utter self-effacement of the Prophet, his scrupulous regard for pledges, his intense devotion to his friends and followers, his intrepidity, his fearlessness, his absolute trust in God and in his own mission. These and not the sword carried every thing before them and surmounted every obstacle.” (published in 'Young India' in 1924). Our prophet said it clearly that telling lies, breaking pledges and breaching a trust are the signs of hypocrisy.

Shouldn't we therefore adopt truthfulness as the focal point of character-building for our children and set an example of this for our students? But how many teachers and parents do so? Such emphasis on speaking the truth and abstinence from lies in Islam is shared by all religions of the world. Religious teachings, whichever religion it is, have a great role in character-building and must be incorporated in basic education from this point of view, provided the emphasis is given to the substance and not the rituals of religion. Honesty, truthfulness, sense of justice and love give strength to human personality to manage all emotional situations and are the binding forces for human understanding, unity and peace in the world

## **LOVE OF GOD AS THE BASIS OF HUMANITY**

The teachings of Quran are the best guide for human conduct and the life of the holy prophet (PBUH) offers the best example worth emulating. Religions teach humans selfless love of the Creator that must inevitably result in selfless love for His creation and will lead to humanitarianism as much as the love of someone's creation leads to love of the creator. Every artist paints a picture because he/she looks forward to see a beautiful painting that he/she loves. He/she loves the several hundred paintings that he/she creates and the one that is the best of his/her creation is dearer to him/her than his/her life. All lovers of the paintings love their creator in the same way. Similarly the creator of the universe is a supreme artist who loves His creation and out of millions of species that He created on

earth human beings are the best of His creation, a clear evidence of the greatest of all intensities of selfless love that Allah has for the humans; selfless in the sense that God does not need human beings for any thing. Another proof of the love of God for humans is the fact that He has created every individual unique and different from others. Such individual attention of God to each and every individual reflects the amazing interest of God in every person he creates. Obviously the Supreme Artist will love those who love His creation and will love most those who love the best of his creation. Since humans are the best of God's creation, God also provides them with better facilities than all other creatures on earth. While most of other creatures struggle for survival, food and shelter on day-to-day and even hour to hour basis, are normally exposed to all hazards of nature and are in danger of extinction, God provides humans with food, shelter, clothes, means of communication and all comfort of life much better and more easily than others. Humans have been made the fittest of all to survive. It is for the love of humanity that God has made the earth a unique planet that cannot be even remotely matched by any other planet in the universe in its extra-ordinary beauty, and the vast resources it provides to human life. Human beings must reciprocate this selfless love with their Creator and His creation.

### SELFLESS LOVE

Love that is based on fear and self-interest cannot be the source of peace and tranquility in the world. Only selfless and unconditional love of God and His creation emanates sense of sacrifice, loyalty, unity and selfless service of humanity with sincerity, honesty, dedication and respect, melting away all barriers between people. Such love and service of others, sharing sufferings of others and relieving their pain and miseries gives comfort, mental peace and happiness that no amount of wealth can give and earn the pleasure and love of God. "Virtue is that which satisfies the soul and comforts the heart; and sin is that which perturbs the soul and troubles the heart," said our Holy Prophet (PBUH). Nothing can give you more happiness or

earn you more pleasure of God than helping the most helpless of God's creation. At the same time, the extent to which selfless loving service can win the hearts of people, no other power can. Serving and loving God's creation is equal to loving God except that humans must not bow to any one but to God and God alone. Selfless love is a force that can tame many a wild animal and can disarm the most lethal enemy. Selfless and sincere love earns friends and not foes. Selfless love alone can neutralize hatred and eradicate violence and bloodshed. That is why Arabi, a famous muslim saint said, "love is my religion."

#### **VIEWS OF OTHER REVEALED RELIGIONS**

Other religions of the world equally share this concept of love for God's creation. "Love thy neighbor as thyself", said Jesus Christ. It is said that Moses asked God that why was he chosen For Prophet-hood? God replied, "when you were grazing your sheep, once a baby sheep started running away from the herd. You chased her and when you got hold of her, you were breathless and so was the baby sheep but you picked her up in your arms caressing her close to your chest and asked her, why did you run away wearing yourself out and wearing me out too, and you kissed her affectionately. It was that demonstration of your love for God's creation that earned you prophet-hood."

#### **CARING, SHARING AND GIVING**

Real caring for others needs sharing and giving. It is known that sharing with others, the times of happiness, enhances love and happiness, and the times of grief, lessens grief and tension. Similarly caring for others by sharing and giving yourself, time and belongings, particularly to the needy and helpless, give such happiness that nothing else gives. Such education of children will bring a major change in their behavior and attitude leading to friendship, and love.

#### **ISLAMIC VIEW**

Quran very clearly says, "do good to others – indeed God befriends those who do good to others." Note that

'others' is a comprehensive word that includes the entire creation of God. The Holy Prophet Mohammad (PBUH) once said, "He is not a believer who eats his fill while his neighbor remains hungry by his side." For this very purpose Muslims are obliged to pay Zakat equal to 2.5 percent of their wealth to the poor every year. Charity in different forms is highly encouraged and Muslims are advised not to display their charity to others for show off and to prevent its exploitation by the charity giver and the embarrassment to the receivers. Emphasizing secrecy in charity the holy prophet said "the best charity is that which the right hand gives and the left hand does not know of." Charity results from a sense of generosity that in turn calls for freedom from greed and possession of quality of contentment. If teachers and parents join hands to promote the spirit of contentment, generosity, sharing, caring, giving, mercy, love, compassion, kindness, sacrifice, selfless service to others and tolerance in students and discourage miserliness, greed, cruelty, hatred, selfishness, jealousy, intolerance and violence, in the light of religious teachings, they will contribute a great deal to peace in the world.

## EMPATHY

Children must be encouraged to think thrice before they speak or act as to what would be the feelings and responses of those who are affected by their speech or action. If the expected feelings and responses indicate offence or harm to the recipients then such speech or action must be withheld and modified. It must not be presumed that others would have needs, wishes, likes or dislikes similar to yours. Caring mean regard for the needs, comfort, feelings, desires, likes and dislikes of others in all matters before you express or act. Creating consciousness in children of the emotional responses of others will develop a caring attitude in children towards others. Children must be trained to refrain from such speech and actions that will put others in inconvenience. Speech must be clear and just loud enough to be audible to the one to whom it is addressed but must not be so loud to disturb the peace of others. Speech should be



polite and pleasant preferably accompanied by a smile but never rude, offensive or abusive and hurting to others. Students must be trained not to express about that which is not their concern. Children who disturb the peace of others, obstruct the passage of others and neither honor promises and pledges nor meet commitments, respond to questions, return calls, attend to duty and help the needy are considered non-caring, uncivilized and selfish. Not caring for others means not caring for God. Creating consciousness in children about the rights of others will prevent them from committing, or being subject of, verbal or physical aggression. At the same time surrendering their rights to others will win them many friends and will please Allah. Great are those who sacrifice their own comforts for the comforts of others and do for others more than what they consider best for their own selves. The best way to appreciate the needs and problems of others is to put your self in the shoes of others. Least of all a smiling face which costs nothing gives tremendous comfort to the one confronted. Magnanimity lies in repentance and apologizing to those who are the victims of your speech or actions. When the interests or rights of two parties clash, give and take is the best approach to resolve a dispute. Teachers, who care for their students, by playing active role in resolving all disputes and differences in educational institutions with a smiling face by the policy of give and take, can set a good example for students to follow.

#### SOCIO-ECONOMIC EFFECTS OF CARING, SHARING AND GIVING

If students are trained to have a smiling face and a caring-sharing attitude in all they have and do towards everything in life including all living beings and property it will not only create goodwill and a loving environment but will also discourage cruel, reckless and negligent behavior, the habit of misuse and abuse of possessions and opportunities and all other things in day-to-day activities and wastefulness of resources, time and effort. It will promote cost-consciousness and efficiency in students for the ultimate



socioeconomic development of their countries in practical life. Education must teach not only how to make earning for living but also how to live within their means.

In caring for, sharing with and giving to others also lie the escape from hatred and violence in our communities. Furthermore the attitude of caring and consideration for the views and needs of others will stimulate thought process and lead to better understanding of problems and clearing of concepts. In this context students must be encouraged to share their thoughts and patiently listen to others and consider the views of others with an open mind. By adopting such caring attitude they will learn from everyone and will grow in wisdom. Lastly children must be trained to take good care of them selves, being one of the best of God's creation, to enable them to take care of others. An anonymous saying that attracted my attention on a wall hanging went like this;

“I shall pass through this world once. Any good therefore that I can do or any kindness that I can show to any human being, let me do it now. Let me not defer or neglect it. For, I shall not pass this way again.”

Caring for others with love, compassion, justice, honesty, sincerity, selflessness, sacrifice, tolerance, forgivingness and hard work are the basic ingredients of friendship and leadership that earn the love of people and God.

### **IS THERE A GOD?**

Some students may say, “we cannot see, hear, feel or touch God.” Tell them it is not essential that every thing that exists must be visible or audible or touchable. Energy, air, magnetism, pain, feelings, fear, thoughts and emotions are not directly visible, audible or touchable except indirectly through their effects. The proof of God's existence lies in the vastness, complexity, diversity, order, precision, refinement, excellence, perfection and beauty of universe. In other worlds God is perceptible to us through His creation. Our

sentiments towards God's creation are our sentiments for God. Our sensitivity, loyalty, love and devotion to the rights of God's creation (Huquq-ul-Ibad) is synonymous to the rights of God (Huquq-ul-Allah). It is not possible to physically serve God but we can serve Him by serving His creation. Nothing will give God more pleasure than humans serving Him selflessly through His creation. Raising expectations from the recipient of your service is against the principle of selflessness and frequently leads to dismay and grief. If you believe that serving others is equal to serving God than it is a divine right and not a matter of obliging others. "Do good to others and throw it in to the river" is a famous Persian saying emphasizing the importance of selflessness in service. You must not raise your expectations from the one that you care for, share with or give to. Such teachings will mould the attitude and behavior of young students for spreading love and peace in the world.

## **FAITH, TOLERANCE, AND FORGIVENESS**

### **THE ROLE OF FAITH**

Tolerance emerges from faith. I once woke up from sleep with severe cramps in both my legs. From my medical knowledge I knew that nothing could be done to relieve those cramps. However I knew from past experience that getting up and walking helped. While I tried to get out of bed I realized that I was about to faint and therefore lay back in bed. I made one more attempt to get up but did not succeed. Hence I lay back sweating in severe pain and said to myself that God is very kind for not involving the rest of my body in cramps and He is kind in allowing all other systems of my body to function normally sparing them numerous lethal and disabling diseases that affect so many people. I said, well God if this is your wish that I should have cramps in my both legs I am quite happy to carry out your wish, accept and bear them however painful they may be. With this thought I got relaxed and dozed off. When I woke up after a while, the cramps were gone. Thus faith gave me the courage and strength to tolerate that

excruciating pain. I realized that faith gives you the strength and courage to bear any physical or mental stress and as a result I have usually, though not always, succeeded in not reacting to others in response to any physical or mental trauma and have in turn often forgiven the offender sooner or later. In fact this manner of conduct that results from faith in God gives you time to investigate the causes of trauma and respond appropriately at a proper time. Those who are tolerant are comfortable in all extreme situations they happen to fall in and are every minute grateful to God for what ever they have.

People with faith have the patience and tolerance to forgive their enemies and resolve all disputes peacefully. It is because faith in God creates hope, tolerance, courage and confidence. Faith also creates conviction and the strength for unwavering pursuit of goals and tolerance for all levels of physical and mental hardship encountered in the process. A stand against injustice, tyranny and violation of human rights is a moral obligation that emerges from faith in God and His creation and enables the faithful to take a stand on such issues against all odds. In pursuit of this noble objective mental and physical suffering is happily accepted by those with faith but any resort to violence that is the practice of the faithless is counter-productive and perpetuates violence, tyranny and violation of human rights. Faith gives you tolerance and understanding of the rights of others who are equal members of humanity. As a result, faith gives you the strength to tolerate the differences in faith, thoughts, beliefs, attitudes, culture, tradition and conduct. "Live and Let Live" (Geo aur Genay Do) is the only route to peaceful co-existence in the world.

Such tolerance can be converted into friendship by encouraging students to come to each other's help, irrespective of any differences, in times of trouble, illness, grief, pain and suffering as well as to share each other's happy moments of life by holding parties, exchanging greeting cards, flowers, gifts and participating in each other's happy moments e.g. birthdays, success in exams and other

competitions, promotions, selections, marriages, religious and cultural celebrations and so on. Students should be encouraged to demonstrate and express clearly to fellow students and others sympathy in times of grief and appreciation of their favors and good deeds without any delay. Students should be encouraged to debate issues in public that will not only sharpen their wits and improve their knowledge but will also help in developing understanding and tolerance to difference of opinion and will clear many misunderstandings. Furthermore, discussion offers an active means of learning and facilitates the solution of problems. Finally it must not be forgotten that the basic value of an action depends on your intention ( Bokhari, Hadees No 1). Taking great care in the implementation of your action in achieving your target is also your responsibility. If your intention is good but the action that follows meets a bad end because of your non-caring attitude, you are responsible for such a bad consequence of your action.

#### TREAT CAUSES AND NOT SYMPTOMS

All evils in society including terrorism, crime, violence, corruption, disease and deprivation have underlying causes that must be removed with tolerance and forgiveness for achieving permanent cure. All other methods of eradicating evil give temporary relief but have no lasting value. It is the choicest method of the rich nations and the rich people to give aid to the poor to white-wash poverty and let the poor remain dependent on such aid. They make no attempt to remove the causes of poverty and even resort to all shades of overt and covert methods of oppressing the poor. Roti(bread)-Kapra(clothes)-Makan(housing) is a popular crowd-pulling slogan for the poor used by politicians to get votes but the real causes of poverty are the lack of education, health facilities and earning opportunities that are seldom attended to.

#### FORGIVENESS AND NOT REVENGE

Tolerance and forgiving are the prerequisites for offering radical remedy to evil actions. To forgive is divine.

But, of course, the right of such forgiving is the prerogative of the victims of evil actions or in their absence of their next of kin. On the contrary, feeding the poor, suppressing the symptoms of disease, punishing the criminals and terrorist and taking revenge of every act of violence will only multiply these evils by setting a vicious chain of such events and their complications that will perpetuate such acts indefinitely through many generations. Family feuds that run through generations are well known in primitive societies. Revenge is a primitive instinct that belongs to animals. Mohatama Gandhi once said, " Eye for eye will make the whole world blind". Intelligent and civilized humans with faith are expected to adopt patience, tolerance and forgiveness instead of impatience, intolerance and revenge that will spare them the time and energy for soothing their wounds and will allow opportunity for the aggressors and the victims to live in peace.

#### THE ROAD TO PEACE IN THE WORLD

In fact, patience, tolerance and forgiveness open the gateway to peace, tranquility, harmony and happiness while impatience, intolerance and revenge lead to war, violence, bloodshed and human sufferings. Teachers must encourage students to display patience, tolerance, forgiveness and compassion in day-to-day life and strictly avoid impatience, intolerance and revenge. In Quran Allah says, "time is witness to the fact that man (& woman) is a loser except those who have faith, do good deeds and exhort one-another to justice/truth and tolerance/patience." (Al-Quran, Al-Asr CIII). At another point Allah says, "God is the companion of the tolerant/the patient." This is the strength of character that every graduate from our schools should possess.

In contemporary history, Mahatma Gandhi, a saint in his own religion, set a unique example of tolerance, patience and non-violence. He used to say, what is attributed to Jesus Christ, that if someone slaps you on one side of the face you invite him to slap you on the other side too. A senior Tibetan Buddhist Lama who had been severely tortured by Chinese was asked, "what was the greatest danger he ever faced?" He

replied, “the danger of losing compassion towards my torturer.” Our holy prophet (PBUH) set many unique examples of tolerance by forgiving all his enemies who insulted and tortured him or attempted to kill him during his years of struggle. Tolerance and forgiveness alone can prevent violence and break the vicious chain of perpetual violence and bring peace to the world. This is what we should teach our children for the sake of peace and tranquility in the world.

## **THE PRACTICE OF FASTING**

It is for the purpose of teaching tolerance and self-discipline that fasting from sunrise to sunset in the month of Ramadan from eating, drinking, smoking and absolute abstinence from backbiting, speaking lies, sexual acts, violence and all evil desires and actions is compulsory for all adult Muslims. It is the way to control one's lower passions and to learn how to suppress the evil desires and lower cravings, which are conditioned by one's animal impulses. For similar reasons fasting in different forms is a practice of most religions. However to be effective fasting has to be a voluntary act of the faithful. However, unfortunately, many Muslims observe fasting as if this has been forced upon them against their will. Such people anxiously wait for the sunset. After sunset they indulge in overeating, creating demand for more food that leads to shortage of food in the market, escalating prices, resulting in hoarding of food items and their black market. The News International of September 24, 2006 & 11th of Ramadan reported as headlines on the front page, “Political bigwigs make six Billion from atta (flour) crisis”. The source of the news is quoted to be Federal Ministry of Finance, Pakistan which has pointed out hoarding and smuggling of wheat grain to neighboring countries by the feudal lords and their accomplices that have produced shortage of wheat flour in Pakistan despite a bumper crop of wheat in 2007. Such persons, who fast for the fear of people and not for the love of God, have no love of people either. They have no compassion and tolerance as a result of which they indulge in anti-social activities i.e.



hoarding, black-marketing, smuggling and frauds to make quick money and adopt recklessness, fighting, violence and killing at the slightest provocation and also are the cause of many traffic accidents. Such behavior can be prevented by educating young boys and girls on the purposes and blessings of the month of Ramadan and its great value in character building. However children should not be encouraged to fast till they are grown up to avoid any adverse effect on their growth and development in young age.

### **KILLING AND SAVING LIFE**

All religions condemn wickedness. The stoning of symbolic devils by Muslims during pilgrimage to Makkah (Haj) represents the idea of rejecting the wickedness of the Devil (Satan). In addition, Haj is a great experience in unity, brotherhood, tolerance and communion with God. Similar practices are known in most religions. Destroying a human life is the worst of all evils and saving human life is the best of all goodness. Quran forcefully prohibits killing of human beings including one's self and commands saving every life in these words:

“If you killed any human being except (in defense of humanity) for committing murder or inciting bloodshed on earth, it shall be as if you killed the entire humanity. And who so saved the life of one human being, it shall be as if he saved the entire humanity.”

(Alquran, Sura-e-Maida 5, Ayat 32-35)

Remember that the emphasis is on “any human and the entire humanity” that include all those belonging to all faiths, beliefs, races, nationalities, colors, creeds, casts, sects, tribes and social strata including the nonbelievers. That means that all human being are equal in the eyes of God. All have been created by, and belong to, the same God with the same love. According to this Ayat, in the eyes of God, the life of one human being is as precious as the lives of the entire humanity without any discrimination. That means no



one has the right to kill any one including one's self. Therefore suicide is prohibited in Islam. According to teachings of the Holy Prophet (PBUH), even in state of war killing is allowed only in self defense. Killing a person who has committed murder or spreads bloodshed on earth is allowed but not compulsory. Shouldn't we therefore teach our students that this is what Islam teaches?

#### PROHIBITION OF ABORTION AND EUTHANASIA

Further killing a human being from the time of conception onwards is against the law of God, is barbaric because it irreversibly takes away the right of a person to be born, live and get educated for the good of humanity. Also, since suicide is prohibited, mercy killing (euthanasia) with the consent of the patient is equally prohibited. Medical men have all the means of relieving pain and misery other than killing.

#### ABOLITION OF IRREVERSIBLE AND HUMILIATING PUNISHMENTS

Who knows how many future saints, scientists and reformers may have been killed before they had a chance to reform themselves? Even killing as punishment takes away the right to live and get reformed for the good of humanity and gaining the pleasure of Allah. The deterrent effect of executing criminal murderers has not reduced the incidence of such crimes in most countries including Pakistan. Moreover, killing, however painful it may be, the extent of which we do not know, also brings misery to other innocent human beings. Many a time the innocent is killed as the killer by error of judgment. Such wrongly committed irreversible acts of terminating life cannot ever be compensated. In fact, any act that causes irreversible loss to human body is not only uncivilized but also inhuman because many years later new evidence may reveal and prove the innocence of the victim of that punishment when it will be too late to reverse the irreversible damage done to the innocent.

## SCOPE OF PHYSICAL OR EMOTIONAL TRAUMA

To extend this argument further, one should remember that even a minor injury can lead to fatal complications and death and any emotional trauma can do the same. Therefore harming, hating or humiliating human beings, including one's self, who are the best of God's creation, is wrong and will earn the displeasure of the Creator. Both physical and mental trauma whether inflicted intentionally or out of negligence, carelessness, non-caring attitude, lethargy or lack of punctuality may lead to the same consequence and therefore must not be allowed to occur. For these reasons the law-makers of several developed countries have abolished capital punishment and do not prescribe any punishment that can cause humiliation or irreversible damage to the human body.

## SAVING HUMAN LIFE

On the other hand the value of caring for, sharing with, serving and loving one of the best of Allah's creation is equal, in the eyes of God, to doing the same for the entire humanity and is bound to earn the pleasure of the Creator. In reality, caring for God's creation is equal to caring for God. Giving a person physical or mental care is the first step to save his/her life. The goodness or badness of every action is determined by the intention or motive of the one who acts. Every intention is guided by the desired and expected consequences of the intended action. The desired ends determine the goodness or badness of the means. Irrespective of your beliefs, good actions are those good things that you wish for yourself and bad are those that you consider bad for yourself. All actions that give emotional and physical comfort to some one amount to saving life.

In fact, those who have studied Islam cannot escape the conclusion that Islam is the name of all that is good for humanity. I believe that every religion seeks the good of humanity. If all could follow the true spirit of their respective religions there will be nothing but love and peace in the world. But the tragedy is, as Allama Iqbal said, "I

salute the saints and the clerics for the message of God that they brought to us, but, the way they interpreted His message surprised God who sent the message, Gabriel who brought the message and the Prophet (PBUH) who received the message.” The majority of clerics and their interpretations, unfortunately, are the cause of division, disharmony and bloodshed among people of different sects and religions.

### **GRADING DEEDS**

Obviously, killing a human being is the worst of all evils that reflects extreme hatred and saving a human life is the best of all good deeds that is based on love and compassion. One would need to grade all evil and good actions. In practical life one has to accept a lesser evil in order to avoid a bigger one e.g. lying to save an innocent life that his/her enemies were about to kill, or stealing a gun that was to be used in killing an innocent person. At other times one has to bypass a lesser goodness in order to do a better goodness e.g. not giving water to a thirsty person in preference to giving a life saving injection to a dying person. Speaking the truth is good but speaking the truth with malice to some one is bad. In other words it's the intension and motive behind an action which determines the goodness or badness of that action. In all controversial situations it is best to think and resort to discussion with all concerned to arrive at a consensus. In all such situations where an evil needs to be accepted out of necessity it must be ensured that the necessity is overwhelming and no legitimate alternative is available to the evil. Young students often encounter such confusing situations. They need to discuss the matter with their peers, elders, parents and teachers who must in turn provide every opportunity for this character building activity.

### **ACCOUNTABILITY TO GOD**

All monotheistic religions in the world teach that God is omnipresent. Quran says, “Wheresoever you turn (internally or externally), there is His face (presence) and surely God is watching all you do (Sura Baqra II, Aya 115).” If so, God must be present everywhere around and within us

including inside our heart and brain, in our blood and in and around every organ and cell of our body. Then how can a true believer in God raise one hand against the other or cast an evil eye on another human being or even think of or intend or commit anything bad while knowing well that God is watching? If children are made to understand that they are answerable to God, who is present everywhere all the time, for all their actions, it will prevent them from doing anything wrong. It will help a great deal if children are trained to seek forgiveness of Allah for every possible sin, literally denouncing all of them, that they might have committed knowingly or unknowingly after every prayer and whenever, wherever they can. A simple prayer in the morning assembly of the school may go like this: "O God, forgive me for acts of dishonesty, insincerity, lying, hypocrisy, cheating, fraud, theft, injustice, nepotism, favoritism, encroaching upon rights of others, jealousy, hatred, selfishness, discrimination, greediness, intolerance, insulting behavior, cruelty and violence, corruption, embezzlement, breaking promises, evil desires and any irresponsible and sinful conduct that I might have committed. O Allah, grant me the strength to overcome any wicked tendencies within me and the courage to do goodness to all." Repetition of such a prayer in every morning assembly may have a positive influence on the conduct of children. Those who are nonbelievers may choose not to participate.

Imagine that God is the CEO of the universe delegating different functions to different individuals and sections of the society. In other words all are agents of God. All are accountable to him. Whoever performs his/her duty diligently with dedication will please God and vice versa.

### **PLURALISM and THE FORCE OF DIVINE LOVE**

We should tell the students that, despite our different beliefs or no beliefs, we belong to the same God and the same God belongs to us. This spirit of inclusiveness or pluralism, belonging and oneness with one God is the source of unity, moral strength, love, kindness and peace in the

world. Divine love is the binding force for the entire cosmos. Without His binding force of love the universe would have disintegrated into nothingness at the time of its creation. It is the binding force of Divine love by virtue of which, after the big bang, the stars and the planets stopped at certain points and since then behave in a highly organized and orderly fashion, we and our belongings remain close to the heart of mother earth, fruits from the trees fall on the ground for us to share and relish and every living being and inanimate body remains intact. As against human explosions that bring destruction, God's explosion by virtue of His love created an organized and disciplined universe. It is this Divine love the flow of which creates compassion, sympathy, hope, interest and happiness in life and lays the foundation of the birth of all living beings and is responsible for the integrity of family and community life. Those who keep track of this love with the Creator will have peace and tranquility in life and will strengthen humanity. Human reciprocity of the Divine love with God and His creations will demolish all forces of hatred and violence from the face of earth. According to Jalaluddin Rumi, a famous Muslim saint and mystic/sufi poet from Iran lovers of God have no personal, local, regional, national, ethnic, religious or other worldly prejudices but the love of God alone." Such belonging with God will abolish all barriers between all human beings. Parents and teachers have the God-given opportunity to create this spirit of two-way belonging with God and a deep-seated love and consciousness of God in their students that will awaken their conscience and prepare them for living a life full of harmony, goodness, piety, justice and love.

## **SPIRITUALISM**

Albert Einstein said, "Every one who is seriously involved in the pursuit of science becomes convinced that a spirit is manifest in the Law of Universe-a spirit vastly superior to that of man, and one in the face of which we, with our modest powers, must feel humble." Aldous Huxley defined spirituality as the art of achieving oneness with God. The great French writer Voltaire wrote, "If God did not exist,

it would be necessary to invent Him.” Most thinkers and philosophers believe in the metaphysical existence of man that answers many questions that the physical being cannot. All organized religions teach the existence of soul or spirit as the manifestation of the presence of God and believe in the reunion of soul and body as a means of resurrection at one time or another. Soul or the spirit is regarded as the difference between life and death. The body is mortal while the soul is immortal. The soul lives for ever when the body meets death. While the body returns to dust the soul returns to God. Quran says, “Lo! we belong to Allah and lo! unto Him we are returning.” (Sura Albaqra 2, Aya 156) At another occasion Quran says, “But ah! Thou soul of peace! Return unto thy Lord, content in His good pleasure!” (Sura Alfajar 89, aya 27-28). God says, “I am present in your heart”. Traditionally human heart is regarded the seat of the soul. A heart with soul is full of love, selflessness, sympathy, empathy, mercy, compassion and humanity. A heart without soul is the center of selfishness, greed, hatred and cruelty. A person without soul in his/her heart is regarded a heartless person. Those who own this concept of life appreciate their belonging with one God and their ultimate return to God and, if they are good, they are not afraid of death and look forward to meet the creator after accomplishing his/her mission to earn the pleasure of God in this life. This feeling of oneness of the soul/spirit with God is the source of strength, love and unity between human beings that has been pleaded by Allama Iqbal, the great Muslim philosopher, thinker and poet of the East as essential part of education.

## **PURPOSE OF LIFE**

Simply eating, drinking, sleeping, growing up, doing routine work, getting married, producing children, growing old and dying is not living but mere vegetative existence that none can be proud of and even plants and animals are capable of. Living means living with a purpose. The purpose of life is to earn the pleasure of God that lies in consciousness of God and reciprocating His love. Since human being is the perfection of God's creativity every man



and women has the unlimited potential that God Himself has and the capabilities to return God's love in numerous ways to earn His pleasure. Being a vicegerent of God on earth every human being is obliged to pass on the fruit of God's creativity to fellow creatures in this world. This in turn lies in getting education that enables humans to develop a passion for facing all challenges of life and achieving the unattainable, display their potentials to overcome all problems of life, serve God's creation in the best possible way, contribute to knowledge, development, discovery and creativity and pass on the resultant enrichment of mind to others in general and to the coming generations in particular. Even the non-believers who wish to have the benefits of progress in knowledge and science for themselves, the society and their coming generations must contribute to and accept this as the purpose of life.

### **EVERY CREATION HAS A PURPOSE**

Overpopulation is a curse when people are oblivious of the purpose of life and are parasites on the efforts of others. But when they become conscious of the purpose of life and are prepared to work hard for achieving the purpose of life they become an asset to the community. Every thing that God has created in this universe has a purpose. Sun has been created to give energy to the solar system. Earth is there to support life. Plants provide food and friendly environment for the livings. Plants and animals provide food for the human beings. Humans, the best of God's creation, are born to win the pleasure of God by serving God's creation. Faith, prayers, fasting, pilgrimage and charity have a purpose that lies in meeting the ultimate pleasure of God. There is nothing in this universe that does not have a purpose. Parents and teachers must join hands to infuse this concept of purposeful life in students that will make them enthusiastic and perpetual learners.

### **FREEDOM AND HUMAN RIGHTS**

Equal access to Freedom, Justice and peace with dignity offers the basis of the Universal Declaration of



Human Rights by the United Nations. Every individual's emotional yearning for absolute freedom is natural as beautifully described by Rabindranath Tagore, the first noble laureate of united India, in Gitanjali when his country was under the yoke of British rule:

*"Where mind is without fear and the head is held high;*

*Where the knowledge is free;*

*Where the world has not been broken up into fragments by narrow domestic walls;*

*Where words come out from the depth of truth;*

*Where tireless striving stretches its arms towards perfection;*

*Where the clear stream of reason has not lost its way into the dreary desert sand of dead habit;*

*Where the mind is led forward by thee into ever widening thought and action;*

*Into that heaven of freedom, my father, let my country awake."*

Young students are born with that emotional longing for freedom described by Tagore. Islam and all other religions also lay great emphasis on freedom particularly in religion and freedom over ones life, property and rights. The degree of poverty in developing countries corresponds to their lack of freedom. Pakistan ranked 104 out of 141 countries in economic freedom in 2007. Similarly most Islamic countries ranked very low. Research has shown that individuals living in countries with high levels of economic freedom enjoy higher levels of prosperity.

## RELIGIOUS FREEDOM

As far as religious freedom is concerned, Quran says clearly to tell the non-Muslims, "I have my faith and you have your faith." (Sura Alkafiroon 109, Ayat No. 6). At

another place Allah says, "There is no compulsion in religion" (Al-Baqarah 2, Ayat 256). Islam regards religion as a personal and private affair between man/women and his/her God and gives complete freedom in adopting any religion by one's free will. Use of force in religious matters is not allowed in Islam.

#### LIMITS TO FREEDOM

However, civilized social life imposes certain restrictions on human conduct to which all religions agree. All have to abide by the institutional and constitutional rules and regulations and laws of the country and international law for the sake of welfare of all, peace and justice. Children should be made to understand that equal opportunity of freedom of thinking, expression, action, observation, access to knowledge, creativity, traveling, religion, access to basic necessities of life including ones life, property, health care and education are among fundamental human rights provided these do not violate the rights of others or incite hatred, crime and violence. To express and act are every one's human rights but what, when, where and how to express and act have to be willingly compromised in a civilized society.

Absolute freedom of action is not available even in the wilderness of a jungle or in the desert of Sahara or in the open sky or in the vast oceans and yet there is considerable freedom of observing and thinking every where. Every freedom is conditional to the freedom, happiness, security and human rights of every one else and freedom of expression and action cannot be made exception despite the enormous freedom of observing and thinking that good education provides. Liberation of mind through freedom of observing, critical thinking, reasoning and imagination is the only absolute freedom that good education must ignite and promote by all means to breed enlightenment and open mindedness.

The powerful states have no right to take away the freedom of the weaker states in the name of their own freedom. Today the world at large is clamoring for freedom

on almost all fronts but the fact remains that there cannot be absolute freedom of action anywhere without sacrificing some of your freedom for the rights of others. And such sacrifice must come out of your free will. If it comes so, it is also an act of benevolence that gives happiness to others and provides immense pleasure to the one who gives sacrifice and even a greater pleasure to God of the believers. Every civilized behavior demands the observance of certain do's and don'ts. Students must also appreciate that every freedom of action must be matched by an equal degree of sense of responsibility and accountability to one's self and the society and ultimately every one is answerable to God if he/she believes in One. Everyone enjoying the freedom of action has to accept the responsibility for the consequences of his speech and actions. Every one without exception must remain accountable for his/her expression and actions. This applies to all sections of society particularly to those who pass judgment on others. All human rights of individuals are subservient to the overall goodness of humanity. The over all goodness of humanity should have preference over individual, parochial, regional and national considerations. However force must not be used to take away some one right to freedom, justice and peace. Although self-defense is a human right, offence must not be used under the pretext of defense. The force of reason is the only force that can be legitimately used to convince some one to voluntarily surrender his/her rights. This is the principle that should govern the conduct of every individual and this is what we should teach our children.

### **SENSE OF RESPONSIBILITY OR DUTIFULNESS**

Sense of responsibility or dutifulness is the greatest virtue of all decent beings and the quality of all successful people and is the most important characteristic of all great nations. What is to be done today has to be done today well before tomorrow takes over. This can be inculcated in young students by putting them through appropriate experiences with checks and accountability.

Students should be trained not to speak out of turn and not to interrupt others while the speaking students should be trained to speak with a sense of responsibility and think thrice about what they want to say before they open their mouths, because every one is responsible for the consequences of his speech. Students must be trained to meet their commitments punctually and thoroughly and if for any reason they are unable to do their duty they must organize well in time a substitute who can do the job equally well and inform all concerned well in time. To be late or absent without prior permission and timely arrangement of a substitute, reflects absence of conscience and sense of responsibility.

Wisdom lies in listening to others patiently rather than trying to clinch an opportunity to speak that puts a great responsibility on the shoulders of one who speaks. Wise people never boast of their knowledge and prefer to speak less and listen more to others that lessens their responsibility and allows them to gain from knowledge and experience of others. Such wisdom and humility belongs to great people like King Faisal al-Saud who once said, "God has given me two ears and one mouth so that I could listen twice as much as I speak." This will also lead to developing in students the quality of tolerance to difference of opinion arising from differences in religious, racial, sectarian, national, regional, ethnic, socioeconomic, professional, family and individual backgrounds. The more you speak the more you have to display a sense of responsibility for every word that you utter.

### **UNBIASED OBJECTIVITY**

The most important element of scientific method that has created a technological revolution is the attitude of forming opinion on unbiased evidence. If students are trained to base their opinion about individuals and issues only on clear and unbiased objective evidence and not on subjective judgment, personal prejudices, second-hand knowledge, hearsay and rumors and to avoid generalization

because all individuals and issues are unique, this will prevent them from reaching wrong conclusions, developing many misunderstandings and prejudices that are today plaguing the society. The attitude of unbiased open-mindedness opens all vistas of knowledge and allows the individual to use his power of reasoning towards discovery and creativity. Parents and teachers together have a huge responsibility to develop such an attitude in their children and students and encourage them to accept nothing without well-reasoned, objective and unbiased evidence.

## **RESPECT FOR ELDERS**

Respect for each other is a fundamental human right of every one and is the basis of decent behavior. However the attitude of respect for parents and elders has a special importance in the upbringing of children and must be inculcated in all children in an environment of equal mutual reciprocity. The Quran, where it says, "show kindness to parents, lower to them the wings of humility out of tenderness", (Sura 17, Verse 23, 24), has emphasized respect for parents. The Holy Prophet once said, "Heaven lies beneath the feet of the mother." Like parents, if teachers show the same selfless love and respect towards their students, the later will reciprocate in the same coin. Love and respect offer the hard core for building an environment in educational institutions conducive to learning. Parents and teachers must realize that they have to earn the respect and love of students by their own conduct.

## **PUNCTUALITY**

If a simple habit like punctuality can be developed in students through appropriate learning activities, the teaching community will render a great service to the future of Pakistan.

Unfortunately in Pakistan the leaders in society, both political and nonpolitical and bureaucrats are the greatest culprits of unpunctuality that sets a bad example. Lack of punctuality inflicts mental and physical suffering on others

and can cause irreversible damage to those in waiting. The resultant delay in performing their duties, adversely affect individuals and the nation. All those who are conscious of the inconvenience and sufferings that they inflict on others by being late can not afford to be so callous, unpunctual and irresponsible. Only teachers can reverse this trend by training their students to be punctual by setting an example of punctuality themselves. Persons who are not punctual are guilty of violating a commitment and have no value for time. Members of any nation who do not value each other's time cannot hope to catch up or keep up with the rest of the world.

## **HARDWORK**

The attitude of hard work must be developed from young age.

The difference in the capacity for hard work is mainly responsible for the enormous economic disparity between the rich and the poor and for the difference in the progress of science in the west and east. That is why Thomas Edison said, "genius is one per cent inspiration and ninety-nine per cent perspiration." In fact success depends on sensible judgement, clear objective, logical planning, and sense of responsibility, hard work and resilience. Sense of responsibility, hard work and resilience has a pivotal role in this effort. This applies to individuals, families and nations. Hard work has its own short-term and long-term rewards but immediate feedback and encouragement by teachers can impart permanency to such a habit. To poor and ignorant people in Muslim countries religion is like opium that makes them fatalist. As a result they do not plan for future, leave every thing to Allah and do nothing but produce many children believing that Allah will take care of them. It is a shame that we do not educate them on what Quran says very clearly, "Allah does not change the condition of a people until they change it themselves." (Sura Al-Ra'd XIII-11). It means that humans have the freedom to choose their actions in order to change their condition for better or worse. Well

meaning men and women would like to interfere in all those processes that are harmful to human life and develop all those that are beneficial. In the interest of public welfare they will be eager to develop all resources by hard work and dedication and limit our needs, apart from other things, by containing the world population through all legitimate means. It falls to the share of schoolteachers to neutralize the negative effects of wrong beliefs by enlightening the students to induce them to good practices, hard work and dedication.

## **CLEANLINESS**

Quran says repeatedly that God loves those who live clean.

The holy Prophet (PBUH) stressed it further by saying that cleanliness is half the faith. Of course cleanliness has to be complete i.e. both physical and mental, internal and external. Physical cleanliness includes cleanliness of human body and its environment. This needs a commitment of individual, the family, the community, the nation and the entire humanity. Mental cleanliness means purity of thoughts, intentions and actions. Clean actions include clean language and gestures (free of vulgarity) and clean dealings in social matters, services, accounts, business and politics and so on. What could be a better education than if parents and teachers would adopt a model of cleanliness and encourage physical and mental cleanliness in students?

## **CONTENTMENT**

Today materialism has become the order of the day that leads to greed and selfishness that usually end in hatred and violence. Contentment with material possessions and authority should be encouraged in students and only greed for knowledge and creativity should be promoted provided they are shared with others. Contentment leads to sharing with others, generosity and sacrifice that are the essential ingredients of friendship that need to be inculcated in our youth to bring peace to this world.



## PARA-CRRICULAR ACTIVITIES

Many other attitudes and behaviors can be infused in students like manners, politeness, humility, modesty, kindness, courtesy, confidence, qualities of leadership, respect for the law of the country and a sense of discipline and so on by designing appropriate experiential training programs. The institution of boy-scouts, girl-guides, social welfare societies, literary societies, sport- and hobby-clubs, arts- and music-clubs, student's organizing and management committees for various college/school and hostel functions, study and hiking tours, visits to museums, exhibitions, stage shows in art and music, community services and summer camps in schools and colleges offer great opportunities for such experiential learning. These activities teach qualities of leadership, sense of citizenship, social responsibility, teamwork, sportsman-spirit, understanding, tolerance, forgivingness, cooperation, accommodation, helpfulness, coordination, dignity of labor, crises-management-ability, friendship, foresight, quick thinking and decision-making, improvising ability, creativity, sense of responsibility, punctuality and discipline by observation of rules and regulations as well as provide fun and entertainment. They also create in young minds an impact of moral, ethical, social and aesthetic values, national pride, courage and dignity in the back-ground of historical, cultural and religious milieu in the garb of fun and entertainment. In addition these activities provide constructive and useful means of expression for suppressed energies and original ideas of the youth as well as provide opportunities for training in handling problems and finding their solutions. With out them children may be prone to indulge in unhealthy and destructive activities examples of which are galore. Sports, literary activities, art and music are not only an effective means of creativity and expression of ideas but have a soothing and comforting effect on human mind and soul. They help in development of aesthetic and social sense. Furthermore, sports are essential for prevention of diseases, promotion of good health, stimulation of mental and physical

growth and development. Sports also help in creation of sense of well-being, self-confidence and courage, self-reliance, self-esteem, self-respect and provide stamina and endurance for hard work. On the contrary, all work (academic work) and no play make jack a dull boy. Unfortunately these activities are called extra-curricular and are not taken seriously in most educational institutions-the vast majority of them, in Pakistan, have no facilities for these activities- while, in fact, they are very much intra-curricular and have a great role in achieving the objectives of the affective domain in character building and development of personality.

Finally, other attitudinal and behavioral changes relevant to various fields of education can be brought in focus as the end points of good education. All the qualities of character and personality mentioned above make a person an emotionally competent and good human being. To educate a child to be a good human being is far more important than to make him/her knowledgeable and skillful. Sadly, this aspect of education that can best be developed in the so-called extra-curricular activities is missing from our education especially in the public-sector schools, colleges and universities as well as in many poor quality private institutions lodged in solitary houses and buildings.

There is no doubt that schools, colleges and universities are the nurseries of national character. It is at the highly impressionable age of young students that the foundation of good character can be laid down in these nurseries. On them depend the progress and prosperity of a nation. However, there is no denying of the truth that education begins at home. Parents are responsible for preparing the ground for sound education of their children and are obliged to continuously support and influence the efforts of schools in the education of their children. Had due attention been paid to character-building and personality development of children at home as well as in educational institutions after independence, today Pakistan would not have been in the grip of hypocrisy, corruption, fraud, crime

and violence. This is what has gone wrong with us. This is the answer to the question that is on the lips of every one today that what has gone wrong with us? If we still take a lesson and reform our educational system, we will be able to produce a new generation of properly educated, knowledgeable, capable, creative, skillful, honest, lovingly caring, disciplined and patriotic young men and women who will put the nation on the track to progress. On the other hand, if we do not rectify our present outdated system of education, Pakistani nation is bound to face insults, subordination and subjugation to more powerful nations of the world.

The government of President Musharraf rendered a yeoman's service to the nation by incarcerating large number of corrupt politicians, bureaucrats and military personnel and recovering from them Rs.160 billion (US Dollars 2.7 billion) of stolen money according to statement of the Chairman National Accountability Bureau Lt. General Munir Hafiez on Wednesday the 19th of December, 2002. This is commendable indeed -despite the discriminatory application of the law of accountability by the NAB to the discredit of the government of President Musharraf- but this alone will not solve the long-term problem of deep-rooted corruption that will need the change of corrupt mentality. I believe that universal quality education of our children with a stress on affective domain at their impressionable age offers a long-term solution of this problem.

On the face of it, character building of students might appear to be a stupendous task but it is not really so. It is a general observation that young people have better values, principles and ideals but as they grow older they compromise them, while, under the influence of others and in the face of personal and other demands of life. In fact young persons need the support of parents, teachers, elders and peers as well as of other good-meaning people in the society to strengthen their faith in goodness that lies in consciousness of God and His creation. However, parents

and teachers must appreciate that good habits and behavior are relatively difficult to develop, more difficult to sustain and easy to lose. On the other hand, bad habits and behavior are easy to develop, easier to sustain and difficult to lose. Early attention to development of good habits and behavior of the child will prevent the adoption of bad habits and behavior. Idealism of youth must be encouraged, supported and promoted and must not be sacrificed at the altar of reality. However in solution of problems a sensible admixture of idealism and pragmatism that require the strength of reasoning, thoughtfulness and creativity should be adopted. This is, what is, called wisdom that must be inculcated in students.

### **AN EXAMPLE OF NATIONAL GOALS AND GIOs OF PROFESSIONAL EDUCATION:**

In Pakistan there is one example of National Goal and General Instructional Objectives laid down by a Federal Medical Educational Regulating Agency i.e. Pakistan Medical and Dental Council (PM&DC). The PM&DC laid down and published the National Goal and GIOs for Undergraduate Medical Education for the first time for all the medical colleges in Pakistan in 1987. In fact this was the first major improvement on the earlier guidelines laid down for medical education by PM&DC many years ago on its creation. The PM&DC permitted the medical colleges to develop the objectives further and improve their instructional programs based on the National Goal and GIOs and adopt suitable changes in evaluation system in order to ensure the attainment of the GIOs and National Goal of medical education. Admittedly the medical colleges of Pakistan varied in their pursuits of these objectives and the majority of the colleges lagged behind. Despite such procrastination, it can not be denied that this had an overall healthy effect on medical education. The National Goal and the GIOs for undergraduate Medical Education are produced below as an example for the benefit of readers:-

The NATIONAL GOAL of the five years MBBS

curriculum is: " to prepare a general purpose, community oriented, primary health care doctor, who will be competent to deal with the common health problems of the people on scientific basis and in accordance with the code of medical ethics as prescribed by the PM&DC and will be able to continue education after graduation and conduct research in the specialty of his/her choice." In order to achieve the above National Goal, the PM&DC made the General Instructional Objectives (GIOs) in the Cognitive, Affective and Psychomotor Domains, as follows:-

### **GENERAL INSTRUCTIONAL OBJECTIVES (GIOs)**

1. **COGNITIVE DOMAIN (KNOWLEDGE).** In order to achieve the above mentioned National Goal of Undergraduate Medical Education, a medical graduate at the conclusion of his five years of training in a medical college should be able to apply the knowledge of:-
  - i. macroscopic, cellular and molecular structure of human body from conception to all levels of development i.e. Anatomy including Gross Anatomy, Histology, Embryology, etc.
  - ii. the functions of normal human body at all levels of development i.e. Physiology and Biochemistry, etc.
  - iii. the abnormalities of structure and function of human body and their causes and effects i.e. Pathology including Histopathology, Hematology, Microbiology, Parasitology, Molecular Biology, Genetics and Chemical Pathology, etc.
  - iv. the clinical presentation of health and disease i.e. Clinical Subjects of Medicine, Surgery, Gynecology and Obstetrics, Ophthalmology, Otorhino-laryngology, Pediatrics, Orthopedic Surgery, etc.

- v. the diagnostic procedures and their interpretation i.e. clinical/applied aspects of Anatomy, Physiology, Biochemistry, Pathology, Clinical Methods, Radio-diagnosis and Nuclear Medicine and other imaging techniques.
  - vi. the Health Promotive, Disease Preventive, Therapeutic and Rehabilitative Measures for management of disease i.e. Community Medicine, Pharmacology and Clinical Subjects.
  - vii. the legal implications of disease i.e. Forensic Medicine and Toxicology.
  - viii. the normal human behavior and the disorders of human behavior i.e. Psychology and Psychiatry.
  - ix. identifying present and future health problems of the community and working to resolve such problems by planning, implementation and critical evaluation of health promotive, disease preventive, curative and rehabilitative health programs i.e. Research orientation in Clinical Subjects and Community Medicine.
  - x. making diagnosis and giving initial treatment in all common emergencies in clinical practice i.e. Clinical Subjects.
  - xi. the role of religion, cultural background, socioeconomic factors, population growth and changing environment in health and illness i.e. Community Medicine, Religious and Pakistan studies.
2. **PSYCHOMOTOR DOMAIN (SKILLS).** In order to achieve the National Goal of undergraduate Medical Education at the end of five years of MBBS course a medical graduate is able to:-
- i. conduct interview, take history and do physical examination of patients and record the data correctly and present clearly the findings to

others for discussion.

- ii. collect fluids, effusions, blood, secretions, discharges and excretions from human body efficiently for diagnostic and therapeutic purposes.
- iii. perform simple laboratory investigations personally.
- iv. take simple X-rays and ECG personally.
- v. conduct normal deliveries of newborn correctly.
- vi. give injections and vaccinations correctly.
- vii. apply dressings, bandages and splints correctly.
- viii. perform minor surgical procedures correctly.
- ix. perform incidental administrative duties in the delivery of Health Care.
- x. perform cardiopulmonary resuscitation including endotracheal intubation of patients, properly.
- xi. give local anesthesia safely.
- xii. perform the duty of certification and conduction of postmortem correctly.

3. **AFFECTIVE DOMAIN (EMOTIONAL INTELLEGENCE).** In order to achieve the National Goal of undergraduate Medical Education, at the end of five years medical education a graduate;-

- i. displays virtues of personal character i.e. sense of responsibility and caring attitude towards patients, community and colleagues, sense of sacrifice and devotion to duty, concern and respect for other individuals, integrity, honesty, faithfulness, tolerance, patience, sympathy and kindness.
- ii. demonstrates humility and recognizes his/her professional limitations.

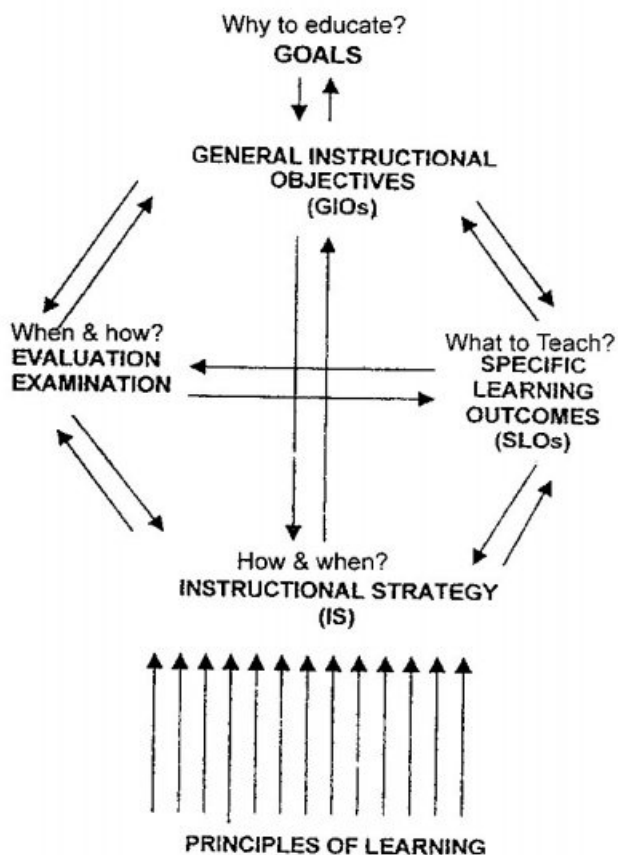


- iii. develops and maintains good relations with patients and all persons concerned in the delivery of health care.
- iv. practices cleanliness, asepsis, immunization and other preventive measures against disease.
- v. educates, guides and helps patients and members of community in adoption of health promotive, disease preventive, curative and rehabilitative measures.
- vi. demonstrates the urge for continuously improving his/her professional knowledge, skills and attitudes with critical study, observation and evaluation.
- vii. shows willingness to take part in education and training of medical students, nurses, paramedical personnel and colleagues and in health education of public.
- viii. assumes leadership in the team of health care delivery as well as accepts the leadership of his seniors, demonstrating the spirit of sportsmanship and teamwork.
- ix. gives advice on population planning, environmental issues and social welfare.
- x. adopts cost effective approach towards solution of health problems, giving due consideration to the financial position of the patients.
- xi. treats all patients equal.
- xii. identifies himself with the community.

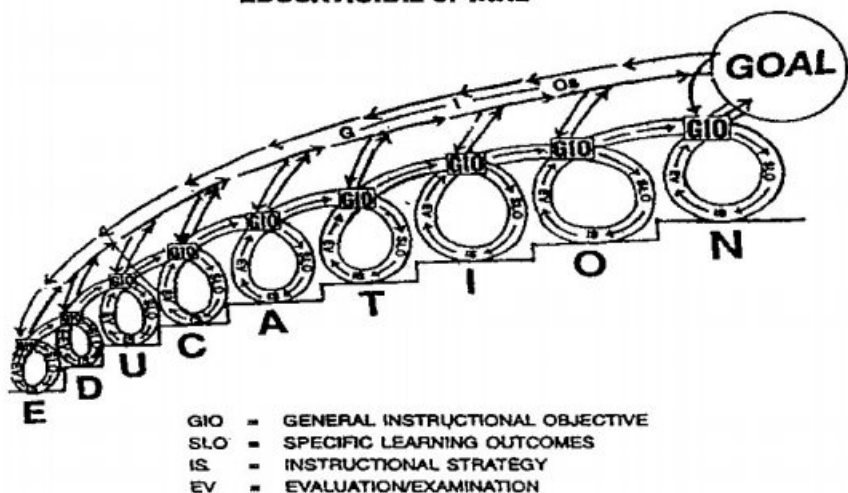
The above example of national goals and general instructional objectives evolved by the Pakistan Medical and Dental Council for undergraduate medical education in Pakistan provided a sense of direction and a sense of purpose to all those in the medical colleges, the teachers and the students alike. Educationists in the other fields may equally

benefit from this example by writing the national goals and general instructional objectives in their fields of education. A person educated by such an objective-directed education will have the desired knowledge, skills and attitudes to meet his/her personal objectives and the needs of the society; a society of which he is a component.

## EDUCATIONAL CYCLE



## EDUCATIONAL SPIRAL

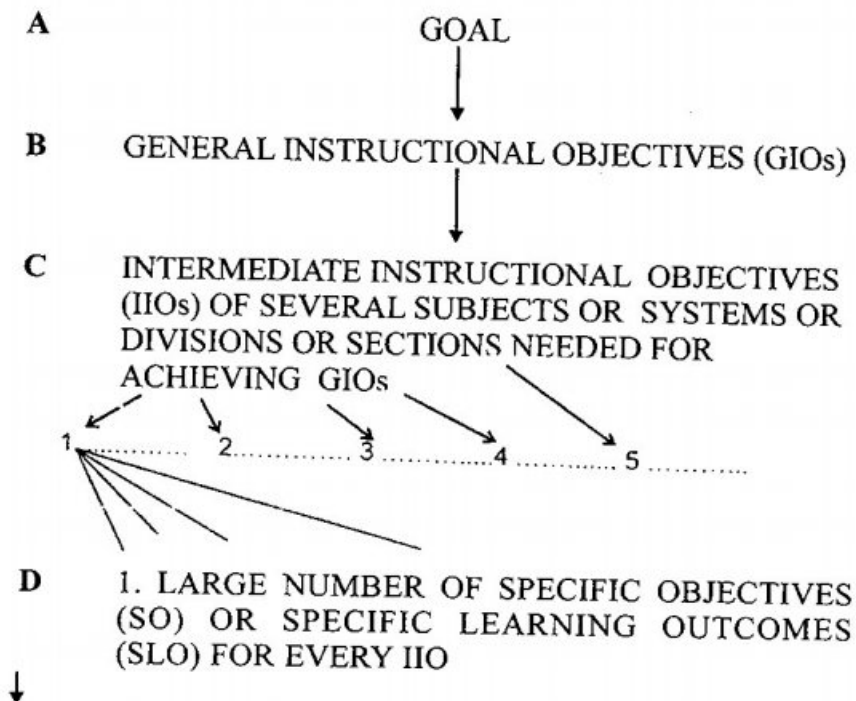


## EDUCATIONAL CYCLE AND SPIRAL

It is appropriate to mention at this stage that once the GIOs have been laid down, they need to be placed in a logical sequence in order to offer direction to education at various levels or years, moving upwards in a stepladder fashion yet maintaining a continuation like a spiral. Each ring of the spiral is an Educational Cycle as proposed by Ralph Taylor in 1949. Educational Cycle gives a logical plan for achieving educational objectives and goals. This forms the basic approach to all learning activities in the developed countries over the last several decades. According to this cycle national goals of education are translated into general instructional/learning objectives. These are further developed into intermediate objectives and finally into specific learning outcomes/syllabi that are in turn taught through instructional strategy, utilizing all sources of knowledge, according to principles of learning. The success of instructional strategy is then evaluated in order to ensure that general instructional objectives and goals of education have been achieved. Every time an Educational Cycle is successfully completed by a student, i.e. the objectives have been attained, he or she will move over to the next cycle and each subsequent cycle will

build upon the achievement of the previous cycle, thus maintaining a logical sequence and continuity. It is important to remember that no move over of the student to the next cycle is educationally correct until the result of evaluation has ensured the achievement by him or her of the objectives of the previous cycle. A unit of instruction designed to achieve a specific learning outcome can be regarded as part of one educational cycle or a collection of related learning outcomes for the achievement of an objective may be considered as part of one educational cycle. The concept of Educational Cycle and Spiral is extremely important to understand for the pursuit of education towards achievement of GIOs in an effective manner. The first step in this cycle is the derivation of detailed instructional objectives from GIOs that are developed further into many Specific Learning Outcomes. This has been discussed in this chapter. The second step is the design of Instructional Strategy with application of Principles of Learning that will be discussed in the subsequent chapter. Then in order to ensure that the Instructional Strategy after its application has achieved the Instructional Objectives, one would need to evaluate the learners for this purpose. If the result of evaluation does not reveal the achievement of desired objectives, it would mean that the objectives were too high-powered for that level of students, or something went wrong with the design of instructional strategy (principles of learning were not used) or the implementation of instructional strategy had flaws, or, in the case of individual student motivation, interest and hard work were lacking for various reasons, or that evaluation/examination was not properly designed or implemented. Thus a thorough understanding of the educational cycle by the teacher and student alike can be extremely fruitful for the dual purposes of achievement of objectives as well as for feedback to the system as indicated by the bi-directional arrows in the cycle.

## EVOLUTION OF EDUCATIONAL OBJECTIVES



EACH SO OR SLO TO BE

1. RELEVANT
2. INTERNALLY CONSISTENT
3. CLEAR
4. OBSERVABLE
5. FEASIBLE
6. REALISTIC
7. DESCRIBING MINIMUM COMPETENCY LEVEL

SYLLABI(CONTENT)>>>>>LEARNING RESOURCES  
(libraries, museums, Books, Journals, computers,  
Internet, human resources ETC.)

### (C) INTERMEDIATE INSTRUCTIONAL OBJECTIVES:-

Once the national committees have laid down the GIOs

as stated above, they will have to make lists of the subjects or sections of a subject/subjects to be included in instruction at each level in every field in order to achieve the GIOs. These lists should be used for constituting national sub-committees of subject experts. Such sub-committees of subject specialists will then by consensus write instructional objectives of their subjects called INTERMEDIATE INSTRUCTIONAL OBJECTIVES (IIOs) in order to meet the requirements of GIOs for achieving the NATIONAL GOALS of education. Admittedly this exercise is difficult and will be time consuming, but if there is any desire to make our education purposeful and directed to attainment of national goals, then this effort has to be made.

#### **D) SPECIFIC OBJECTIVES:-**

The next task of each subject-expert sub-committee will be to make a list of a large number of SPECIFIC OBJECTIVES (SOs) i.e. Specific Learning Outcomes (SLOs), spread over the subject for the achievement of IIOs. The SPECIFIC OBJECTIVES or SPECIFIC LEARNING OUTCOMES must meet the following requirements:-

- (a) They must be RELEVANT to IIOs, GIOs and NATIONAL GOALS.
- (b) They must be internally CONSISTENT and free of contradictions.
- (c) They must CLEARLY describe learning outcomes.
- (d) They must be OBSERVABLE so that they can be OBJECTIVELY measured.
- (e) They must be FEASIBLE within the limits of available time and facilities.
- (f) They must be REALISTIC, that is, achievable by learners at that level of age, mental maturity and educational status (with regards to knowledge, skills and attitudes) in which they are.
- (g) They must describe the MINIMUM COMPETENCY LEVELS expected of every student to demonstrate under certain conditions.

This list of specific objectives will be translated into the subject content needed to meet the requirements of specific objectives/specific learning outcomes that will form the syllabus of the subject. Thus the syllabi in all subjects at all levels in all fields will have a built-in sense of direction towards achievement of specific learning outcomes or specific objectives that in turn will lead to attainment of intermediate instructional objectives, general instructional objectives and NATIONAL GOALS OF EDUCATION. This process will remove the superfluous part of the subject content that could have been otherwise included in the course. The syllabi so derived will dictate what learning resources are required.

In this manner the GOALS AND OBJECTIVES OF EDUCATION should be determined at primary school level, middle school level, high school level, intermediate level, graduate level and postgraduate level for general education, vocational education, professional education, college and university education in science and arts subjects and any other fields.

To illustrate this process further, I may say that, if for example, it is decided to make objectives for primary education, a committee comprising of concerned people i.e. representatives of government, public, primary teachers, middle/high school teachers, parents, sociologists, concerned professions, senior students, etc. may sit down to decide that at the end of primary education, what qualities a student must possess to demonstrate that he or she has had adequate primary education. The committee may include, in the national goals of primary education, certain qualities such as the abilities to speak, read and write in mother tongue, Urdu and English in simple language for day-to-day communication, the ability to work on computers, the ability to write short stories or accounts of their visits to different places or present their reports about books read, the ability to find the way in his or her own town and district, the ability to do shopping up to the value of five thousand rupees, the ability to do cycling, the skill to play indoor and outdoor games, to offer prayers, to keep himself or herself, his or her belongings and surrounding clean, to speak the truth, to keep promises, to speak politely, to help the needy, to make friendship with his (her) schoolmates and neighbors, to display sense of justice, punctuality and discipline and so on.



The possession of these qualities in a boy or girl who has completed primary education will be regarded the National Goals of primary education. The next step will be to hand over these National Goals of primary education to a committee of qualified primary school teachers who are trained in modern science of education, to frame the GIOs of primary education. Then the sequence of making further levels of objectives should be followed as explained above till detailed specific objectives/learning outcomes are made with minimal expected competency levels and the resultant syllabus.

These objectives and syllabus given to the primary schools will provide a sense of direction and purpose to the education and will make educational process more meaningful to the teachers and taught alike thus enhancing motivation of both. As a result the right instructional strategy and evaluation can be designed by every school under the principles of learning and adopted for the achievement of national goals.

In very simple words the student and teacher both must know and have the right to know the purpose of their instructional activity in advance, i.e. why to learn and why to teach and how this is going to lead to the ultimate national goals of education. This is how education can be made meaningful. If this makes sense, then the federal ministry of education should not be bogged down by the volume of work involved and it should also involve in this process other related ministries and national councils that regulate education.

Once the NATIONAL GOALS, OBJECTIVES AND SYLLABI have been laid down by the national committees and subcommittees as stated above, they can be provided to the schools, colleges and universities for designing the subsequent two tasks of INSTRUCTIONAL STRATEGY and EXAMINATIONS/EVALUATIONS in order to achieve the SPECIFIC LEARNING OBJECTIVES (SLOs), the INTERMEDIATE INSTRUCTIONAL OBJECTIVES (IIOs), the GENERAL INSTRUCTIONAL OBJECTIVES (GIOs) and the ultimate NATIONAL GOALS OF EDUCATION. I repeat, that if such a national approach does not come into practice at national level, the educational institutions should feel free to streamline their own curricula in this logical manner, so that they will produce much better educated students than they are

producing today. This approach to educational planning is not intended to take away the spirit of freedom from the educational process nor it is designed for indoctrination of young minds to meet the needs of those at the helm of affairs. As long as the goals of education are determined by the public representatives, the consumers of education and all others concerned to meet individual and society needs, this approach will only provide a sense of purpose and direction to education. Because of involvement of all the stake-holders in education, in the making of goals and objectives of education, one would expect that their evolution will result into broad based and meaningful education. The institutions and teachers will have full independence to play with the layout of curriculum, instructional strategy and evaluation in order to achieve national goals and objectives and will have an important role in giving feedback to those responsible for reviewing the educational goals and objectives periodically.

In summary, the making of national Goals and Objectives of education, at all levels in all fields, will streamline education, economize on time and resources, provide one type of education for the rich and the poor with consequent integration and unity in the nation and, above all, will provide a balanced and holistic education to the coming generations who will meet the needs of the national community with honesty, efficiency and dedication and will be in a strong position to face the challenges of life. In this lies the long-term salvation of Pakistan from sinking into oblivion. The primary responsibility lies on the shoulders of teachers who have to comprehend the goals and objectives of education towards a holistic approach to education that requires an all-round coordinated and facilitating plane for strategy of teaching/learning in accordance with principles of learning and adopting a mixture of continuous and terminal problem-posing objective evaluation system to ascertain that the aims and objectives of education are achieved.

Finally, once the goals and objectives have been made and implemented as above, a standing review body must remain in place to receive continuous feedback from the educational institutions, all the consumers of education and all the stakeholders of education as well as to keep abreast of the modern developments in the field of education, so as to revise the curriculum every few years.



### III

## HOW TO IMPART PURPOSEFUL LEARNING ?

### INSTRUCTIONAL STRATEGY

Once the NATIONAL GOALS, OBJECTIVES AND SYLLABI of education have been provided to the schools, colleges and universities, their faculty members and students will have a clear sense of direction for planning the curriculum. As a result, the meaning of curriculum changes from a traditional design of teaching a course of studies, i.e. making a time schedule or timetable, to an all-embracing, comprehensive design of all activities of students in an educational set-up directed towards achievement of all the three components of general instructional objectives in cognitive, psychomotor and affective domains in order to attain the national goals of education. This holistic approach towards educational strategy based on objectives-based curriculum that is absolutely essential is badly lacking in the vast majority of our schools, colleges and universities, resulting in the production of poorly educated personalities. The end product of our educational institutions cannot be allowed to remain merely knowledgeable persons devoid of understanding, applied ability and creativity as well as lacking skills and emotional competence as they are today, but they have to become productive learned persons of great qualities of head and heart. They should possess the abilities to understand knowledge in depth and be able to apply knowledge in real situations, with critical analytical mind, understanding, humane and compassionate approach, searching and exploring alternatives and looking beyond the frontiers of existing knowledge. They should be able to cope with all the challenges of life in their respective fields with great skill, objectivity, hard work, caring attitude, empathy, cooperation, affection, comradeship, honesty, responsibility,

justice, humility, dedication, selflessness, self-respect, kindness, patience, cleanliness, generosity and cost-effectiveness in a disciplined and organized manner, assuming the responsibilities of leadership when so required. The accomplishment of such all-inclusive objectives will need the active participation of students not only in the academic program, but also in sports, cultural, social, literary, public welfare, religious and organizational activities, hobbies, etc. to lead the students to the development of wholesome personalities as defined in the goals and objectives of education.

### **STUDENT-CENTERED LEARNING**

The most damaging feature of present day education in our country is that teaching is teacher-oriented and not student-oriented. Teachers are often heard saying that they have finished the lessons in time and have done their duty and now it is up to the students to pass the examinations. This is as if the teacher's responsibility is to teach and he/she is least concerned whether the students have learnt or not and to what extent. I have heard the smarter and more aware teachers claiming that they give student-centered lectures, explaining further that they focus on students' acquisition of understanding. However they seldom ascertain whether the students have really attained that understanding that they desired or not. In fact the focus of such teachers is on their own performance and not on the resultant performance of students. In most educational set-ups the teacher's activities are planned and even monitored but little effort is made to determine there and then whether the students have really learnt anything as a result of a learning or so-called teaching activity. Only if learning done by students is made the focal point of learning/teaching activity and continuous evaluation of student's achievement is done all-along, it will be possible to make sure that learning has taken place. In this role, the job of the teacher is to facilitate learning by students by whatever means he can and thus widen the scope of learning activities beyond the practice of lectures. To sum up, a

learning activity should be so designed that, as a result, the student/learner learns best in order to reach the objectives and goals of his or her education. Such an approach needs a careful application of principles of learning to learning/instructional strategy in all educational institutions in all fields at all levels of education.

Both the learners/students and the facilitators/teachers must meet the first prerequisite of meaningful learning by imbibing the ethos of national goals and instructional objectives up to the level of specific learning outcomes and the expected competency levels as explained earlier. Having done that, the faculty of facilitators/teachers and the representatives of learners/students should sit together to design the entire curriculum, i.e. a comprehensive instructional strategy for attaining the goals and objectives of holistic education. Educational psychologists over the years have tried to understand what factors make learning activities the most effective. These factors, operating in effective learning activities, are called principles of learning. No learning/instructional activity will be effective unless it is based on some of these principles. It should be understood that learning depends on five factors that are the students, the teachers, the parents, the learning process and the learning facilities.

## **THE STUDENTS**

Students should be physically and mentally fit in the first place. There should be special schools for the mentally handicapped children who require specialized attention. However mentally slow but not retarded can be taught beneficially in normal schools with extra attention. There should be no bar on the education of the physically handicapped children who are mentally fit. It has been determined by the educational psychologists that learning capabilities of a child for new material increase with age till he/she is 16 years old. Learning ability for new learning material remains maximum from 16 to 24 years of age. From 24 onwards there is a slow decline in learning power for new

matter up to the age of 70 years after which the decline is steeper. However persons older than 24 and some even older than 70 can learn faster despite the decline in inherent mental ability for new things because of possession of previous knowledge and experience obtained by that age. Good students take full advantage of these facts and work hard when their learning ability is growing and is at its peak.

The males and females have overall equal learning abilities but there is said to be a difference for specific areas. Men are believed to learn better those motor skills which require greater endurance, patience, strength and courage such as most sports, military skills and manual labor skills. Females are believed to do better in learning those functions which require fine coordination of fingers and hands, attention to details, gentleness and compassion such as needle work, embroidery, assembly of fine electronic equipment, treating and nursing of the sick patients. Some of these differences may be due to the difference in physical strength of the two genders. However, until females are given equal opportunities, their relative talent for various learning activities will remain uncertain.

### THE UNIQUENESS OF EVERY STUDENT

Every good student irrespective of gender recognizes his uniqueness and is more concerned to discover his individual interests and potentials for learning. The more a student knows himself the more he succeeds in life. The earlier he can discover his potentials and interests for various tasks and make use of them the earlier he will be successful in his student-life and future carrier. It is not essential that every one's spectrum of talents should fit in to the curriculum provided in schools, colleges and universities. Smarter is the student who can identify his/her talents and selects the matching learning activities for pursuit of his/her carrier. A child who is born left handed will always be more efficient in using the left hand instead of her/his right hand for all critical activities including writing, sketching, operating, playing etc.



## CHOOSING ONE'S PERSUIT

Clever students determine their goals, aims and objectives of life as early as possible. This they usually do before completing secondary education. They realize that it is best to decide one's goals according to one's individual likes, interests and potentials rather than basing their future on worldly considerations and plan their lives accordingly. In the present age the number of professions that one can adopt, as carrier, is very large. Therefore the clever ones do not hesitate to get the advice of seniors and carrier-planners but their final decision is primarily based on their own interests and potentials. Before finalizing your decision about your future career it is important to ascertain the consequences and obligations of one's goal and be prepared to accept them. It is best to ask for an interview with a professional belonging to the one profession you intend to choose so as to get to know the opportunities, the rewards, the benefits, the demands, the drawbacks, the hurdles and what you will be expected to go through in pursuit and practice of that profession.

Finally, success lies in making a strong will to achieve and the resilience of the student in its pursuit. It is also essential that before deciding one should take stock of the resources and support required and the expected constraints that one has to overcome while on the road to one's goals. If, in the course of your studies, your interest changes or you feel bored in a particular line of study you should feel free to change your course or place of studies.

## STUDENTS AS CHASERS OF KNOWLEDGE

Students are at the receiving end of learning and much depends on them how much and how well to learn. Students are not like hollow drums to be filled with knowledge. That is why good students are lively, restless and vibrant personalities who make physical and mental effort to seek, search, research, explore, discover, question, reflect, criticize, perceive, conceptualize, grasp, select, imagine, apply, experiment, evaluate and repeat to get and create ideas



and knowledge. Every good student tries to reflect on his achievements at the end of every day, week, month and year of his/her education and discusses his/her reflections with peers, seniors, teachers and parents for the purpose of improving his/her knowledge and performance in future. Such are the students who leave a mark on history.

#### CONTINUOUS RECONSTRUCTION OF EXPERIENCES

Good students realize that teachers, peers and parents are only those among the many sources of knowledge that have the clear advantage of providing face-to-face interactive education. Apart from some programmed computer soft-wares all other sources of learning provide only one-way information. A diligent student makes maximum use of interactive education but also uses all other sources of learning with critical thinking in order to achieve in depth understanding. Every good student realizes that mental abilities develop with mental work like physical abilities develop with physical work. Mental work begins with the desire to seek knowledge, perceive it and follow it by skepticism, critical thinking, questioning, experimenting, applying, evaluating the results of performance and refining knowledge through access to multiple sources of knowledge including interaction with teachers, peers, parents and all others. Such education has been described "a continuous reconstruction of experiences" by John Dewey the famous American educationist and philosopher of 19th century.

#### HARD WORK

Success lies in shrewd use of hard work allowing your self the frequent chances of critical thinking about what you feel, hear, see or read, application of knowledge and getting feedback from evaluation of Your performance by others. Emphasizing the role of hard work, Thomas Jefferson, the 3rd president of United States of America said "I am a great believer of luck and I find the harder I work the more I have of it." Working relentlessly from dawn to dusk caused revival of Japan from the ruins of Nagasaki and Hiroshima, Germany from the destruction of Second World

War and made America the super power of the world. The more one is motivated the harder he/she works.

### ROLE OF TAKING FREQUENT TESTS

Good students benefit immensely by taking frequent tests and getting feedback on their performance from teachers, peers, parents and all sources of knowledge that provide identification of mistakes, which can be avoided in future. In this way repeated performance in tests enables the good student to refine and improve his/her learning, identify his/her shortcomings and discover his/her potentials. Skills such as writing, reading, speaking, listening, sketching, playing and operating technical gadgets like computers are basic to getting and creating knowledge that need repeated practice, involving trial and error, for achieving perfection. Good students are always good at these learning skills. Reading habit is of great importance in learning. Students need to develop this habit at an early age by reading books of their interest.

### PLACE OF EXTRA-CURRICULAR ACTIVITIES

Good students do not ignore their participation in extra-curricular activities that are not only essential for taking rest from studies but are needed for development of their health, character and personality and also teach discipline and creativity. These include indoor- and outdoor-sports, debates, literary and cultural activities, arts, music and a large variety of hobbies, participation in community services, vocations and social work, etc. The role of exercise in developing and maintaining good physical and mental health is unquestionable. Sports teach sportsman-spirit, qualities of team-work and leadership. In addition exercise gives a sense of well-being and confidence that are extremely essential for pursuit of their goals and objectives of life. Similarly literary and cultural activities, art, music and hobbies, fun and entertainment give comfort to the soul and solace to the mind and provide opportunities of developing creativity. Good students realize that a balance between academic and non-academic activities is must for healthy growth of

personality. Sensible students allocate about an hour or two a day to sports/exercise and another one hour daily to the other extra-curricular activities leaving the rest of the time to academics, sleep and other essential commitments of life.

## REGULAR STUDIES

Many good students make a written timetable of activities and follow it. It is important that 6-8 hours a day are reserved for sleep that is essential for efficient performance of brain. Students who spent sleepless nights before exams are losers as their mental efficiency to perceive, comprehend and retain knowledge is impaired. Good students follow a steady pattern of studies through out the session and do not waste their time leaving serious work to the end. Performing all academic and nonacademic activities in groups of likable friends every day is a practice of many good students that is extremely fruitful as well as enjoyable.

## STUDENT'S LIFE, A PASSING OPPORTUNITY

Formal education lasts for a limited number of years. Good Students usually identify for themselves role models within the institution and the society at large and derive inspiration from their successes in life. Great students base their conduct on principles of justice, honesty, respect for others especially for teachers and elders, cleanliness, single minded pursuit of aims, goals and objectives, empathy, care and selfless love of God and His humanity. Every institution has rules of conduct for ensuring such behavior that is not violated by the exemplary students. Because they understand that once good habits develop in student-life they will reward them for rest of their lives. Wise students realize that they are the future of our country and the destiny of our nation. They understand that they must seize this opportunity that the present offers for accomplishment and achievement. If missed once it may never come again.

## STATUS OF STUDENTS

According to Allama Iqbal, great are the students who

aim high, have the courage to fly high against all opposing winds and possess strong will, self-reliance, self-confidence, self-discipline, self-respect, self-assertion, self-awareness, self-esteem and self-expression of the highest order like the Shaheen (the Eagle) who by virtue of his exceptional physical, mental and moral strength rides the opposing winds, reaches for the highest peaks, keeps his dignity by eating his own prey and does not accept left-over from others. About students, Kasib Qais reported that the holy Prophet (PBUH) said, "whoever treads a path seeking knowledge, Allah will advise him to tread the path of heaven and surely the angles will spread their wings for him." At another occasion, according to Hazrat Ayesha, the Prophet (PBUH) said, "whoso treads the path in search of learning, I shall make the way to heaven easy for him and that superiority in education is better than superiority in divine service." The holy Prophet (PBUH) also once said, "The ink of the pen of a scholar is superior to the blood of a shaheed."

### **THE TEACHER**

The role of teacher in facilitating learning is unquestionable, provided he/she is a knowledgeable, skilled person of integrity who is trained in the skills of promoting learning. Female teachers seem to perform better the function of school teachers because of their natural affinity with young children. Male teachers appear to perform better the function of college and university teachers. However all these views about the differences in apparent inherent abilities of males and females may turn out to be not quite true once females are given equal opportunities of taking part in all activities of human life. What really matters is that like a good student, a good teacher, irrespective of gender, should also get to know his interests, potentials, individuality and uniqueness that will make him a good teacher.

### **THE NOBLE TEACHER**

Teaching is regarded by the society as a noble profession. What is noble is open to numerous interpretations of what constitute an honorable and

benevolent personality? However according to Oxford Advance Learner's Dictionary noble means "having fine personal qualities that people admire, such as courage, honesty and care for others." To my mind a teacher is worthy of being called noble if he possesses all admirable and honorable qualities of character and personality the focus of which is the welfare of students. To a good teacher student is first-like to a good doctor patient is first and to a good politician the country is first. About teachers, the holy Prophet (PBUH) said, "the position of a learned man who acts up to his learning and teaches it to others is enviable." Teacher plays a central role in the education of students. For promotion of learning every good teacher displays a sense of responsibility and is in possession of qualities of leadership that are essential for motivation of students.

#### TEACHER AS INSTRUMENT OF JOY

Good teachers ensure Soft introduction of children to education through nurseries and at all other levels of entry to education in a loving, playful and friendly environment for a non-traumatic healthy entry to formal education. All efforts are made by good teachers to provide to students safe, comfortable, stimulating and enjoyable environment in educational institutions. Students are made to understand the short-term and long-term benefits of education that will help a great deal in motivating students towards study. The health of the students remains a primary concern of good teachers. It is a quality of every great teacher to create a friendly environment in the institution free of coercion. He/She teaches through empathy (understanding the feelings and responses of students), cooperation, co-ordination, collaboration, facilitation, love and caring attitude and not by exercising authority, domination and giving punishments in any form particularly corporal punishment. Punishment for the law breakers may have a deterrent, retributive, reformatory and educational value in society but its use in educational setup is unanimously regarded undesirable by the educationists due to its discouraging effect on learning. On the contrary every wise teacher tries to not to give

punishment but only uses the threat of punishment and makes effort to raise the self-esteem of students. A good teacher creates trust, confidence, interest, enthusiasm and hope and not fear, frustration and disappointment. He/She is kind and forgiving instead of being revengeful. Every good teacher finds it helpful to have a sense of humor and be capable of creating humor. He/She needs to use different methods to break monotony and boredom i.e. by use of variety of learning resources and teaching methods, relevant jokes, quizzes, questioning and involving the inattentive by creating surprises, mysteries and suspense, referring to relevant events in day-to-day life and playing educational games etc.

### TEACHER AS PROMOTER OF CONFIDENCE

Teachers are obliged to have high expectations from students but they must try to avoid the tendency of raising their expectations from students to the limit that their difficult questions damage the confidence and self esteem of the students. This is particularly so in case of the weak, physically disabled, younger in age, socially and economically deprived students. On the contrary, such students, who may suffer from inferiority complex, require extra time, support and encouragement to lift their morale, self esteem and confidence. The latter qualities are essential for allowing them to perform up to their potential. Similarly students who are academically good, physically strong, older in age, coming from higher social status or economically strong should be prevented from bullying and discouraging the others. Instead they should support and encourage the weaker students. However, having realistic and achievable high expectations from students provide a target and motivational force for hard work. The level of expectations should be adjusted to the strength and weakness of students. Every teacher must seriously pursue his expectations from every student till they are achieved.



## TEACHER AS A MEANS OF INTERACTIVE SELF LEARNING

An ideal teacher is keen to encourage and entertain questions as well as ask questions to test student's power of observation and understanding. He/She tries to stimulate minds and promote formal and informal discussions for enhancing critical thinking and achievement of in-depth understanding. Good teachers instead of providing answers assist and guide the students to develop the ability to answer their own questions. Once this ability is acquired by a student he becomes a self-learner and research minded. This is the greatest achievement of a teacher in the life of a student. As a matter of fact a wise teacher ensures to teach by interaction with students rather than depending on his/her lectures alone. Ideally every teacher should try to interact with students and keep a diary of their actions and reactions good or bad for future guidance of students.

## TEACHER AS EVALUATOR

Every good teacher makes it a point to frequently evaluate, review and reflect on student's and his own performance both formally and informally and give students prompt feedback on their performance with encouragement, praise, appreciation and reward for correct performance and guidance for rectifying mistakes both meant for improvement of their performance and creation of a desire for learning. A good teacher avails the feedback from the students regarding his/her own performance for improvement in his/her own performance. In this process he/she is able to identify the variety of talents that different students possess for different desirable functions that he/she tries to groom, cultivate and promote. For promotion of intellectual activity the good teacher reinforces creativity and originality in students. He/she finds it highly fruitful to encourage students to help, teach and test themselves and each other as well as the weaker and the junior students. The learned teachers organize for students, through students, self-learning, self-evaluating and group-learning projects, contests,



competitions, debates, cultural activities, sports, entertainment and field visits to community, community services, great educational institutions, hospitals, museums, exhibitions, historical places and industry to create interest in learning.

Every good teacher takes keen interest in his/her self-evaluation for which he gives questionnaires to students and parents and obtains their anonymous feedback. He/she also keenly studies the evaluation of his performance by his/her seniors and supervisors. He/she critically looks at the results of external examinations of his students. He/she also follows the future performance of his ex-students in higher education and in practical life to ascertain the predictive validity of his teaching and evaluation. In this way he/she can continuously improve his own abilities and performance. Every hardworking teacher promptly and politely corrects mistakes that teach memorable lessons for better performance. However, once the mistakes are corrected a good teacher encourages the students to look forward and makes an effort not to remind him/her of his/her past failures that will undermine the confidence of the student and will lead to depression.

#### TEACHER AS SYMBOL OF HUMILITY

It is the quality of every great teacher to remain humble and ready to say "I don't know", to forego an advantage, to see another's point of view and be prepared to admit his/her mistakes and take a lesson from them and from the mistakes of others especially of students. Every sensible teacher strictly avoids laughing, ridiculing, humiliating, embarrassing or insulting any student over commission of mistakes. Apart from accepting blame a great teacher makes it a habit to say "we" and not "I". Every wise teacher tries to speak less and listen more. He/She is magnanimous enough to share his/her credit with others. However, every honest teacher is prepared to accept alone the blame for failings of students. It is a way of open-minded teachers to share with students before making all decisions that affect the students.

Loving teachers share the joys and sorrows of students as well as share their own joys and sorrows with students that promote friendship.

### TEACHER AS A ROLE MODEL

Great teachers make it a habit to teach by example and act as role models instead of giving sermons. They understand that what ever a teacher does has far greater power to teach than what he/she says. For instance, as a role model, every teacher has to be punctual, clean and display all admirable qualities of personality and character. A good teacher is able to do him/herself what he/she expects the students to do and is able not to do what he/she expects the students to abstain from. In fact, such a teacher puts him/herself in the shoes of students before asking them to do or not to do anything. Every good teacher is sensitive to the needs and feelings of students. He/She is prepared to speak the language of the students when needed and relates to their level of mental and physical abilities.

### TEACHER AS WELL-WISHER OF STUDENTS

According to William Glasser's Choice Theory, the teacher must promote the basic needs of students to convince them that he/she is the well-wisher of students and in return students will listen to him/her. These basic needs are the requirements of survival, love and affection, freedom, leisure/entertainment and empowerment. This means that in addition to academic issues the good teacher takes keen interest and tries to supervise and help students in their social and economic matters and participates in their extracurricular activities. The more the teacher is in know of the past experiences, desires, wishes, likes, dislikes, hopes, expectations and interests of students the better he will understand how to make them work for better learning. A competent teacher delegates more and more to students and refrains from doing every thing him/herself. In this way, apart from empowering students, the teacher gives them a chance to learn by doing. Instead of passing knowledge to students he/she makes them create knowledge through

observation, reading, enquiry, experimenting, critical thinking, searching and researching knowledge from all sources to give them a sense of ownership of what they learn.

### TEACHER AS SPIRITUAL FATHER/MOTHER

A good teacher resolves disputes through the policy of give and take and makes all the effort to defuse tension and ensure cohesion and friendship among students. It helps a great deal if every teacher sets aside time for listening to problems of students and tries to understand his/her students well by closer interaction through a tutorial system. Furthermore no one can be a trust worthy teacher if he/she does not honor his/her pledges, be fair, just and consistent in responses, dependable, reliable and helpful. A good teacher is usually flexible and not rigid to meet the changing circumstances and diversity of situations and readily adjusts his/her responses to meet the varying needs of students at different times and places. He/she always makes it sure to be always ready for the unexpected and exercises utmost patience and tolerance in dealing with students. A great teacher never loses temper and refrains from acting when upset. In difficult situations he/she happily gets the input of colleagues, parents and all the well wishers of students. Similarly he/she is always ready to participate, collaborate, share and join his/her colleague in resolving problems of students. A noble teacher treats all students equal, serves them selflessly with devotion and expects no returns from the students. There is no doubt that a teacher who cares for his students the way their parents do will get respect and love from students like their parents. In fact, a good teacher acts as spiritual father and mother to students and works as a guide and mentor. He/she shows courtesy, love, compassion and respect to his/her students that is bound to generate a similar response.

### A RESPONSIBLE TEACHER

Every teacher worth the name takes part in continuing education and research to update his/her own

knowledge, skills and attitudes, comes prepared to classes and strives to develop learning resources for students. He/she also takes keen interest in attending teacher's training courses and taking departmental examinations for continuing education. Lastly every good teacher ensures his/her integrity, punctuality and physical and mental cleanliness at all costs. An ideal teacher is fond of his/her students, loves his/her job and comprehends the goals and objectives of education for a holistic learning/teaching/training that requires an all-round, coordinating and facilitating approach to a strategy in accordance with the principles of learning and adopts a continuous system of problem-posing and objective evaluation to ascertain that the goals and objectives of education are continuously met.

A teacher possessing the above qualities is highly respected and loved by the students and the society and creates an ideal environment for learning in educational institutions. The developing nations must be ready to pay any price for such a teacher who will groom their children into knowledgeable, skillful, productive and enlightened personalities of character who will in turn take the nation to zenith of glory and prosperity among the comity of nations.

#### WORLD-TEACHER'S DAY

It is sad that in Pakistan, in the public sector schools colleges and universities that cater for at least 80 percent of the population predominantly from the poor and lower middle class, the salary of a teacher with degree of master is much lower than an illiterate skilled laborer and that of a primary teacher is even less than an illiterate unskilled laborer. Such a situation cannot attract the children of the poor to education neither can it correct the shortage of teachers nor can it attract the talent towards the teaching profession. This is an obvious discrimination of the poor for quality education. Will the United Nation and the human rights commission take notice of this deplorable situation of discrimination against the poor for quality education in most developing countries of the world -who ignore the

socioeconomic condition of teachers of the poor- instead of giving a lip service to the teaching profession by celebrating world-Teacher's Day every year?

## **PARENTS**

Parents lay the foundation of education. Unfortunately majority of parents in Pakistan are unaware of the educational needs of children, most mothers are illiterate and most fathers are too busy to attend to their children. Mass scale education of parents on their role in education of children can be best imparted through electronic media. Furthermore schools can enroll child rearing parents in the community and give them training through workshops and talks how to bring up children before and after entering school and regarding their role in the continuing formal education of their children. Such training of parents should be made mandatory for parents whose children seek admission in those schools.

## **RESPONSIBILITY OF PARENTS**

Parents are obliged to lay in their children the foundation of good behavior, manners, obedience, respect and love for elders and teachers, honesty, truthfulness, cleanliness and caring attitude to others. Parent can achieve all those by giving love, respect and tender care to their sons and daughters. Children in young age are highly impressionable and curious by nature. It is the joint duty of parents and teachers to fully exploit these two qualities of children for character building, personality development and promotion of intellectual abilities of questioning, reasoning, thinking and creativity. Parents should encourage children to ask questions and make great effort to answer their questions and give detailed explanations to satisfy their curiosity and remove their ignorance. However instead of spoon feeding all the time, parents should also encourage and guide children to think and use various resources to answer their own questions and resolve their own problems. Such training is essential to make children self-learners, self-assertive, self-confident and research minded.

## USING TACT IN TRAINING CHILDREN

Parents must make sure to demonstrate to their children what is good and why and not to do in front of children what they do not wish the young ones to pick up. Children highly resent when ordered not to do this and that and insist on doing what is prohibited. There are only four ways to prevent them from doing wrong things. Firstly, one should divert their attention from doing something wrong towards doing something right and more attractive. Secondly, one should convince the children by polite reasoning why not to do a wrong thing and why to do the right thing. Thirdly, it is important to quickly reward the children both for not doing a wrong thing as well as for doing the right thing. Fourthly, the least effective and unpleasant is the use of firmness with tact rather than force that may have to be resorted to if absolutely unavoidable on some occasions provided it is absolutely free of violence. Corporal punishment should have no place in the upbringing of children. Much can be done to children when they are understood and our responses are adjusted to their understanding rather than by using firmness and force. It must not be forgotten that the force of reason is stronger and more effective than brute physical force. Suppressing children in the name of discipline can also seriously damage their self esteem and confidence that will in turn create in them inferiority complex damaging their mental development and adversely affecting their performance in academics and social life.

## PARENTS AS ROLE MODEL

It must be realized that parents are the first role models that children are most impressed with. Therefore parents are duty bound to set a high standard of conduct for their children to follow. Lack of proper upbringing of children by parents at home is mainly responsible for the indiscipline, rowdyism, immoral and unethical practices and violence encountered in the students community today. Good parents devote time to their children when they are at home,



give them company in sports and other entertainments. They also encourage them to pursue and organize hobbies, social functions, visits and even write diaries, reflections on their achievements and failures and write reports on events of their interest. They should read and discuss written reports with their children for useful feedback.

## HUMANITY BEGINS AT HOME

While teachers will do every thing to win the hearts of their students, parents must play their role to convince their children especially the older ones that teachers are their mentors in whom they must place trust and confidence and listen to what they say. In fact, there are only two categories of people who will never be jealous of students, will always seek their betterment and will feel proud of their performance and achievements. These are their parents and the teachers. Parents must realize that the basis of physical, mental, social and spiritual development of the children is laid and fortified in home with the joint effort of both parents, supplemented by brothers and sisters and the rest of the relatives. Humanity begins at home. Parents are responsible to give the world healthy, civilized, cultured, disciplined, honorable, courageous, responsible, loving and caring individuals. The overall strength and performance of a nation depends on the collective effort of the entire family headed by the two parents that is carried forward by the teachers. Children are like flower buds; if properly nurtured at home unfold in to beautiful and pleasantly fragrant flowers to the outside world. It is for teachers who are responsible for their growth into healthy and delicious fruits-bearing trees that the society will relish in later years. The seeds of excellence, righteousness, compassion, harmony and success are sown in the home.

## FACILITIES

The provision of learning facilities is a time-honored requirement that every institution tries to meet with in the available resources. However the utilization of learning facilities is seldom up to desired standard because of the



ignorance of teachers regarding the learning process. Physical facilities for learning, cooling and heating facilities in extremes of weather, extracurricular activities and recreation, washrooms, drinking water and canteen, security arrangements and transport are the main concerns of students and parents alike that must be attended to.

## LEARNING PROCESS

As regards learning process, as many as thirty principles of learning have been evolved over the years that must be applied in designing learning activities that will in turn lead to optimum utilization of educational facilities. These are as follows:-

\* **THE LEARNER SHOULD BE AN ACTIVE PARTICIPANT AND NOT A PASSIVE RECEIVER.** It is a general observation when a student is asked to recall a memorable event of his life that gave him/her an important lesson, he/she narrates an episode in which he/she was an active participant and not a passive observer. This observation suggests that it is the active participation that makes the event more impressionable, educative and unforgettable to the participant. The common example of a learning activity where the learner is a passive receiver is the traditional lecture, where much of the knowledge so eloquently narrated by the teacher passes over the heads of inattentive students. The introduction of modern audiovisual aids has largely made lectures monotonous in the hands of most teachers. I cannot forget the remarks of a student in my younger days after attending a lecture of mine that was well illustrated with projected slides, when he said, "what kind of a lecture is this, where the teacher puts off the lights, turns his back to the students and starts reading from the screen while many of the students doze off?" It is a general experience that the question-answer session at the end of a lecture creates interest and enthusiasm and is more educative than the lecture itself, because, in this exercise, the learner becomes an active participant.

Asking a student to find out some information from

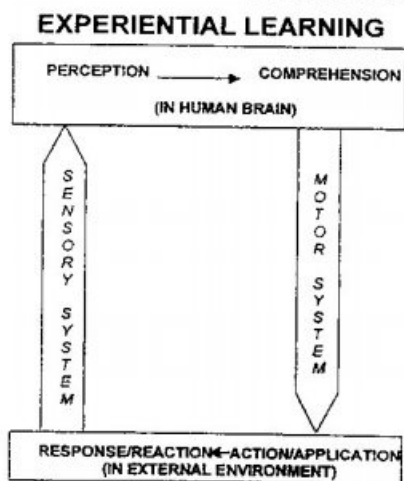
different sources about how to operate an electronic gadget and than operate it him/herself will give him/her better knowledge and ability to perform than giving him/her a lecture about it. Similarly if students are asked to collect information on the size and severity of a problem, plan solution of the problem by using various sources of information, make a presentation to the class in presence of the teacher for discussion to arrive at an agreed solution, this process will impart indepth knowledge and understanding that no lecture will ever give. Students must be trained to think and find ways of solving their own questions and problems instead of giving them ready made answers and solutions so that personal search for answers should become an attitude and a way of life. Problem posing questions directly stimulate the mind of the student. Her/his brain becomes active in search of solutions for which he/she thinks, asks questions, taps different sources and attempts to find answers to questions raised by others. The more the learner is encouraged to ask questions and called upon to answer questions the greater is the depth of knowledge he/she attains because of active involvement. Questions stimulate the mind, expose portions of relevant knowledge that were ignored and open vistas of knowledge that were hitherto mistakenly considered irrelevant or were not known. In this process thoughts are aroused to challenge what is known and to uncover what is unknown. Questions that call for original solutions of problems and not a mere reproduction of known facts are very likely to actively involve the mental faculties of students in a learning process. It was such active mental involvement and inquisitiveness of the great students of the past that led to great discoveries and inventions.

It is a fact of life that most learning from the beginning of life in this world has evolved from actions and interactions among men and women and between men/women and material.

Learning cannot occur without perception of action and interaction with environment. How did human beings learn

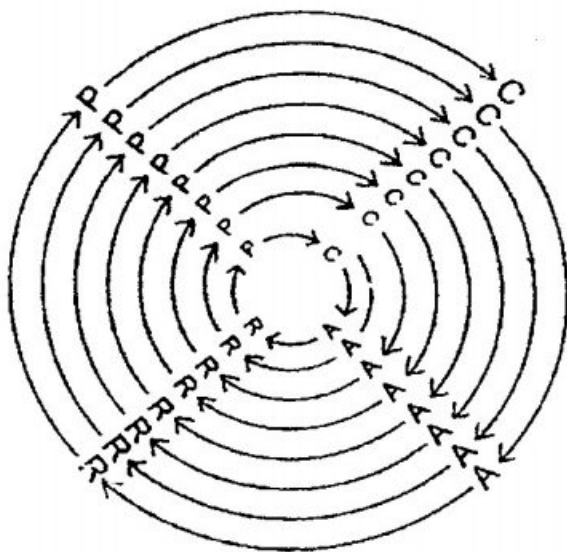
the advantages of walking upright that increased their mobility and widened their vision or how did they learn to defend themselves that made their survival possible or how did they learn to light fire that improved their quality of life were the result of their active experiences in life. When an infant touches a hot pot, it learns from its own action that heat burns.

When a baby learns the word mamma, initially it uses it for all ladies and from its repeated use it learns to call only its mother by that name. Similar actions and interactions with the surroundings increase the vocabulary of the child and promotes its learning. Even animals learn how to survive through activity and experience and not that anybody teaches them the threats to their lives and how to defend themselves or where to get their food from. Hence learning is best if the learner is actively involved in the learning process which is also called interactive or experiential learning. That means that learning is doing and doing is learning. In fact any activity in life whether shopping, driving a vehicle, playing a game, doing a job, reading a book, making a verbal presentation, writing an article or creating any thing offers a rich and effective ground for learning. John Dewey, a famous philosopher, described education as a process of living through a continuous reconstruction of experiences.



Cognitive abilities are initiated by perception from the environment through the five senses. The human brain processes the perceived information by correlation with previously stored information, interpretation, analysis, synthesis and critical thinking in order to achieve comprehension that is seldom complete on first occasion. The brain needs opportunity to test its comprehension through application/action in its environment repeatedly.

### LEARNING SPIRAL



A = Action      R = Reaction Response  
 P = Perception    C = Comprehension

Each application produces more responses/reactions from the environment that are perceived and processed by the brain to improve on previous comprehension. This may lead to repetition of the previous cycle and with each subsequent cycle the comprehension keeps on expanding like the expansion of the spiral outward. In this manner a continuous spiral of perception, comprehension, application and response is established for accomplishing learning. Any learning activity that does not provide opportunity for application/action fails to set the learning spiral in motion.

Therefore, if a lecture is converted into a question-answer session on a topic that has been studied in advance by the students and the teacher alike and even better if followed by applied work on the same topic, such a lecture will achieve better learning by students. Similarly problem-posing, self-learning and group-learning projects with minimal facilitation from teachers will promote active search and critical thinking by students that will be far more effective way of learning. Of course such activities can be best performed with a small group of students. Hence the emphasis in instruction should shift from lectures to small group discussions, problem-posing seminars, academic debates, Students' assignments, students' presentations, students' projects, experimental work, applied work, educational games, promotion of independent study, self learning, self evaluation, practical work and creative activities preferably in real life situations, where the students are active participants and the teacher acts as a facilitator of learning.

This principle is aptly described in a famous saying that states, "I hear and I forget. I see and I remember. I do and I understand." Hearing is essentially a passive phenomena that require great concentration and consistent focused attention for mental perception and understanding. This is obviously not easy for not fully motivated students. If listening and observation are combined mental perception improves. For this the listener needs to maintain an eye contact with the speaker, looking at his/her facial expression and body language in addition to remaining mentally focused keeping out extraneous thoughts in order to benefit from a lecture. Hearing and seeing when practiced together like watching a movie, a stage performance and live events are relatively less passive. However active work involves perception through more than one sense -there are five of them e.g. seeing, hearing, smelling, tasting and touching-involvement of mind in comprehension and consequent physical activity that produces result, which is verified again through the same process. In doing the mind has to remain

critical and thinking all the time. That is why doing is considered the best way of learning. In order to allow a change from passive education through lectures to active education in small groups we will have to increase the number of teachers so as to provide an optimum teacher-student ratio of about 1 to 10 or even more.

### ONE WAY TEACHING

One-way education through lectures and sermons, what we call passive education, has been named as “banking concept of education” by Professor Paulo Freire. According to him, in this type of education the teacher deposits information with the student who acts like a bank clerk and he or she returns the information whenever called upon. Jean-Paul Sartre called it “digestive or nutritive concept of education” where the student is fed information like food or what is called spoon feeding. Both these eminent teachers-cum-philosophers regard passive education fatal to growth of intellect and humanization and out rightly condemn it. Some one has defined this type of teaching as a process in which information is transferred from the pages of the book to the pages of student's notebook without passing through the brain of either the teacher or the student.

Such one way teaching promotes rote memory and tubular vision and is suitable for promoting authoritarianism, oppression, domestication, taming, indoctrination, subjugation and dehumanization. It leaves no room for the development of understanding, open-mindedness, liberalism, humanization and intellectual abilities of critical thinking, application, problem solving and creativity. The practice of one-way education through lectures and sermons survived for centuries because it suited indoctrination and dogmatism and served the cause of the oppressors in society.

### TWO WAY LEARNING

Imam Ghazali, the great Muslim thinker emphasized experiential learning and interactive learning with student's participation nine hundred years ago. In Pakistan till today

lectures are the only method of teaching particularly in Urdu-medium schools in public sector that are meant for the children of the oppressed class of poor people. These schools that have deteriorated further since independence from the British rule, only produce clerks and peons and have a high incidence of drop-outs primarily because of their oppressive, boring and suffocating environment. In fact the colonial rulers of the Indian subcontinent made these Urdu-medium schools for producing interpreters between them and the large population they ruled and subordinate staff who carried orders as office assistants and clerks. It is high time that today learning activities adopt the system of problem-posing interactive education with a dialogue between the teachers and the students allowing the learners to be active participants in all stages of learning. This system of two-way education that replaces the oppressive and monotonous environment of classroom with freedom of speech and liberation of mind will not only promote thorough learning of students with development of critical thinking and abilities of problem solving but will also enhance the knowledge and experience of teachers who will be kept on their toes by the questioning students and will create in students an everlasting desire for continuing education. It will also give teachers the opportunity to understand the psyche of students and discover their hidden talents for promotion of learning.

Furthermore two-way education between the teachers and students leads to mutual understanding, trust, friendship and love that provides a congenial stimulating environment for learning. Students will find such friendly environment in educational institutions enjoyable and will be less likely to abstain from learning activities or drop out from studies. Prevalence of such an atmosphere in an institution also helps a great deal in solving all academic and nonacademic problems of students and teachers alike that will help a great deal in promoting learning. Active learning empowers the student, gives a sense of ownership for whatever he learns and creates interest and motivation, qualities of leadership, a



desire for self learning and self evaluation and problem solving abilities by continuing education.

### ACTIVE LEARNING A LIBERATOR OF MIND

Education can best be defined as liberation of mind. Every child is born with four qualities that are ideal for liberation of mind. These are observation, thinking about what is observed, curiosity, and experimentation. All these four are active phenomena. If these four activities are encouraged and the child is guided how to find answers for his/her own questions, he/she will become an active, reasoning and open minded self-learner, self evaluator and researcher who will absorb unlimited knowledge and create new knowledge, acquire mastery over needed skills and develop healthy growth of personality and character. The foundation of such education, which I call liberation of mind, if laid down in childhood, will lead to production of top class thinkers, scientists, research workers, writers, artists and professionals for the progress and prosperity of the society.

\* THE LEARNER SHOULD BE STIMULATED TO THINK and do reasoning in his/her mind to give meaning to what is observed, listened to, felt, tasted or smelled. Careful and active perception of what we receive through the five senses marks the beginning of learning. The greatest quality of human brain is the ability to think. Thinking has unlimited power, speed and capacity to expand in all dimensions crossing the frontiers of knowledge into the territory of the unknown. Any learning activity that stimulates the thinking develops the mind more than anything else. If learning activities are so designed that mind is provoked and thoughts are stimulated in depth conceptual learning will occur, applied abilities will develop, problems solving capabilities will enhance and new ideas will emerge. To promote thinking the student must be encouraged to ask questions, question any thing new that he/she observes, use his/her mind to answer questions on his/her own, try to solve problems, debate issues and do creative work i.e. writing

stories, essays, poems, experimenting new ideas and so on. Solving quizzes, puzzles and problem posing questions are well known for provoking thinking. Any learning activity in which, in presence of competition, the learner has to adopt a changing strategy to face newly emerging challenges requires constant thinking like in the game of chess. Thinking ability is inborn in every child and its development is the real education that our children need from their infancy onwards for the rest of their lives.

**\* THE LEARNER SHOULD BE EMOTIONALLY**

**INVOLVED IN HIS/HER LEARNING.** This means that teachers must use such methods in Teaching/learning activities that will make the learners enthusiastic. Emotional involvement of the student in a learning task provides the greatest motivating force for learning. It is well known that an emotionally charged crowd watching a cricket match between India and Pakistan in case of Indo-Pak crowd or between England and Australia in case of Anglo-Australian crowd, will remember every detail of the match for many years to come, will critically evaluate the performance of each player for years afterwards and will propose logical measures for improved performance in future. Any experience in life, where one is emotionally charged, whether it is the death of a close friend or the day of one's marriage or winning a losing battle or going through any exciting or upsetting event, is likely to be remembered for ever because of one's emotional involvement. I am sure few Britons will ever forget the details of Princess Diana's death or not learn lessons from it because of their emotional involvement. Hence introduction of educational games, music, drama, plays, movies, comedy, tragedy, challenges, systems of appreciation, encouragement, recognition, incentives, awards and rewards for improved performance, promotion of peer discussions, exposure to live and actual situations, practical work, vocational training of earning skills in workshops, opportunities of application to students particularly in real life situations, academic discussions, competitions and contests are all methods for creating

interest, enthusiasm and emotional involvement among students towards better learning. Children are known to enjoy facing challenges and hurdles, relish meeting discoveries in their pursuit resulting into everlasting learning experiences. Such emotional involvement creates motivation and as a result enhances learning because such tasks have clear objectives, are live, applied, interesting, stimulating, meaningful, useful, productive, satisfying, pleasing, entertaining, challenging, including surprises and mysteries. Such learning activities kill the boredom and lead to creativity.

Similarly interest is created by presentation of relevant events and facts in a narrative fashion like stories or in life-like presentations on the stage or screen. The emotional involvement in learning material can be further enhanced by the inclusion of the relevant extremes of physical facts and phenomena, record-breaking human performances, interesting historical events, humor, tragedy, adventure, romanticism, pursuit, discovery, invention, chase and suspense. Engagement of students in their choicest activities, e.g. elective studies, hobbies, literature, sports, music, study tours, social work in the community, and practical work in real situations brings about emotional involvement and therefore has great potential for promoting learning.

Finally interest and emotional involvement cannot develop in a student who has been pushed into a course of study by parents or guardians against his or her wishes. Such a situation calls for counseling of the parents who must avoid imposing their views, regarding the choice of studies, on their children. Students who choose their courses of studies on their own not only become more responsible but show a great deal of enthusiasm in pursuing their studies. In summary all methods that make learning interesting and enjoyable will promote learning, abolish absenteeism and dropping out from studies and will arouse the desire for continuing education.

**\* THE LEARNER SHOULD UNDERSTAND THE RELATIONSHIP BETWEEN THE LEARNING ACTIVITY AND ITS OBJECTIVES AND GOALS AS WELL AS ITS RELATIONSHIP TO OTHER LEARNING MATERIALS INCLUDED IN THE COURSE.** Students are often made to do and learn things in the educational institutions the purpose of which is not clear to them. When a clever student asks the teacher the purpose of an educational activity, how frustrating it must be for her (him) when she (he) is told by a wise teacher, "never mind my girl (boy), do it as I say; you will realize twenty years later why I made you do it and don't be so insolent to ask such questions again." How can a student be motivated to do or learn a thing well if she (he) is kept in dark about its purposes and objective? For better learning, it should be obligatory that the objectives of every learning activity are stated clearly in writing and their relevance to the activity are discussed with the students in advance and they are encouraged to ask questions till they are absolutely clear about them. Similarly the relationship of the learning material to previous lessons in different subjects, parallel learning activities that are going on and the subsequent lessons, if clear to the learner, will make the leaning process more effective. A realistic integration of learning activities make the knowledge holistic, relevant, meaningful, useful and applicable. In addition such knowledge is interesting, stimulating and motivating. Multi-disciplinary and multi-professional integrated teaching further highlights the inter-relationship of different learning materials and as a result makes learning even more meaningful and hence more effective. In many experiments by educational psychologists, it has been proved that purposeful, objectives-oriented, relevant, interrelated and integrated learning is more meaningful, effective and retained in memory for longer. Ellen Langer a social psychologist demonstrated this by asking a group of 100 people for a simple favor when 60 % obliged. When he gave reasons for the favor 94 % obliged. Students need a convincing justification for every learning activity and when it is not there they lose interest and

motivation.

**\* THE LEARNER SHOULD BE REWARDED FOR SUCCESS RATHER THAN PUNISHED FOR FAILURE.**

Reward for success certainly promotes motivation and leads to further success. On the other hand, punishment for failure will shatter the confidence and destroy the motivation of the student for learning, creating loss of self-esteem and inferiority complex that will lead to further failures. Coercion and punishment create bitterness in students against the teachers, destroy their trust in teachers, make them unhappy and as a result they develop a close mind to whatever the teachers say. Such students, do not work, fail in subsequent tests, become a problem to deal with and become a nuisance for the entire class or institution. For this reason alone many students drop out from schools. Punishment by teachers in educational institutions, corporal or psychological, is a well known cause of dropping out from education. As far as punishment for violation of rules is concerned one should remember that it is in the nature of the beast to get more curious and get tempted to do that, which is prohibited, which in turn leads to punishment. Wise teachers should appreciate this consequence of saying, "do not", to a child and plan for it ahead with use of their tact, flexibility and ingenuity. Those who avoid doing the undesirable should be rewarded like those who do the desirable and meet the targets.

As far failures in examinations are concerned, one thing must be understood by students and parents alike that repetition of a class by a student, as a result of failure in an examination, should not be regarded as punishment, but a concession of another chance to the student, a reward by itself for better than a hopeless performance, to go through his/her) learning activities once again, in order to improve his/her competency to the expected level. Failures are due to mistakes. Reviewing and correcting the mistakes by the student gives him/her important lessons for the future. Teachers should highlight and praise the correct answers of the student and guide him/her in rectifying his/her mistakes.

During the period of repetition, the student should be given extra support and encouragement by the parents, teachers and fellow students that will pay, instead of rebuking him/her that will lead to depression of mental abilities and state of mind resulting in loss of interest. If, after one or two repetitions, despite all possible encouragement and helpful support, a student fails to acquire the required competency to clear the examination, further continuation of education in the same institution in the same field is not likely to be productive or cost-effective for some very good reasons that must be looked into. If the causes of failure can be identified and removed, well and good, otherwise a simple change of institution or line of study may show a better effect on the performance of such a student.

Repeated failures in examinations are a common cause of absence from examinations, fear of examinations and drop out from schools. It is therefore suggested that failure in tests may not be used for stopping promotions to higher classes particularly in primary education. It is important that students, parents and teachers look at failures positively. A young bird falls several times before it is able to fly; a child falls several times before it can walk. Yet no bird ever fails to fly nor does any child ever fails to walk except the diseased and disabled ones. The positive attitude is that every one accepts failures and takes lessons from them that will lead to success. If a failing student reviews his/her mistakes to find out the reasons for the mistakes he/she will learn not to repeat them in future. In this way failure becomes an indelible learning experience. Just like stumbling on a an object in the way and hearing your foot enables you to avoid for ever to stumble on that path again and you never forget that experience. The negative approach is to reject failures that cause dismay, dejection, further failures, falling pray to alcohol and drugs and occasional suicides. Life is an endless series of learning processes. Stumbling, failures, oppositions and challenges are integral part of learning. Every bird and aeroplane fly higher and higher due to presence of opposing winds. Every highly successful person has faced and overcome many failures,



obstacles and challenges in life. It is said that Thomas Edison, the inventor of the light bulb, tried thousands of materials to make the filament of the light bulb before he succeeded to make one. When he finally made one he said, "I haven't failed. I know now thousands of ways that don't work. I don't call it failure. I call it education". In this attitude towards failures lies the secret of success.

Reward may be in the form of success in a performance, improvement over previous performance, excelling over others in a performance, praise by teachers and others of a performance, promotion as a result of a performance or material reward. The practice of reward for performance generates competition that certainly creates interest and motivates the learners to learn more, better and faster. However too much of competition generates jealousies, individualism and hatred that are not only undesirable socially but also have a negative effect on learning. Moreover the losers in competition have to overcome disappointment. Being a loser repeatedly may become stressful causing anxiety, depression, loss of confidence and self-esteem, loss of sleep, appetite, weight, poor health, dropping out from schools and may even lead to addictions and suicides. It is the duty of the teachers and parent alike to give help and support to such students, not to remind them of their failures and of those who have done better but to pat them on the back for having done even slightly better than before or than others. Hence individual competition and too much emphasis on high scores and high grades should be avoided but self-competition for individual improvement over previous performance, group competition between groups of the same class or class competition for improvement over the performance of previous classes should be provided for freely and encouraged. In the continuous internal formative (diagnostic) examinations it is advisable not to disclose individual scores and grades but to simply state the average, above and below average categories. A proper feed back on individual performance appreciating their strengths and polite correction of their



weaknesses and mistakes will help immensely in promoting learning. Only terminal examinations at the end of secondary education and higher education need scores and grades for determining the merit of students for future selections and jobs. Such examinations should preferably be held at national level simultaneously once or twice a year. However scores and grades alone will not reflect on the quality of education or the standard of the institution until the entire system of evaluation and education become objective based.

**\* THE LEARNER SHOULD EXPERIENCE IMMEDIATE SATISFACTION FROM CORRECTLY APPLYING WHAT IS LEARNT.** If a student learns, for instance, that the boiling point of water is low at low atmospheric pressure and high at high atmospheric pressure, he (she) is likely to forget it after some time, but if he (she) is provided the immediate opportunity to demonstrate this in the laboratory and let him (her) boil potatoes in a pressure cooker as well as in an uncovered utensil, the resultant satisfaction will ensure far better learning. Such an opportunity will create an interest in the student to put into practice what he (she) has just learnt in order to get fully convinced about the truth of a theoretical information. This principle therefore demands integration between theory and practice; in either case the learner must be an active participant.

At present, in medical colleges of Pakistan, basic medical sciences are taught in the first two years and the clinical practice in the subsequent three years. In most medical colleges there is no integration between various subjects nor between teaching of basic medical sciences and their application in practice of clinical subjects. This segregation of subjects and separation of theory from practice deprives the medical students from the benefits of correlating information and getting immediate satisfaction from correctly applying what they have learnt and makes the study of basic and clinical subjects less meaningful. The practice of separation of theory from practice is even worse in other professional fields, such as engineering and law

colleges and universities in Pakistan. In engineering and law colleges and universities of many poor countries even the teachers are theoreticians who have no contact with practice of law and engineering. Teachers of engineering should be ideally practicing engineers and only then they will be in a position to provide problem-posing education and give opportunities to their students of getting satisfaction from immediately applying what they have learnt in theory. A similar situation prevails in law colleges that makes the study of law a very dry subject. The principle of providing opportunities of application of theoretical knowledge, particularly in real life situations, will provide immediate satisfaction to the learner and will give a great impetus to learning in all fields of learning at all levels.

According to Karl Marx, education should be combined with productive work. Productive work is useful, satisfying and makes the learning experience meaningful and memorable. Moreover in productive work the student encounters many known and unknown problems and learns how to overcome them. Productive experiences give immediate satisfaction when performed in real situations such as in the fields, workshops, under-construction roads, bridges and buildings, industry, hospitals, courts, and community or wherever they are relevant to the course of studies. Productive work also stimulates creativity, teaches discipline, creates qualities of leadership and brings returns. In fact, the practice of productive skills if acquired by poor students will not only reinforce theoretical knowledge but can be used in spare time for earning. That is why some wise man has said, "KNOWLEDGE IS POWER, IF APPLIED." It is a pity that our graduates from secondary education have not been trained even in one productive/earning skill in 10-12 years of formal education and are therefore of little help to themselves, their families and the community in practical life. Even if they were to continue higher education despite the poverty of their parents they could be self-supporting because of possession of one earning skill. It is a sad reflection on those at the helm of affairs who give a lip

service to poverty alleviation and have no desire to make the poor self supporting or enable them to go for higher education.

**\* THE LEARNERS SHOULD PARTICIPATE IN SETTING/SELECTING GOALS AND MAKING DECISIONS ABOUT THEIR OWN LEARNING.**

Students are generally generations apart from their teachers and have different psyche, temperaments, thinking, likes and dislikes. Their participation in decision making on matters that concern them will not only give them a sense of ownership but will introduce such modifications in goals and planning strategies, to make these more realistic and feasible and bring about such changes in learning strategy to which students are more adaptable, receptive. That will make the learning process more effective and motivating. Old-fashioned teachers generally display a great deal of resistance to application of this principle, as a result of their long standing habit of keeping a distance from students and of their inability to understand the psyche of the students. It is often said that students are too immature and ignorant to determine their goals, objectives and learning strategy, which the teachers know better. In fact, the older the student, the more he knows what he can and cannot do. It is hardly ever appreciated that the objectives of the teachers and the students regarding the future of the latter are the same and the only way to understand any difference of perceptions is for the two parties to sit together, discuss and evolve the right goals and objectives. In this process, while teachers can contribute immensely from their vast experience of what is best for the majority of students, students can usefully point out their individual interests, likes and dislikes for educational goals, learning outcomes and which learning techniques suite them best. Such participation of students in academic decisions will make the realization of goals and objectives of education more certain. Involvement of students in decision making will give them a sense of ownership to the decisions made, will give them a sense of responsibility for following those decisions that will bring

discipline and order to the class and institution. As a result teachers and students will be able to work together as a team towards reaching their learning objectives and goals.

\* **THE LEARNER SHOULD BE ABLE TO GO FROM SPECIFIC EXAMPLES TO APPLICABLE GENERALIZATION.** For instance, if a student learns how to apply a principle of physics in a particular experiment, e.g. the three orders of levers, in the laboratory, he should be able to make use of the application of this principle in several situations that should be provided to him and shown to him in industry and construction of buildings and bridges. This will ensure that he has understood that principle fully. If a medical student learns how to inject a patient with aseptic technique and he can use the same principle of asepsis in eating food, extracting a glass of fruit juice or cooking an omelet, it will suggest that he has thoroughly understood the principle of asepsis in prevention of infection to the extent that this has brought in him a very desirable change of behavior, a very important educational objective of affective domain, generally considered the most difficult objective to achieve. The ability to evolve generalized applicable principles from specific examples reflects thorough understanding of the underlying concepts that must be targeted in learning activities of students.

\* **THE LEARNER SHOULD RECEIVE IMMEDIATE FEEDBACK ABOUT HER (HIS) PERFORMANCE.** In educational set-up feedback is the response given to a student by the teacher regarding her (his) performance or vice versa. The teacher can appreciate the correct responses of the student and give guidelines for correcting mistakes and further improving performance. Similarly the teacher can improve his (her) teaching method after getting feedback from the students. The earlier the feedback the more beneficial it is for learning. If you are an ex-student, think back for a moment of your student life. Did you not learn most from that teacher who immediately responded to your correct performance by expressions like very good, jolly good, excellent etc. and patted you on the back? Even when

you went wrong, immediate correction by the teacher, when the problem was fresh in your mind, led to better learning than a delayed response after you had forgotten more or less half the problem. Hence close supervision and monitoring of performance of students for immediate feedback is obligatory till such time that the performance is perfected. In fact, it can be said that immediate feedback to the student regarding his (her) learning is the backbone of effective facilitation of learning, without which the learning process is likely to collapse. It is much more useful to use examinations for immediate feedback than for any other purpose. If students are encouraged to reflect on their performance and review their mistakes after formal, informal, peer- and self-evaluation they will get all the feedback from a variety of learning resources that will add enormously to their learning. Frequent evaluation for feedback what is called formative or diagnostic evaluation has salutary effect on learning. This is why continuous evaluation or semester system has become a standard practice in most educational institutions in the West and Fareast.

Thorndike demonstrated the effect of feedback in promoting learning by a very interesting experiment. Students were asked to repeatedly draw a four-inch long line with eyes shut till the correct length of the line was achieved. There was no improvement even after 3,000 attempts but with eyes open improvement was obvious in the first few attempts. This demonstrated that seeing the result of performance, that is feedback, is essential to improve the performance. The more specific and individualized is the feedback regarding the quality of performance and the nature of mistakes, the greater is the improvement in learning. Similarly the quicker is the supply of feedback, the greater is the positive impact on learning. It is obvious that no feedback can be given on any learning unless it is evaluated. Therefore both formal and informal evaluations must be interwoven in the instructional process to the extent that every new learning can have immediate feedback.

**\* THE LEARNER SHOULD BE ABLE TO DEAL WITH CONFLICTS AND FRUSTRATIONS THAT INEVITABLY ARISE IN THE COURSE OF LEARNING.** Every curriculum must incorporate the provision of student's counseling service for this purpose. The teachers, the parents and the students must join hands to support such a service. Application of this principle can save many a student from depression, falling prey to alcoholism and addictions, suicides and irreversible failures in life. An improved student-teacher relationship and prompt action by the teacher, for support of the student in problem, is an integral part of sound educational strategy that enables students to overcome frustrations resulting from failures in student life. The ability of the student to effectively face and overcome the frustration of a failure often leads to much better performance and therefore must be ensured during the course of education. On the contrary, scolding and punishment on failure diminish the ability of the student to overcome his or her frustration that is inevitably followed by more failures. If learning and evaluation are carried stepwise from easier to more difficult tasks, the earlier successful performances will built the confidence of the student to overcome eventual failures. Failures in student life may be due to loss of self-esteem resulting from social and economic reasons. These should be carefully looked into by the teachers and counseling service and remedied well in time.

**\* THE LEARNER SHOULD HAVE THE OPPORTUNITY TO OBSERVE SKILLS TO BE LEARNT BEING CORRECTLY PERFORMED.** The teacher must provide to the student the occasion to observe closely a model performance, drawing his or her attention to details and the most important steps of a procedure, before he or she is allowed to attempt the skill, initially under supervision and repeatedly till perfection is achieved. This is the basic requirement of any training program in psychomotor skills. The ability of observation varies between students ranging from complete absentmindedness of some to very sharp vigilance of others. Practice under



supervision with encouragement and incentives for demonstration of better observation and alertness does bring an improvement in this capacity of many.

**\* THE LEARNER SHOULD KNOW IN ADVANCE WHAT HE OR SHE IS EXPECTED TO LEARN AND WHY IT IS RELEVANT FOR HIM OR HER TO LEARN IT.** While it is essential that the students should be provided with a detailed teaching program in writing well in advance, further improvement on this should be done by briefing the students on the relevance of the next assignment at the end of the previous learning session. Such a step will lead to better appreciation of the purposes, aims, objectives and goals of the next lesson/assignment by the student, will facilitate his (her) preparation for the next assignment and will motivate the student to actively prepare himself (herself) for the next assignment. It will certainly help a great deal if the student himself (herself) tries to learn in advance from learning resources what he (she) is expected to learn, and why, before coming to the class room, laboratory, etc. On the contrary if students are not informed about the purpose and benefits of a learning material they will rightly feel uninterested.

**\* THE LEARNER SHOULD PERIODICALLY PRACTICE WHAT HE (SHE) HAS LEARNT.** This is particularly needed for psychomotor skills i.e. reading, writing, speaking, artistic and computer skills that will get more and more polished with repetition, but will get stale and lost without periodic opportunities of practice. Reading remains the sine qua non of education and must be developed in students at all costs. Education must also strive to develop and polish all means of expression that are essential for communication of the thought process. Even for cognitive abilities the learner must be provided practical opportunities to apply knowledge periodically so that knowledge is reinforced. However, for expansion of knowledge in different dimensions, repetition alone is not going to be useful beyond a certain limit unless it is supplemented by further study and discussion with each



repetition.

**\* THE LEARNER SHOULD HAVE THE OPPORTUNITY TO LEARN VIA MULTIPLE MODES OF INSTRUCTION**, e.g. lectures, small group discussions, seminars, symposia, workshops, practical work, project assignments, presentations to peers and teachers, guided visits and tours, actual work in the relevant field, sports, hobbies, assignment of joint projects, independent study, social, cultural and literary activities, work in developmental projects, etc. Different modes of instructions will suit different educational objectives and different individual temperaments. A large variety of modes of instruction will not only break the monotony of learning process but will also bring out the benefits of the varying abilities and aptitudes of the students for different modes of instruction as well as the suitability of different modes for different types of learning materials. For example psychomotor skills can be learned better from live demonstrations and hand-on-job experience than from lectures. In fact variety is the spice of learning that will make the learning material more tasty, palatable and digestible.

**\* THE LEARNER SHOULD LEARN FROM MULTIPLE SOURCES**, e.g. peers (fellow students), teachers, materials, charts, models, pictures, movies, sketches, simulators, illustrations, books, handouts, journals, audio-tapes, video-tapes, computers, media-programs and transmissions by radio, television, and news papers, telephone, electronic mail, internet search and actual live situations. The larger the number of resources available, the better is the scope for learning. The variety of learning resources certainly enhances knowledge, helps in getting in depth understanding and replaces boredom by interest and involvement. The intelligent use of audio-visual aids in teaching not only facilitates learning but can make learning more interesting and impressionable. Sketches and pictures can convey at a glance what may require many pages to describe. As the English saying goes "a single photograph is worth a thousand words." Simultaneous reception through

hearing and vision enhances the quality of perception, which is further improved if the picture is in motion. Motion pictures with sound are more akin to reality and lifelike and therefore more convincing than written or spoken words and still pictures and sketches. Motion pictures cannot compare to real life situations but go as far as possible close to reality and can be usefully used in teaching. Live transmission of motion pictures of events is nearly as impressionable as the real events. Since preparation of motion pictures is expensive and technically complex such teaching films should be prepared centrally by the federal government or the commercial agencies and supplied to schools all over the country. Now-a-days, computer soft wares are available with interactive learning tasks and even with videos that are used by students with great interest. In Pakistan students mainly depend on text books, lecture notes and cheap help-book for clearing examinations. This method is successful because examinations in Pakistan only require reproduction of selected memorized facts and do not test the abilities of application of knowledge in solving problems. For developing conceptual understanding and applied abilities many sources of knowledge have to be used. To promote such in-dept learning we have to change our system of examination to objective problem- posing type continuous internal cum external system.

**\* THE LEARNER SHOULD BE ABLE TO DEMONSTRATE WHAT HE (SHE) HAS LEARNT IN DIFFERENT WAYS RATHER THAN IN JUST ONE-WAY.** For instance, if a student has developed the sense of justice, as a result of his (her) learning experience, he (she) will demonstrate this learning as a change in his (her) attitude, a very important learning objective, in many ways in his (her) day today actions and behavior. Hence he (she) will display this change in attitude and behavior by not attempting unfair means in examinations, by not influencing the administration in his (her) selection for administrative responsibilities in the college teams and college functions, by happily sharing his (her) knowledge with all fellow students, by giving equally helpful advice to all the junior

students, etc. If the students are provided opportunities in the instructional strategy to demonstrate in different ways what they have learned, it can be ensured that learning has taken place.

\* **THE LEARNER SHOULD BE ABLE TO SEE THE RELATIONSHIP BETWEEN HOW HE (SHE) IS EVALUATED/EXAMINED AND THE GOALS OF INSTRUCTION.** The very aim of examination is to determine whether the learning activities have attained the instructional objectives and goals or not, for which specific objectives and competency levels have been prescribed. If this relationship of evaluation/examination to the objectives and goals is clearly understood by the Teacher and student alike during the instruction the learning of the student will have a correct sense of direction and he (she) will utilize his (her) time best. Such a student is least likely to be examination-oriented and will work for the ultimate goals of his (her) education, an attitude that must be infused in students at all costs. In other words the student must regard examination as a means to an end and not an end in itself. However if examinations are not set to measure the goals of instruction as is the case in Pakistan today, students are likely to remain examination oriented and oblivious of the goals of instruction. Most examination questions in Pakistan require memory work which is not the goal of education and therefore students are not goal oriented but simply use their energies in memorizing facts.

\* **THE LEARNER SHOULD BE ENCOURAGED TO EXPLORE ALTERNATIVES.** This principle underscores the necessity of promoting thinking, reasoning, inquisitiveness, looking at different sources of knowledge and research mindedness. If instructional activities are designed to encourage the student to explore alternatives, they will not only extend the width and depth of his (her) knowledge but will also inculcate in him (her) independent and critical thinking leading to innovation, ingenuity, discovery and creativity that are the hallmarks of good education.

**\* THE LEARNER SHOULD HAVE THE OPPORTUNITY TO REVIEW WHAT HE OR SHE HAS LEARNT.** In review, the students recall and practice what they had learnt and make up their deficiencies from different learning sources. Then they compare their reviewed learning with the original source from which they had learnt and try to learn again what they have missed. Each subsequent review will enhance learning till 100 percent learning is acquired. If further learning fails to occur at any stage in review, the learners should resort to discuss the topic with peers and teachers to accomplish attainment of learning with understanding. Thus review is a wonderful means of achieving in-depth learning. Rastogi has shown in an experiment on 8th grade students that reading alone increased immediate retention but retention after 4 hours declined. However review of material red not only improved immediate retention but further enhanced retention after 4 hours. Therefore students should be encouraged to practice recall and review by writing summaries, presenting material learnt to peers and teachers, answering questions regarding material learnt, drawing on multiple sources of knowledge, applying the material learned in different situations and then repeating the whole process if needed.

**\* THE LEARNER SHOULD BE ENCOURAGED TO REFLECT** on his daily, weekly, monthly and annual learning achievements. Looking back on what you have been through and what you have achieved provide many lessons for improvement. If such reflections are written at the end of the day, week, month and year and subsequently discussed with parents, peers and teachers, they could be extremely useful for improvement of future performance and influencing the future course of action.

**\* THE LEARNER SHOULD GET FREQUENT OPPORTUNITIES TO TEACH AND TEST OTHERS.** This practice will raise the self-esteem and confidence of the learner. It will work as incentive for hard work to achieve in depth understanding of the subject before teaching and testing others. It will also provide an opportunity for getting

feedback from those who are taught and tested. The weaker students will benefit from being taught and tested by their own kind in a friendly environment. Mutual teaching and testing between students will break the monotony of classroom teaching that will result in enhanced learning and motivation.

\* **THE LEARNER SHOULD HAVE THE CHANCE TO LEARN IN A SPACED MANNER.** Providing periods of rest between learning enhances learning, while, continuous learning beyond an optimum time limit leads to loss of interest due to fatigue. The length of rest period may be varied, corresponding to the length and difficulty of the learning task, anything from minutes to a day.

\* **THE LEARNER SHOULD BE EXPOSED TO OPTIMUM LENGTH OF LEARNING PERIOD.** It has been shown that on the average a lecture of 30 minutes achieves maximum learning, while prolongation of lecture leads to decline in learning ability due to loss of concentration and fatigue. However the optimum time of learning period may vary according to the nature and difficulty of learning task. For a more difficult task the effective learning period is likely to be short, but for an easier task the optimum learning period may be longer. Similarly maximum learning may continue for hours in a seminar having discussions and question-answer session as compared to a lecture. Effective learning period is much longer for applied work that interests the learner.

\* **THE LEARNER SHOULD HAVE THE OPPORTUNITY TO LEARN IN PARTS AS WELL AS A WHOLE.** The learning of a lengthy or difficult task should be logically divided in small portions/steps, learned in parts with rest periods and finally relearned as a whole because learning as a whole is more meaningful. Learning as a whole brings together all the parts learned and highlights the correlation and interdependence of the parts in order to achieve the objective of the entire learning unit.

\* **THE LEARNER SHOULD HAVE THE OPPORTUNITY TO BE EVALUATED FOR THE PURPOSE OF FEEDBACK AS WELL AS CERTIFICATION.** While most educational institutions in underdeveloped countries practice examinations for promotions to the next higher class or certification, very few are aware of the great potential of examinations for feedback to improve learning. This subject will be discussed in depth in a subsequent chapter.

\* **THE LEARNER SHOULD ACQUIRE A BACK-UP OF SUCCESSES IN ORDER TO DEVELOP TOLERANCE FOR INEVITABLE FAILURES.** Repeated successful experiences are required to build up the confidence of the individual for going up the ladder, but they are even more essential for developing the tolerance to face inevitable failures. A built-in mechanism in the educational process to provide opportunities to the student for developing a back-up of successes will help a great deal in facing and overcoming failures. This is only possible if the student is initially given the easiest learning tasks and the difficulty level of the subsequent tasks is gradually built up so as to provide him a back-up of a series of successful experiences that in turn will swell his courage and confidence to face the challenges of more difficult tasks in future.

\* **THE LEARNER SHOULD BE PROVIDED THE OPPORTUNITY TO HAVE PRIOR KNOWLEDGE BEFORE TAKING UP THE LEARNING TASK.** It is well known that previous knowledge makes learning easier and faster. Learners tend to learn fast by association of new knowledge with previous knowledge and experience. That is the reason why older persons learn faster than younger ones despite the fact that younger persons have greater inherent learning capacity for new knowledge than older persons. Hence students should be given appropriate and relevant learning material well in advance of learning task and they should be encouraged to revise what relevant things they have learnt before. This will facilitate learning of the new



material.

\* **THE LEARNER SHOULD BE PROVIDED PEACEFUL AND COMFORTABLE PLACE FOR LEARNING.** Distracting stimuli like noise, other audible and visible activities in vicinity, bad lighting, uncomfortable seats and writing desks, uncomfortable temperature, humidity, etc. reduce the speed of learning and their absence will accelerate learning.

\* **THE LEARNER SHOULD HAVE THE OPPORTUNITY OF REINFORCEMENT OF DESIRABLE KNOWLEDGE, SKILLS AND GOOD BEHAVIOR.** This practice will immensely enhance the retention of knowledge, skills and good behavior and will discourage the retention of what is unwanted. For reinforcement of learning the students should be provided plenty of opportunities for reading, writing, presentations, discussions and practical work with multiple sources of knowledge. Teachers must provide ample time for attending to students' queries and giving them feedback regarding their performance.

\* **THE LEARNER SHOULD HAVE THE OPPORTUNITY TO OVER-LEARN.** It has been shown that if the student has the chance to over-learn a subject after it has been already learnt completely, this practice increases the depth of learning, ability of its application in solving difficult problems and retention in memory of that subject.

\* **THE LEARNER SHOULD HAVE THE OPPORTUNITY FOR INDEPENDENT STUDY.** Individuals differ in their levels of maturity, possession of prior knowledge, aptitude for learning different things, liking for different sources and modes of learning, pace of learning, etc. It will therefore be ideal if all students are provided the facilities to learn individually all the time but this is expensive and not practicable. However some time must be made available to all students to learn what they want and how they want with individualized attention from teachers. Such an elective period of study in the curriculum will



provide the student a great opportunity to discover his (her) interests and inclinations, the knowledge of which will be a very useful guide in adoption of his (her) future course of studies and in selection of career. For the same reasons, in addition to elective studies, the student will also benefit from independent study in day-to-day learning, if he (she) so wishes, for which time and facilities should be provided. Independent study will also establish the habit of self-learning that will continue even after completing formal education.

**\* THE LEARNER SHOULD BE ENCOURAGED TO USE HIS OWN INITIATIVE AND CREATIVITY.**

Old fashioned teachers are generally in the habit of spoon-feeding students, a practice which makes the learner more passive and is not conducive to learning. If students are asked to plan their learning projects independently using their initiative and creativity with as minimal facilitation as possible from teachers, the learning will be better and faster. The practice of problem-posing education with minimal facilitation, combined with feedback, appreciation and reward, will stimulate the students to use their own initiative and creativity that are among the most important end-points of good education. This practice gives the student a sense of ownership for his work that creates interest and a desire for perpetual learning.

**\* THE LEARNER SHOULD BE BROUGHT INTO CONTACT AND COMMUNICATION WITH ROLE MODELS.**

It is generally agreed that instructional objectives of Affective Domain involving change in beliefs, attitudes and behavior cannot be brought about in students without providing role models. It is the duty of the parents, the teachers, the elders and the leaders of all ranks to act as role models of correct beliefs, attitudes and conduct for the younger generation. Parents who are dishonest and lazy cannot expect their children to be honest and hardworking. It will be unrealistic and irrational of teachers who are themselves irresponsible, unpunctual and untidy, to expect their students to be responsible, punctual and clean. It has

become a fashion these days that everybody criticizes the younger generation and paints a gloomy picture for the future of our country, but seldom is anyone ready to set a personal example of good conduct and behavior. After all, Islam would not have spread in the world with such lightning speed in a short span of twenty three years if the role model of the Holy Prophet (PBUH) was not available to the people. Of course the same holds true of all other prophets and their great religions. In educational institutions, the teachers are not only obliged to present themselves as role models of good conduct that should be emulated by the students, but should also frequently invite exemplary personalities to the institutions to meet the students. The administration of every educational institution should identify the students and teachers worthy of being role models, project and honor such role models so that others should follow their example. In addition to affective domain, cognitive and psychomotor abilities can also be improved by close observation of role models. Contact with exemplary personalities are a great source of inspiration for students that must be targeted by all educational institutions. The success stories of the roll models give the realization of the long-term benefits of hard work to students that act as a great motivating force. Students should be made to realize that hard work not only brings short-term benefits but in the long run gets them good jobs, promotions, good monetary returns for living a comfortable life, respect and love of the people and fame.

In summery students will not learn or forget what they have learnt if the learning material or task is not actively sought, challenging, applicable, as real as possible, purposeful, meaningful, useful, relevant, problem-solving, rewarding, inspiring, interesting, exciting, enjoyable, important, clear, understandable, fulfilling, intellectually and emotionally satisfying, meeting individual, national or human needs and providing a sense of accomplishment and achievement. Application of one or more principles of learning in a learning situation is essential for giving these characteristics to learning.

The schools, colleges and university departments should have the independence to plan their own educational strategies according to their own resources and facilities available to them and taking into account the views of the teachers, students, their parents, the community and all concerned. However their ultimate success will depend on how well they maintain their direction to educational goals and objectives, how well they use the principles of learning in the instructional strategy and how well they conduct continuous evaluation of the performance of students and teachers alike.

It was once said by some wise man that you can take a horse to a river but you can not force him to drink water. However, if you feed the horse with salt, it will go to the river itself to drink water. The duty of the teacher is to provide this salt to the students by applying the principles of learning that will not only motivate them to acquire knowledge but will give them a perpetual craving to discover and question what is known and to unveil what lies beyond the horizon of knowledge.



## IV

# HOW TO EVALUATE THE ACHIEVEMENT OF PURPOSEFUL EDUCATION ?

In the preceding two chapters on education, I tried to present a systematic approach to planning of education by discussing the need for determining the NATIONAL GOALS and OBJECTIVES of education followed by a scientific approach to the design of INSTRUCTIONAL STRATEGY in the light of known PRINCIPLES of LEARNING. Even if the above approach is followed with meticulous care one cannot presume that this approach will achieve the national goals and objectives of education in all or any educational set-up and in all or any number of students. In other words, examination or evaluation or assessment or observation or appraisal or monitoring or quality control or by whatever name you may call it, is essential to determine the quality of the product of education at the entry point in education, throughout the educational process, on completion of formal education and forever after the educated person enters practical life. Examination is the means of finding out whether learning towards chievement of instructional objectives and educational goals has taken place to the required competency level or not. Examination or evaluation of the abilities of learners/students, of the learning process and of the teachers/facilitators at frequent intervals is obligatory to ensure the success of the educational program towards the achievement of the objectives and goals of education. This will also ensure the accountability to society of all those involved in education. If practiced properly with a clear concept that it is a means to an end and not an end by itself, examination has an immeasurable educational

potential that can lift a student from abysmal depths of ignorance to the heights of divine wisdom as enshrined in the creation of entire universe and what lies beyond. In fact, examination, if modernized, is the single most powerful instrument in the hands of educationists for elevating the standard of education.

## **PRESENT SYSTEM OF EXAMINATION**

It is most unfortunate that in Pakistan examinations are held in the most outdated manner at long intervals for the purpose of promotion and certification only. The teachers and the students both regard examinations as the dead end of educational process and not as a means to attaining educational objectives. As a result, both the teachers and the students are examination oriented and the real purpose of examination is lost. Since present examinations require rote memory of facts, it is but natural that all the efforts of teachers and students are directed to promoting memory work. If there is any desire that our students should acquire applied problem solving knowledge with sufficient skills and the right attitudes then our system of examination must change to suit those objectives.

Furthermore, these terminal examinations are time consuming to the extent that a Secondary Board examinee or a university examinee wastes at least six months in a year in preparatory holidays, taking examinations and then waiting for the results. In this manner an ordinary graduate loses about two years of precious time and a professional graduate loses about three years of his invaluable life. In addition to causing this colossal national loss of time, our Secondary Board and university examinations are by and large invalid, subjective, unreliable, unrepresentative, offering choices, promoting selective examination-oriented study and rote memory. They are prone to and riddled with practices of favoritism, nepotism, victimization, cheating and blatant corruption. Their results are heart-breaking to the hard working, intelligent, honest, dedicated students who are mostly belonging to poor families, and highly encouraging to

the lethargic, irresponsible, incompetent, evil-minded, well-connected and corrupt students. The latter are mostly the children of rich and corrupt parents. It is still not too late for the nation to realize the gravity of these bitter facts and their destructive consequences for our future generations. Let us agree to change the existing rotten system of examination and I assure my readers that this will have a salutary effect on the entire system of education.

## **A JUST AND USEFUL SYSTEM OF EXAMINATION**

I will introduce this new system of examination under four headings of (A) Characteristics of a good examination, (B) Educational uses of examination, (C) Techniques of examination and (D) A proposed plan of examination.

**A) CHARACTERISTICS OF A GOOD EXAMINATION** are those qualities of examination/evaluation the possession of which make an examination sound in judgment and meaningful. These are:-

**I. VALIDITY.** An examination is said to be valid if it actually and accurately measures what it is intended to measure.

For example, assessing the knowledge of Physics in Chemistry paper or determining the volume of an object by weighing scales or finding driving skill in a theory examination will be invalid. In general examinations in Pakistan are valid only for measuring rote memory and are invalid for measuring understanding, intellectual abilities of critical thinking, application, problem solving and creativity. They are mainly composed of questions requiring reproduction of memorized facts and recall of data from textbooks, teachers' notes, exam-aid books and lectures. Such examinations are at the lowest cognitive level not valid for measuring intellectual ability of application, reasoning and creativity and are of little value in practical life. The theory examinations do not measure abilities of Affective domain and the abilities to perform skills other than the skill of writing in answer papers.

Oral examinations only measure recall of memorized facts and are invalid for assessing comprehension. Abilities of affective domain that pertain to characteristics of personality, beliefs, values, attitudes, habits and behavior and are the corner stone of good education are often ignored.

Education is in general expected to produce learned, civilized and skillful young men and women with intellectual abilities and good character that most teachers claim to be the goals of education but such attributes are not measured in our present system of examination. Consequently, the future performance of the students does not correspond with their grades and what their teachers expected. If teachers intend to produce graduates who can solve problems with application of knowledge, skills and the right attitudes, they will have to adopt an objective-oriented education and a new system of examination that will measure those objectives accurately. In simple words examinations can be valid only if they are so structured as to meet all the purposes and objectives of education accurately.

A good examination will have four types of validities:-

(a) **PREDICTIVE VALIDITY.** If the future performance of the graduates corresponds to the grades they obtained in their graduation examination, then that graduation examination is having Predictive Validity. This kind of validity cannot be developed in an examination unless it is planned to measure the objectives of learning and contains all the characteristics of a good examination. This is why the results of F.Sc. examinations have no predictive validity for performance in professional colleges/universities. Likewise, the result of matriculation examination has no validity for predicting the performance of the student in college education or in practical life. Similarly the results of degree examinations have no predictive validity for performance in postgraduate studies or in practical life where no one wants to hire them. The performance of a doctor or engineer in practical life does not correspond to his/her grades in



Professional University examinations.

(b) **CONTENT VALIDITY.** The more a test actually measures the extent to which an instructional objective has been met, the greater is its Content Validity. If an examination adequately covers all areas of educational objectives and the content of knowledge, skills and attitudes that are included in instruction with appropriate distribution of weight and use of valid techniques of examination, only then one can hope that it will possess hundred per cent Content Validity. To organize an examination with Content Validity, the board of examiners will have to make a **TABLE OF SPECIFICATION** based on the total contents of the knowledge, skills and attitudes, and ensure that they are all well covered in the examination, with use of valid examination techniques and proportionate weight given to each section, allowing no choices to the examinees for omitting certain portions of the course content. In other words, Content Validity is prerequisite of Predictive Validity of an examination.

(c) **CONCURRENT VALIDITY AND CRITERION-RELATED VALIDITY.**

If a test correlates with the specified criteria of competency levels of learning outcomes to such an extent that it can differentiate between the more competent and the less competent or between the students and professionals in that field, it is said to possess Criterion-Related Validity. If the results of two or more tests designed for the same purpose given to the same group of students correlate with one another, they are said to possess Concurrent Validity. For example if the results of the medical group in Secondary Board examination and the Entry test to medical colleges correlate with each other then these examinations will be possessing Concurrent Validity. Criterion-Related Validity of the two examinations is essential for achieving Concurrent Validity.

(d) **CONSTRUCT VALIDITY.** If a test can measure those characteristics of the examinee which are not directly

observable, it has Construct Validity. For example, on looking at the performance of the student in a test you may be able to infer that the student is dishonest or truthful, clever or cunning, dirty or clean, logical or illogical, intelligent or dull, creative or otherwise.

These four characteristics of validity are vital to a good examination and can be achieved with proper planning of an examination to meet all of the objectives of education.

**II. RELIABILITY.** Reliability of an examination is defined as the extent to which it is consistent in its measurements. For example, if your weighing scales give the same measurement several times in succession, it is reliable. If it gives different measurement each time it is unreliable. If an examination is given to two or more similar groups of students or is repeated with the same group, provided nothing is remembered from the previous appearance, and it yields similar results, the examination is said to be reliable. To put it another way, if the variations among the scores of a given examination are strictly caused by the variations in the abilities of those students taking it, this examination is reliable. The greatest element of unreliability is introduced in the examination when the scoring is subjective.

Variations in the execution and conduction of examination, such as varying standards of discipline, honesty of personnel involved, different temperature, humidity, ventilation, comforts, discomforts of different examination halls, different state of health, moods and temperaments of the examinees and examiners will also reduce the reliability of an examination making it subjective and therefore unreliable. However, a great deal of reliability can be achieved by bringing objectivity in scoring system so that any literate can score the answer sheets. Reliability can be better ensured by using computers in the preparation of tests and scoring of responses to reduce human involvement to the minimum. The great speed of a computerized objective examination will also minimize the menace of academic dishonesty that is the root cause of unreliability and

subjectivity of examinations leading to decay and destruction of education in Pakistan. Computer-based examinations will not only be more reliable but will also greatly reduce the time that is wasted in the present system of examination. Remember that a valid examination has to be reliable and objective but a reliable and objective examination is not valid unless it meets all the objectives of education. For instance, accurate weighing scales will give you the same reading of a student every time he/she steps on the scales and will be considered reliable and objective but this will not be valid for predicting future weight of the student nor will it be valid for measuring heights or volume.

**III. OBJECTIVITY.** If you look at the quantity of milk in a tumbler and declare that it is 2 kg, another person may also look at it and may say that it is 2.5 kg and a third person may think it is 3 kg. Only one or none of the three can be right yet each one may be thinking that he or she is right because this judgment of each of them is based on their past experiences that are different from each other. This is called biased or subjective judgment because it is influenced by their different states of minds as a result of their different past experiences. On the other hand if the three persons use the same measuring glass for determining the quantity of the same milk they will arrive at the same conclusion because the role of their previous experiences has been excluded. This is objective or unbiased judgment. An examination is considered objective, unbiased and just if the acceptable answers to the questions are defined prior to its administration and any one given this key can score it and any number of people scoring it will come to the same score. In this way the personal bias of the examiners, the varying standard of examiners, the varying moods of examiners, and the influence of many other extraneous factors including corruption and favoritism can be eliminated. And if the predetermined answers are fed into computers the scoring by the computers will be completely objective. In an objective examination there is complete agreement between two or more competent examiners as to what constitutes a correct

answer to a question. This characteristic is almost impossible to achieve in an open-ended essay type question/answer but is easy to get in a selection type question/answer and to a lesser extent in a close-ended essay type question/answer. Since the present examination system in Pakistan is based on essay type questions the scoring of an essay of the same standard by different examiners produce different scores.

That means that some will fail, some will pass and some will get distinction for the same standard of answer paper. In other words, such subjective examination is totally unjust to some students, just to some other students and unduly favorable to others and therefore must be scrapped and replaced by objective system of examination.

**IV. FEASIBILITY.** This involves a number of considerations. Cost of the examination is an important factor for a poor country like ours. It is essential to do the cost-benefit analyses of the old and new systems of examinations in terms of money, manpower, time, space and other facilities required for a certain workload. With large number of students to examine, the ease of scoring has become an overriding consideration. If the scoring system is easy it not only saves the time of teachers and students but greatly reduces errors in scoring and hence raises the reliability of an examination. Practicability of a system has to be considered in terms of number of students to be examined, number of examiners and invigilators available and the time and facilities needed. Vulnerability to or the lack of it to the use of cheating, copying, favoritism, nepotism and other using unfair means is a very important consideration in adopting any new system of examination. No system of examination can be successfully implemented without making a detailed feasibility study. If all forms of unfair practices in examinations are to be abolished then a modern system of objective examination must be adopted.

Some of the above concepts may appear somewhat abstract, idealistic, utopian or difficult to practice but their understanding and application will remarkably enhance the

educational utility of examination. In Pakistan the standard of education will continue to decline unless the present system of examination is replaced by a feasible, objective, reliable and valid system of examination practiced both continually during the academic session at 1 to 4 weeks intervals and terminally.

Frequent internal evaluation is essential for close monitoring of the performance of the students and the teachers, for frequent feedback to all concerned and if counted partially in the result of final examination will also work as incentive to learning activity through out the academic year. All previous efforts to improve the present system of examination have failed and there is no scope left for further experimentation with the present system.

**(B) EDUCATIONAL USES OF EXAMINATION.** That examination is meant for promotion and certification only is, unfortunately, the general belief of the students, teachers and parents alike in Pakistan. It is seldom realized that the main purpose of examination is to ascertain whether learning has taken place towards the attainment of educational objectives. If learning has taken place all would like to know how well has it taken place, and if not how badly has the learning not taken place towards the achievement of educational objectives. This knowledge derived from an examination is of immense value to the students, the teachers, the parents and the administration of the institution.

**TO THE STUDENTS.** The result of an examination creates an emotional involvement of the students in their learning process that acts as a great motivational force for learning. Each time the result shows improved performance, it causes immense happiness and satisfaction and creates hope for better performance next time. Repetition of this emotional involvement in continual internal evaluation is of tremendous value for improving and enhancing learning. The feedback given to the student by the teachers, peers and others on the result of examination provides opportunity for identifying his or her mistakes, blunders, weaknesses and

strengths that enhances learning and the scope for improved future performance.

The frequent use of self-assessment by students during the course of study also works the same way and gives a great impetus to learning. It is for this purpose that most modern textbooks contain questions at the beginning and end of each chapter and also at the beginning and end of the book that the students are expected to answer to increase their curiosity for learning and evaluate their understanding of what they have added to their knowledge after reading part or whole of the book. Peers can provide further reinforcement of learning, where two or more students can study the same chapter or unit of instruction and then assess each other to promote mutual understanding of knowledge. Students can usefully reflect on their day's performance every evening, identify their mistakes and derive satisfaction from their correct performances. Such informal self-evaluation at the end of every working day can play a major role in promoting learning.

Then frequently repeated (Continual) formal and informal, direct and indirect assessment of students' performance by the teachers, immensely increases and accelerates the learning process towards the achievement of educational objectives and inculcates in the students regular study habits, curbing their tendency to leave study to the end of the session for which they now-a-days demand long preparatory holidays.

Prompt feedback from the teachers about the results of evaluation, whether it is the evaluation of homework or the performance of skills or the indirect observation of habits and behavior or the result of formal written, practical, or oral tests, followed by discussion of performance, leads to the discovery of blind spots in learning of students. It also removes many misconceptions and misunderstandings in learning and leads to attainment of thorough understanding of the subject matter, achievement of perfection in skills and development of healthy attitudes, habits and behavior.



Introduction of a system of appreciation and awards for improved scores can further motivate the students to hard work. The knowledge that the results of internal continual examinations will be given credit by the teachers in the final examination will further stimulate the students to work hard and seriously during the academic session. This will also reduce the pressure of the final annual or biennial examinations on the minds of students, and they will no more demand long preparatory holidays. At the same time students will be so much involved in learning due to continuous/frequent internal evaluation process that they will hardly find any time for any mischief.

**TO THE TEACHERS.** The results of frequent assessment of performance of students will provide an invaluable feedback to the teachers regarding the knowledge, skills and habits acquired by the students. This will enable the teachers to take appropriate revision classes to bridge the gaps in the knowledge and skills of the students. They will also be able to do item analyses of the test and as a result improve its composition and characteristics.

From the result of the test the teachers will know how good or bad is their own performance as teachers and where lie their strengths and weaknesses? In this way teachers can identify their own blind spots and to put in more effort to remove their own weaknesses and improve their teaching.

The feedback from evaluation can be used to review, modify and improve the instructional strategy and even reflect on the previously laid down specific learning objectives and competency levels. By reviewing the results of several examinations, the teachers can group the students into average, above average and below average. As a result, they can reorganize the learning program in such a manner that the weaker groups get more time and attention than the others.

Finally the teacher can keep a record of scores of all examinations and observations of teachers and students in cognitive, psychomotor and affective domains of knowledge,



feed this information to the students, their parents and administrators so that all concerned can participate in, and contribute to, the learning process of students. Moreover they can give credit to the accumulated scores of the frequent internal tests in the annual or final examinations. In some institutions in this country up to 50 per cent credit is given to the internal evaluations in the final annual or biennial examination. This has reduced the pressure of the final examinations, obviated the need for long preparatory holidays and has improved the learning of students to the extent that the success rate in the final examinations often approaches 100 per cent. Obviously for the success of this system teachers will have to work hard and exercise promptness, speed and efficiency. Once the data is fed to computers, pressures to alter the data can be easily resisted and refused. Even when computers are not available, the test-results that are transparent and not confidential and are known to all concerned can be given into the custody of all members of the board of examiners, so that no single person can change the result independently. Such speed and transparency will ensure freedom from corruption.

Already in this country internal evaluation is in practice at primary and middle school level and is working reasonably well. But the examinations of the Boards and Universities have played havoc with the education of students of this country, largely due to wide-spread practice of cheating and corruption, in which many students, their teachers and parents are equally involved, along with many employees of the Examination Boards and the examination sections of the Universities. By changing the system of examinations from the present one, the pathetic deterioration in the educational standard in Pakistan can be reversed to a great extent. Where there is a will, there is a way. I suspect that the will to improve education exists among the students, the teachers, the parents and the administrators. The modern techniques of examination and the computer technology offer a way to achieve the educational goals, for the attainment of which all concerned should join hands.

Obviously the primary responsibility of change in the examination system falls on the shoulders of teachers who are paid for it. If even now they do not bring about this change, posterity will never forgive them.

**TO THE ADMINISTRATORS.** The administrators will have a feedback from the teachers about the results of internal examinations, who will in turn continuously monitor the success of the learning process. They will be able to take up in time remedial measures for rectifying any deteriorating situation. The administration will not only reinforce academic and logistic support in weaker areas and provide incentives for better performance in stronger areas, but will also be in a better position to identify well in time the non-academic causes of academic downfall, which may be social, economic, political, cultural or administrative, needing immediate rectification. The administrators will be in a position to keep parents and guardians informed of the progress of their children and wards and promote their beneficial participation in the care and counseling of students. Finally the system of frequent evaluations will also provide a reliable yardstick of performance of teachers that could be used tacitly by the administration. The overall outcome of using examination as a tool for better learning will be elevation of standard of education that has become a must for national survival.

**TO THE PARENTS.** Any information to the parents, regarding the performance of their children in the institution, is of vital interest to them but a regular and frequent feed back on academic performance is something they need most and want most. Only continual, regular and frequent system of internal examinations can meet this need. I am sure that no teacher worth the name will disagree with the importance of invoking the help of parents in the educational process of their children. And if it is so then all teachers must make a commitment to undertaking frequent internal evaluations of students for this and all the other uses discussed above.

**(C) TECHNIQUES OF EXAMINATION.** Informal and

Indirect Examinations/Assessments/Observations must continue with considerable freedom of choice regarding the methods and timings convenient to the parties concerned. However Formal Direct Examination can be broadly divided in three parts, i.e. Theory, Practical and Orals. The first step in planning any examination is to place in front of the board of teachers/examiners the total content of the course and make a table of specification. The teachers/examiners will by consensus decide what percentage weight to assign to various instructional objectives/course content and then in case of each objective decide what percentage weight to assign to the three taxonomy levels of cognitive, psychomotor and affective domains.

### A TABLE OF SPECIFICATIONS

CONTENTS	OBJECTIVES					
	COGNITIVE			AFFECTIVE	PSYCHO-MOTOR	PER CENT
	C I	C II	C III			
SECTION 1	2	3	8	1	1	15
SECTION 2	4	2	7	3	4	20
SECTION 3	2	5	7	2	4	20
SECTION 4	1	4	9	3	3	20
SECTION 5	2	4	12	2	5	25
Total:	11	18	43	11	17	100

After having made a table of specifications, the teachers can look at the following Table to remind themselves what examination techniques are best for evaluating which instructional objectives.

## A Table of Objectives Vs Evaluation Techniques

TYPE OF EVALUATION TECHNIQUES	TYPES OF OBJECTIVES				
	COGNITIVE			AFFECTIVE	PSYCHOMOTOR
	C I	C II	C III		
MCQs	++	++	++	-	-
ESSAY	++	+	+	+	-
CHECK LIST	--	-	-	+	++
RATING SCALE	-	-	-	+	++
ORAL	++	++	++	+	-

It is obvious from the above Table that objectives of the cognitive domain are best evaluated in theory examination while those of the psychomotor and affective domains are best evaluated in practical examination. Oral examinations can effectively evaluate objectives of cognitive and affective domains but not of psychomotor domain. With this information in hand, a group of teachers can decide the number of questions in theory for each objective and the number of skills to be tested in practical while some topics of affective and cognitive domains that have not been covered in theory can be accommodated in orals, only where the number of candidates is manageable and where orals are considered important to judge appearance and presentation of the candidate. Check lists and rating scales can be prepared for the objectives of the affective and psychomotor domains.

Looking at the table of specifications, it can be inferred that many of the objectives of affective domain cannot be objectively and comprehensively measured in a formal examination. Check Lists and Rating Scales for these should be entrusted to teachers for continuous indirect observation and evaluation of the students in the institution and the attached hostels during all the curricular and para-curricular activities. A reasonable number of students should

be attached to each teacher as a tutorial group for this purpose. Such indirect observation and evaluation of the elements of affective domain should be continuously used for feedback and reformation as well as recorded for giving them credit in the terminal examinations.

If it is decided to use orals then they have to be properly structured in written form with preparation of all the needed problem-posing questions and their keys, tables, charts, graphs, objects etc, and adequate time made available for evaluating each candidate on the same material. This is generally not possible if a large number of students are to be examined.

**THEORY.** Theory examination:-

- a). is the main method of examining large number of students in the shortest possible time,
- b). can cover the entire course content, if proper technique of examination is used,
- c). can be used for assessing intellectual abilities and not just recall of memory.

The most commonly used method of written examination in Pakistan is the ESSAY EXAMINATION. This method carries the advantage of testing a student's ability to organize and express information effectively. However its disadvantages outweigh this single advantage of organized expression; the later is perhaps of the greatest consequence in testing knowledge of languages and some arts subjects. Essay type questions:-

- 1). cannot cover the entire course content,
- 2). Consume a lot of time in scoring,
- 3). Cannot be scored objectively and the results are largely subjective, unjust, invalid and unreliable,
- 4). are highly prone to use of unfair means,
- 5). are conducive to bad habits of selective study and guess work.

- 6). test rote memory (C1) and are not easily adaptable for testing intellectual abilities of interpretation (C2) and problem solving (C3).

Traditional ESSAY type questions are OPEN-ENDED, and it is impossible to make for them a key acceptable to all examiners and therefore their scoring is highly subjective. Essay type questions can be improved by putting limits on the expected answer, i.e. the CLOSE-ENDED essay type, which will make their marking less subjective, without removing the other disadvantages and therefore their use should be restricted to where it is absolutely essential.

The OBJECTIVE OR SELECTION OR FIXED RESPONSE TYPE questions in written examination include:-

(1) MULTIPLE CHOICE QUESTIONS (MCQs) are

A) one correct answer in five type and B) more than one correct answers in five type.

A). Example of one correct answer in five :

Three brothers Jan, Khan and Shon jointly purchased a plot of 2 kanals. Jan paid  $\frac{3}{8}$ th of the price, Khan paid  $\frac{1}{3}$ rd of the price and Shon paid Rs.1.4 million. At the same rate a cousin Aan paid Rs. 2.4 million for purchasing another one kanal plot across the road. What did Jan pay?

- a. Rs. 2.50 million
- b. Rs. 1.80 million
- c. Rs. 2.00 million
- d. Rs. 1.50 million
- e. Rs. 1.65 million

Key: b.

Correct answer carries one mark, wrong answer carries 0 mark. If more than one answers are given, 0 mark is given for the whole question

B). Example of more than one correct answer in five :

The new cook made tea that tasted bitter consistently.

Could the bitterness be due to :

- a. Lack of sugar in the cup
- b. Excess of tea leaves
- c. Poor quality milk
- d. Over boiling
- e. Unwillingness of the cook to continue working

Key: b, d & e.

Each correct answer carries +1 mark, each wrong answer carries -1 mark. Introduction of negative marking will prevent guessing.

## (2) SINGLE CHOICE TRUE AND FALSE TYPE QUESTIONS

Example:

Tropical plants grown in tropical houses in London consume more carbon dioxide at night than during the day in summer -----True/False

Key: False

Correct answer carries +1 mark, wrong answer carries -1

## (3) MULTIPLE CHOICE TRUE AND FALSE TYPE QUESTIONS

Half a liter of water having initial temperature of 25 degree Celsius will boil in summer, in a 2000 watts electric kettle in the shortest possible time, if it is

- a. sea water in Karachi                      True/False
- b. spring water in Peshawar                True/False
- c. fresh tube well water in Multan        True/False
- d. stored rain water in Murree              True/False



e. Mineral water in Islamabad True/False

Key: a. False, b. False, c. False, d. True, e. False

Each correct answer carries +1 mark, each wrong answer carries -1 mark, no answer carries 0 mark.

(4) MATCHING TYPE

Column I has a list of countries with blank spaces. Column II has list of currencies. Please fill up the blank spaces with the letters of the matching currencies.

Column I	Column II
1. USSR .....	a. Dirham
2. TURKEY .....	b. Dinar
3. SYRIA .....	c. Taka
4. SAUDI ARABIA .....	d. Pound
5. BANGLADESH .....	e. Riyal
	f. Lira
	g. Rouble
	h. Rupiah

Key; g, f, d, e, c.

Each correct answer carries one mark, each wrong answer or no answer is given 0 mark.

(5) THE SUPPLY TYPE/COMPLETION TYPE (FILL UP THE BLANKS)

Fill up the blanks with an appropriate word:

1. Well begun is ..... done
2. To err..... human
3. Prevention is better..... cure
4. Slow and steady wins..... race
5. Where there is a will, there is a.....

Key: half, is, than, the, way.

Each correct answer carries one mark, each wrong answer or no answer carries 0 mark.

The Objective Type questions carry major advantages as follows:-

a) They can adequately cover the entire course and therefore can prevent the students from selective study and guess work.

(b) They are easy to score; the response sheets can be fed to computers and the score obtained in a matter of seconds/minutes.

If computer is not available, they can be scored manually at a faster speed than scoring the answers of the essay type questions and more efficiently, by using a properly designed scoring card.

(c) Any educated person, given the key or the scoring card, can score them and therefore the scores are objective.

(d) Their speed of administration prevents the students from indulging in cheating and unfair means. The student has to answer 180 questions in 180 minutes (three hours), i.e. one question per minute, allowing him no time to get the answer from some other source.

(e) Scrambling of questions. The computer can make several sets of the same question paper, so that the serial numbers of the questions are different in each set and therefore the student cannot copy the answers from any of the four students in his neighborhood.

(f) They can measure a variety of learning outcomes ranging from simple recognition and recall (C1) to interpretation of data (C2) and solution of given problems (C3) that require intellectual abilities, provided given problems are not copied from textbooks or test papers, have not been previously answered by the candidates, and measure important educational concepts, significant learning outcomes and are

relevant to educational goals. It is important to note that even problem-solving questions once solved by the student become a part of memory and if given again will only test rote memory and not intelligence or applied abilities.

(g) When the wrong answer is selected for a problem-posing question, it reveals not only deficiency in factual knowledge but, more importantly, displays misconceptions, lack of understanding of principles involved, paucity of rational thinking and scarcity of ideas, ingenuity and creativity.

(h) Their measurement is objective, valid and reliable. Since objectivity is the most dominant feature of these questions, they are popularly called objective questions. Objective questions are reliable. They are valid if designed to measure what they are supposed to measure.

(i) Their administration is economical in terms of money and time, especially for testing large group of students.

(j) The introduction of negative marking, in the scoring of answers to True and False type questions, discourages guessing.

The main disadvantage of the objective type questions is that they are difficult and time consuming to make. The most difficult to make are the multiple choice questions where the examiners have to work hard to find four plausible alternatives to the correct answer. But this difficulty can be overcome by proper training of teachers. The shortage of time can be overcome by pooling questions from a large number of contributors into a question-bank. Thus thousands of questions can be saved in a computer after thorough screening and any number of questions can be drawn at random at a moment's notice as a printed question paper.

The other main disadvantage of selection type questions is that untrained teachers are likely to make those questions that measure only recall of facts, also called lower order questions, and do not test the intellectual abilities of the student. However it is not difficult to train teachers in

how to make selection type questions that will test intellectual abilities, i.e. covering some C2 and more C3 levels of taxonomy of Cognitive Domain of Instructional Objectives. These are called higher order questions. It should be noted in the above examples that the MCQ type and the true and false type questions are measuring problem-solving abilities but the matching and the completion type are measuring only rote memory. In fact it is easier to make such MCQs and True and False type questions that measure intellectual abilities (C3) than to make such matching and completion type questions that can do the same. True and False type questions are recommended for adoption by a faculty that is making a beginning in the use of objective examinations.

Of course, all teachers will have to be trained how to make objective type questions, the questions have to be reviewed by a board of experts and will need to be tested in the field and subjected to item analysis before putting them in the question bank. Questions badly constructed by untrained teachers can provide cues and clues that can enable anyone, even those who are totally ignorant of the subject, to identify the expected answers, thus making the entire examination an exercise in futility. Untrained teachers may make objective type questions that only measure rote memory of facts, an inferior educational objective belonging to Taxonomy 1 level (C1) i.e. lower order questions. Trained teachers should be in a position to make as many higher order questions as desired, particularly in the MCQs type, to test the ability of interpretation at Taxonomy 2 level (C2) and problem-solving at Taxonomy 3 level (C3).

For all the reasons mentioned above, the MCQs type questions are the most common in use but are also made badly most frequently. Here is an example of a hypothetical examination, the contents of which are entirely foreign to all readers, yet if a reader is aware of possible pitfalls in the construction of MCQ's, he can answer all these ten questions correctly, despite being a total stranger to the subject matter. The readers are advised to attempt these questions and then

compare their answers with the key given at the end of this article, in order to appreciate the presence of the cues and clues that can enable any exam-wise and subject-naive person to answer the badly constructed multiple choice questions correctly and get a high score.

### HYPOTHETICAL EXAMINATION

Attempt all ten questions. Each question is followed by five answers. Indicate your one selected answer by encircling the initial letter of your answer. Encircling of more than one answer to a question is not allowed and will get zero score for the whole answer:-

- Q1. The objective of the susi in gumferntation is to catch
- a. susi rat
  - b. shupal
  - c. panquin
  - d. gulgul
  - e. white rat
- Q2. Bumbercation will bumber if
- a. kitmit runs
  - b. sortinimum gissups into inmesium for one minute and twenty five seconds after the rails are off
  - c. quim plurrs
  - d. gin rikes
  - e. she kitpits
- Q3. Runtling in shrup is kilpal for the reason that
- a. jamas frus kimber
  - b. toplik herdic shunshum
  - c. kilpal cura fufu
  - d. jimjin huk suesun

- e. ikra diknut hut
- Q4. Shults deaner weil with a
- a. element in shult
  - b. anguin for weil
  - c. imnu to deaner
  - d. bumper on none
  - e. owl at night
- Q5. Rihaz kites to dimdum bilmin with an
- a. Roll-Royce blue bird .
  - b. gupshuphoola tanking
  - c. Rifraf boys mama
  - d. drujjin gammuntoon
  - e. elegance cutpurr
- Q6. The major causes of hugmug disease are
- a. duliosis and philolia
  - b. inferguation jimnostica
  - c. hohogee numbutarmac
  - d. pitimitation arestica
  - e. broking mulmulula
- Q7. Which one of the following is higgling of prusquity
- a. jama nabula and sheedu
  - b. turspination sheltenfoam
  - c. jack and juicy croats
  - d. gudding and kuraila
  - e. semtating and jeeraffinia
- Q8. The Zeno Tower is taller

- a. by its base and surroundings
  - b. to look at in a telescope
  - c. than the Chinese Jovani Gout
  - d. and dangerous to climb on foot
  - e. but wonderful to look at from base
- Q9. The pulsatine od dagla mimosa is
- a. always plurcated
  - b. never gulmul
  - c. every player's gitmit
  - d. waffering
  - e. for ever tumtruk
- Q10. Which of the following is taranakabubumost
- a. erusam
  - b. tepsni
  - c. ruserp
  - d. citom
  - e. larene

Many more cues and clues can be detected in badly constructed selection type questions that will enable someone who is not familiar with the contents of the subject matter, to answer such questions correctly. Therefore MCQs must be reviewed and actually taken by other colleagues as well as given to a class and subjected to item analysis in order to improve them and discard the bad questions. The following guidelines should be followed in constructing Multiple Choice Questions:-

1. An MCQ should measure an important learning outcome.
2. An MCQ should be relevant to the instructional objectives.



3. An MCQ should measure accurately the competency level previously laid down in the specific learning outcome.
4. The stem of the MCQ
  - (a) should have most of the words of the item,
  - (b) should be in clear simple language,
  - (c) should present a clearly formulated/illustrated problem, preferably expressed in positive form but if negative wording is used, it should be under-lined for emphasis,
  - (d) should pose a problem and not just measure memory,
  - (e) should not be reproduced from a textbook or teacher's notes,
  - (f) should not include uncertain or vague expressions like sometimes, often, almost, commonly, rarely, probably, usually, generally, frequently, possibly, can, could be, etc.
5. The correct answer should be clearly the best.
6. The correct answer should not be obviously the longest or shortest of all answers.
7. The length of the correct answer should vary from item to item.
8. The placement of the correct answer should vary at random.
9. All the answers should be grammatically consistent with the stem.
10. The wordings "all of the above or none of the above" should be avoided.
11. All the distracters should be plausible and attractive to the ill-informed and less intelligent student.
12. No two options should be diametrically opposite to each other so that one can exclude the other.

13. Each item should be independent of other items on the question paper.
14. Each item should be at the right difficulty level for the intended class of students.
15. Verbal cues that may enable a student to select a correct answer or eliminate a wrong answer should be omitted. For example:-
  - a. Similarity in wordings of the stem and correct answer should be removed.
  - b. A correct answer from the textbook that is in a stereotyped phrase should not be included.
  - c. The correct answer should not be given in longer detail; instead all answers should be given in similar detail.
  - d. Absolute terms e.g. always, every, all, never, for ever, no one, none should not be used in distracters.
  - e. Answers with similar meanings should not be included.
  - f. The correct answer should not be detectable by the use of language that is distinct from other distracters.
16. The reading difficulty of the test item should be kept low.
17. There should be equal distribution of difficult, average and easy questions in the test paper.

### **ITEM ANALYSIS**

ITEM ANALYSIS is an important step in the preparation of MCQs before they can be declared good enough to be stored in a question bank for future use. For this purpose the questions should be tested on a sample group of students of the same composition for whom they are intended to be used in future, for example in a class of 120 students. After scoring the response sheets, the scores can be used to calculate the DIFFICULTY INDEX and DISCRIMINATORY INDEX of each item/question and to analyze the SUITABILITY of DISTRACTERS as follows:-

DIFFICULTY INDEX of a question/item simply means calculating the percentage of students answering this question correctly that can be stated in a formula:

$$P \text{ (DIFFICULTY INDEX)} = \frac{R \text{ (number of correct Responses)}}{T \text{ (Total number of students)}} \times 100$$

If 40 students out of 120 have answered this question correctly, then P will be =  $\frac{40}{120} \times 100 = 33.3\%$

This means that only a third of the group answered this question correctly indicating that this question was rather difficult. Difficulty Index of 50% is considered ideal; however questions with **DIFFICULTY INDEX** ranging from 20 to 80% equally distributed over the question paper are desirable.

DISCRIMINATORY INDEX (D) indicates the ability of a Distracter in an item (question) to discriminate between a good and a bad student. It can be determined by taking the following steps:-

1. The scored response sheets of the 120 field-tested students should be arranged in order from the highest to the lowest scores obtained.
2. Upper one third and lower one third of the group are used for calculation of DISCRIMINATORY INDEX (D) of each item/question and to do the DISTRACTER ANALYSIS.
3. For each item a table is made that indicates the number of answers of each of the upper and lower groups against each distracter of the item as below:-

TESTED ITEM 1

Alternatives or Distracters	A	B*	C	D	E
Upper 1/3rd (40)	0	20	6	14	0
Lower 1/3rd (40)	14	6	20	0	0
Total (80)	14	26	26	14	0

\* Indicates the correct answer

DISCRIMINATORY INDEX is calculated from the above table according to the following formula:

$$D.I. = \frac{R_u - R_l}{N}$$

Where D.I. = Discriminatory Index

$R_u$  = Correct Responses in upper group

$R_l$  = Correct responses in lower group

$N$  = Number of students in each group (Same)

Hence D.I. for the correct response is =  $\frac{20-6}{40} = \frac{14}{40} = 0.35$

A distracter with discriminatory index of 0.35 or higher is considered adequate, although the one with D.I. of 1 will be the perfect.

DISTRACTER ANALYSIS requires a closer look at each option/alternative in the above table on the field-tested question. So let us review each answer of the above item separately.

Alternative A. This wrong answer was not chosen by a single student from the upper group but 14 students from the lower group were distracted to choose it. This is how a plausible distracter should work.

Alternative B. This is a correct answer and was chosen by 20 of the upper group and only 6 of the lower group, which is how it should be. However, it must be a difficult question, because only one half of the upper group could answer it.

Alternative C. This is a wrong answer which attracted 6 of the upper group and 20 of the lower group. This is how a good distracter should be. This alternative was difficult enough to confuse the 6 good students as well.

Alternative D. This is a wrong answer that was picked up by 14 of the good students and none of the lower group. In other words this distracter has acted as negative

discriminator because it distracted many good students and none of the lower group. This distracter is most likely to be having an ambiguity that misled the good students and will need to be reworded or replaced.

Alternative E. This is a wrong answer that was not chosen by any student out of the two groups. It means that this alternative is too obviously wrong to act as a distracter at all, and should therefore be discarded and replaced by a better one.

## **PASS LEVEL**

Pass levels for examinations in Pakistan are generally fixed at 25% or 33% or 50% and they have remained so as far as the memory goes. No one knows the basis for setting these pass levels and nor can any one explain what they mean. Does it mean that a matriculate who passes with 33% knows only 1/3rd of what he has been taught and the rest of the effort was wasted? If it is so, what a colossal waste of effort is this! Similarly if an engineer qualifies with 50%, does it mean that half the bridges and buildings he designs will collapse or a doctor who qualifies with 50% will be unable to treat half his patients?

Most examiners tell us that they will award pass marks to a candidate who in their subjective judgment has acquired just sufficient knowledge. While sufficient varies from examiner to examiner, the rest of the grading above and below the pass marks is equally subjective. This means that the pass level of 50% or 33% or 25% means the same in the mind of the examiner. Moreover what is sufficient knowledge will vary from day to day and year to year and will be affected by the examiner's varying standards, changing moods, fluctuating environmental conditions and the varying overall standards of the groups that he examines. Consequently the results of such subjective examinations are bound to be unreliable and invalid.

PASS LEVELS can be determined more scientifically in two possible ways that are:

A. NORM-RELATED. That means judging performance in relation to the whole group that has taken the examination.

B. CRITERIA-RELATED. That means judging the performance in terms of previously laid down absolute standard criteria or competency levels.

NORM-RELATED. That means judging performance in relation to the average performance of the whole group. In norm-related system the pass level is determined by plotting the scores of the entire group and determining the MEAN score by dividing the total score of the entire group by the number of the students.

Then for each student the difference between his score and the mean score is arrived at. This value for each student is squared and all are added up, then divided by the number of students and a square root is extracted. The formula for calculating standard deviation is:-

$$\text{Standard deviation}(a) = \frac{\text{Total of (Actual/Raw Score-mean Score)}^2}{\text{Total number of Students}}$$

$$E (X-X)^{-2}$$

also expressed as:-  $a = \frac{\quad}{n}$

In a group of a large number of students about 68% will have scores lying within one STANDARD DEVIATION in either direction of the MEAN. It is not recommended for use on small groups.

The group of teachers may by consensus set the pass level at MEAN that will give a pass percentage of 50% or one standard deviation below that will give a pass percentage of 83% or a fraction thereof above or below. This decision is dependent on overall standard of the group, is arbitrary and is likely to vary from group to group and from year to year.

An example of how to work out the standard deviation of a class of 10 students, although a very low number for the purpose, is given below for illustration:

### STANDARD DEVIATION

Marks/Raw score	Raw-Mean score	(Raw-Mean score) <sup>2</sup>
8	8-13.3= -5.3	28.09
10	10-13.3= -3.3	10.89
5	5-13.3= -8.3	68.89
15	15-13.3= 1.7	2.89
23	23-13.3= 9.7	94.09
14	14-13.3= 0.7	.49
15	15-13.3= 1.7	2.89
12	12-13.3= -1.3	1.69
16	16-13.3= 2.7	7.29
15	15-13.3= 1.7	2.89
Total=133	(Total) = 220.1	

Total of raw scores of 10 students = 133

Mean score of 10 students =  $133 \times 1/10 = 13.3$

Total of (Raw-Mean score)<sup>2</sup> = 220.1

a (standard deviation) = under-root of  $\frac{220.1}{10} = 4.69$

**CRITERIA-RELATED.** In Criteria-Related system the pass level is dependent on criteria of performance or the levels of competence expected to be met by the student. The competency levels are determined well in advance of the training program. It is admittedly a difficult task to perform



for the teachers, but if education/learning has to be evaluated in order to meet the general instructional objectives of education and reach the ultimate national goals of education, this has to be done. Once accomplished, these criteria can be used repeatedly by different teachers at different times and be improved from time to time when needed. Criteria-based pass levels and grading will have more objectivity, reliability and validity. Furthermore it will have a salutary effect on the standard of education. In criteria-related system for MCQs a group of teachers can work out the MINIMUM PASS INDEX for each question and, based on this, calculate the PASS LEVEL for the whole test.

MINIMUM PASS INDEX (MPI) for a multiple choice question describes the probability in numerical terms of the minimally competent student (MCS) to answer that question correctly. For instance, if an MCS is unable to identify the correct answer among the five alternatives in an item, his or her probability of answering that question correctly (MPI) is  $1 \text{ in } 5 = 0.20$ . If MCS can eliminate one of the 5 alternatives in the next item as wrong, his or her MPI for that item is  $1/4 = 0.25$ . If MCS can exclude 2 of the 5 alternatives as wrong in the next item, his or her MPI is  $1/3 = 0.33$ . If MCS can eliminate 3 wrong options, his or her MPI is  $1/2 = 0.5$ . If MCS can eliminate all the 4 wrong alternatives to arrive at the correct answer, his or her MPI is 1. The examiners can work out the MPIs for all the questions in a test paper in this manner, divide the figure by the number of questions in the test paper and multiply it by 100 to arrive at a fairly reasonable PASS LEVEL, expressed in percentage, for the whole test paper. This means that the PASS LEVEL will have to be determined in advance for every test paper and will vary from paper to paper, of course, based on a detailed subjective but rational judgment of a group of teachers based on the expected minimum competency level of the students. Below is an example of how to arrive at the Criteria Related Pass Level (PL) in a paper of ten questions:-

Question No.	Minimum Pass Index
1.	1.00
2.	0.20
3.	0.50
4.	0.33
5.	0.50
6.	0.50
7.	1.00
8.	0.50
9.	0.50
10.	1.00
Average MPI = $6.03 \times 1/10 = 0.603 (=0.60)$	
PASS LEVEL = $0.60 \times 100 = 60\%$	

**COMPUTER-ADOPTIVE TESTING (CAT).** This is the latest introduction to the list of evaluation techniques in theory. CAT promises to be a means of more accurate objective evaluation of student's abilities than any other technique. In this technique the computer is programmed to act like an examiner and the student clicks responses on the computer monitor with a mouse. The test is said to be highly individualized and adjustable to the competency level of the student and yet retains the characteristics of an objective examination. The logistic support for such an examination may not be available for sometime in a poor country like Pakistan. However this has come into practice in the developed countries and is used in several international tests to the satisfaction of every one.

**PRACTICAL.** Practical Examinations are meant for objective evaluation of psychomotor skills. So far, in the third world countries, the conduction of these examinations has been highly subjective. In addition, even in practical examinations, examiners ask low order questions testing memory work of students instead of testing their concepts and ability to generalization. Introduction of CHECKLISTS and RATING SCALES will allow objective measurement of

skills. For instance, in the practical examination the student is asked to perform a certain procedure and the observer has a complete list of the steps of that procedure that he can check if performed by the candidate. This is called CHECKLIST. In RATING SCALE the response/performance of each step is graded into no performance, poor, average, good, very good in order to get its qualitative evaluation. These techniques can also be used for measuring objectives of affective domain, although this area can be best judged through indirect observations by more than one teacher over a long period. The repeated use of Check Lists and Rating Scales is equally useful for training of students in skills.

#### Example of a CHECK LIST

A medical student is asked to examine the abdomen while the examiner observes and tick marks the performance Yes or No.

#### CHECK LIST

steps of procedure	performs yes	does not perform no
1 introduces himself		
2 asks permission		
3 uncovers abdomen		
4 inspects for a moment		
5 corrects posture		
6 warms hands		
7 does superficial palpation		
8 does deep palpation		
9 palpates with deep breathing		
10 palpates in right lateral position		
11 palpates bimanually		
12 palpates for hernias		
13 examines genitalia		
14 auscultates abdomen		

Total Marks = 14

No= 0 mark, Yes= 1 mark

Example of a RATING SCALE on abdominal examination:

A medical student is asked to examine the abdomen while the observer not only tick marks the attempt of performance but, if attempted, notes how well the student has performed.

### RATING SCALE

Steps	not done 0	poor performance 1 Mark	average 2 M	good 3 M	very good 4 M
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
Marks					

Maximum marks 40

It should be noted that rating scales could not be marked by lay observers and will need experts to grade the student on the quality of each step.

**ORALS.** Oral Examinations, the way they are conducted now a days, simply test rote memory and are generally subjective. They are of special benefit in testing abilities of verbal expression in languages. However, if oral examinations are properly structured, they can be made objective and they can test interpretation, problem-solving abilities, and objectives of affective domain. For instance, giving students a problem in writing or data for interpretation in order to evaluate a situation or solve a problem even using improvisation and innovation will test the comprehension and creativity of students. In the process

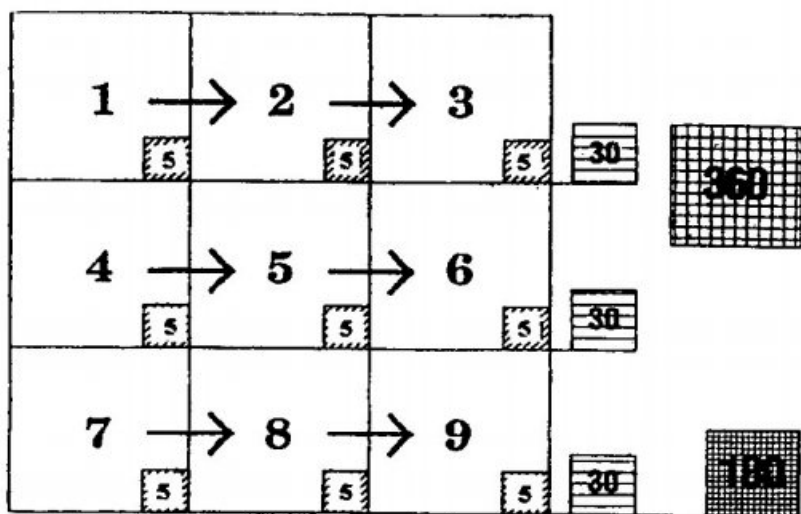
qualities of psychomotor and affective domains can also be observed and judged. While making structured questions for orals a group of examiners will have to agree on the expected answers, called key, to each question before its administration. Since conduction of such examinations for a large number of students will be time consuming for teachers and students alike, they will put the nervous students at a disadvantage, will be dependent on the integrity of examiners who may misuse them as instruments of victimization, favoritism, nepotism and corruption, their use should be limited to examination of languages and interviews of a small number of candidates by a board of examiners for highly selected purposes. Furthermore, proper structuring of oral examinations requires a great deal of effort on the part of examiners to write down selected problems with data, graphs, sketches, images, objects, specimens, instruments, etc intended to be put to the candidates with questions to be asked and expected responses/keys and the same set of material will have to be used for all candidates to ensure objectivity and justice. Because this is not easy to do for a large number of candidates, it is preferable to reserve orals for assessing a limited number of students for evaluating personality, aptitude, expression, concepts and intellectual abilities especially at the highest levels of education.


#### **(D) A PROPOSED PLAN OF EXAMINATIONS**


A plan of examination is proposed, in the light of the knowledge of characteristics and uses of examinations, with the application of appropriate techniques, for arrival at the goals and objectives of education. To ensure the success of the new system, teachers will have to be trained by putting them through a series of workshops on various aspects of education including the modern system of evaluation. Computer technology has to be made available in a phased manner at various levels of education as our resources permit, although a beginning can be made by using such tests in internal evaluations, before the arrival of computers, so that the students as well the teachers can get used to the

new method. It has to be agreed in principle that a greater reliance is needed to be placed on internal evaluation for achieving educational objectives. After all we have been relying on the system of internal evaluation up to class 8th without any fuss, then why should we not try it partially in higher classes for all its educational benefits described above. Informal internal evaluations like self-assessments, peer-assessments and teacher-assessments must be promoted in all educational set-ups. A proposed plan of formal internal evaluation that may be applicable in ideal circumstance is submitted for consideration:-

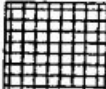
### A PROPOSED PLAN OF INTERNAL EVALUATION



1st Tier Evaluation =  = 45 Marks

2nd Tier Evaluation =  = 90 Marks

3rd Tier Evaluation =  = 180 Marks

External Evaluation  
(Board or University  
Evaluation)  = 360 Marks

**EVALUATION SCHEME**  
**INTERNAL/EXTERNAL**  
(SPREAD OVER 9 MONTHS)

**Total score = 360**

FIRST TIER EVALUATION can be formally administered at the end of completing instructions for achieving one or more specific objectives towards the end of every four weeks or even more frequently where feasible. The results of these examinations can be announced the following day for the purpose of feedback. There will be THREE or more such First Tier Examinations in each term of twelve weeks.

SECOND TIER EVALUATION or end of term evaluation can be administered at the end of each twelve weeks term in one or more subjects covering the instructions of the twelve weeks. There will be three or more or less such Second Tier Examinations in ONE academic year of about nine months. Each of the second tier evaluations should be followed by one week holidays for students.

THIRD TIER COMPREHENSIVE EVALUATION can be conducted at the end of academic session, two weeks after the last SECOND TIER EVALUATION, that will be covering the instructions of the whole year. Where there is a Board or university examination to follow, the THIRD TIER COMPREHENSIVE examination will be considered pre-Board or pre-University examination. This means that the 10th month of the academic year will be utilized in third tier comprehensive and/or external examinations that will be followed by two months of summer vacations. Such utilization of time is only possible if the present system of examination is completely replaced by the objective examination system that has become a standard practice in all the developed countries.

The scores of the first tier examinations will make fifty percent of the total score obtained after taking each second tier examination. Similarly the total score of the second tier examinations will make fifty percent of the total score arrived at after taking the comprehensive third tier examination. Where a university/external examination is to follow, the total score of the comprehensive third tier internal examination will be submitted to the University/Board and will make a previously determined



percentage (50 % or less) of the result of final external examination, i.e. out of total score of 360 marks, some marks (180 or less) will be contributed by internal examinations and the rest by the external examination. Whatever the final scores are, some percent marks should be based on internal evaluations and the rest on external examination. Some may feel that the weight given to internal evaluation may be kept low till the system gets established and gradually built up to 50 percent. The final score should be expressed as percentage out of 100 marks. The percent marks can be converted into letter grade or grade point average according to the following scale:

Percent Marks	Letter Grade	Grade Point
90-100	A+	4.00
80-89	A	3.67
70-79	B+	3.33
65-69	B	3.00
56-64	C+	2.50
50-55	C	2.00
45-49	D	1.50
Below 45	F	

The proposed plan can be modified by the teaching faculty of every institution according to its own varying conditions. The plan of internal evaluation must remain flexible to suit the changing circumstances of the institution resulting from unexpected closures, student's/teacher's strikes, natural calamities, electricity break-downs, political turmoil etc. Moreover, whatever has been said in this and the previous chapters do not and can not claim finality, for education is a dynamic science which will keep on changing. What is important is that the educationists, teachers, students, parents, administrators and all concerned with education must recognize the need for change in our system of examination and all must realize that dynamism is the soul of education without which progress is impossible. Unless the teaching community rises to the occasion and changes the system of examination for better, the present

system will not and cannot be instrumental in raising the standard of education and on the contrary will promote examination-based selective learning that requires only rote memory of knowledge.

Experience has shown that there is a great deal of resistance to change in the teaching community but a change in the system of examination is not so difficult and, if initiated, will have an overwhelming beneficial effect on the overall standard of education. The new system of examination is relatively easy to introduce, is least prone to fraud and cheating and will have an enormous positive influence on the teaching methods, learning habits of students and the performance of students and teachers.

To make the change easy for the teachers and students, a start must be made by every institution to adopt objective examinations at the end of every academic term simply for diagnostic purposes and feedback and also for promotion purposes where there is no University or Secondary Board examination to follow. In the second phase that may start after one year, but announced now, all institutions should start internal evaluation as proposed and all Secondary Boards and Universities should adopt objective examinations. It may be possible to adopt in the third year the consideration of scores of internal evaluations in the final score of external examinations as proposed above only in those examinations where the number of students is manageable and proper record-keeping of the scores of internal examinations can be ensured more easily, e.g. in post-graduate examinations and professional examinations. In the fourth year all University and Secondary Boards should adopt the system of internal/external evaluation as proposed in toto.

This combination of internal and external evaluation system will allow the institutions to utilize the benefits of internal evaluations for the sake of improved students' learning, to give due credit to the students for their performance in internal evaluations and the external

examination will provide a check on the performance of the institution. Moreover, frequent evaluations will provide opportunities for the administration and parents of the students to perform their roles in the education of students. The objective examinations will ensure justice to the examinees that will ultimately remove all suspicions, aspersions, misgivings, controversies and litigations that follow every examination in Pakistan. Lastly the objective examinations that can be taken in one or two days will save weeks to months of precious time of students and teachers every year that can be utilized for better and greater learning of students. Also the frequent internal evaluations will keep the students busy in studies and they will hardly ever get time for mischief and strikes. It is sheer madness that educationists of this country are wasting so much valuable time of students in the present outdated system of examinations. There is no doubt that changing the examination system to the objective type internal-cum-external evaluation will result in elevation of the overall standard of education in Pakistan. However the success of this system will primarily depend on the hard work and integrity of teachers. Demonstration of absolute honesty and uprightness by teachers in implementing a system of internal evaluation will create trust of students and their parents in this system and a time may come when the confidence in internal evaluation will grow to such a degree that we may do away with external evaluation and even adopt a flexible semester system except to hold Entry Examinations for higher education and for entry into professions and services for the purpose of grading and standardization.

It is probable that the above proposal may not be feasible for implementation in the vast majority of Urdu medium schools in the public sector. For these schools it is suggested that the government may do two things straightaway in order to prepare ground for the future plan of action. One: to start training of teachers on a mass scale on a war footing in the techniques of objective examinations, and two: to introduce monthly internal evaluations in all

educational institutions, by all practicable means and methods, for the purpose of feedback to all concerned. If every class is given a one hour test by every class teacher on the first Monday of every month, the result is declared and communicated to the administration and the parents on Tuesday and the result is discussed with the students on Wednesday with optional participation of parents and administration or their representatives, this alone will have a salutary effect on the standard of education in Pakistan. This should be the first response of those dealing with education to the universal public complaint regarding the falling standard of education, particularly in the government owned Urdu-medium schools in Pakistan.

Finally it is proposed that the government may identify persons who are already trained in education, particularly abroad, in evaluation. Even if 4 or 5 such teachers are available in each province, they can be entrusted the task of training teachers in evaluation in batches. If these teacher-trainers can spare three days a week for holding workshops, they will be able to train 25 teachers in about five weeks. In each trained batch 5 teacher trainers can be identified who will start training other batches of teachers. This process can be repeated with every batch and as a result more and more teacher trainers will come in action to spread teacher training to every part of the country. In this way at least about 100,000 teachers can be trained in about two years in each province if that is required. This project can also be undertaken with the help of foreign agencies and the money involved will be minimal and worth spending. The revolution that this training can bring about in education will exceed the result of all the efforts made for education in the last six decades.

### **KEY TO HYPOTHETICAL EXAMINATION**

- Q1. a    Q2. b    Q3. c    Q4. d    Q.5 e  
Q6. a    Q7. b    Q8. c    Q9. d    Q.10 e



## V

# DOES ENTRY TEST SERVE ANY PURPOSE ?

### ENTRY TEST

ENTRY TEST or Entry Examination had become a subject of public controversy in Pakistan since it was implemented for admissions to professional colleges in the public sector in 1997.

It was despite the fact that it had been in practice for many years in selection of students for admission to several professions, and educational institutions e.g. Armed Forces and Civil Services, Universities in Europe, the United States and Far East, virtually all private Schools, Colleges and Universities in Pakistan and all Professional and Cadet Colleges under control of the Ministry of Defense. This dissatisfaction had resulted partly from the allegedly insufficient planning before the introduction of Entry Test for admission to the two Medical Colleges of NWFP, for the first time in a format that was strange to the majority of students. Mostly it was due to the deficiencies of the candidates and the Secondary Boards, where many incompetent students secured high marks through cheating and use of unfair means and then could not secure the same scores in the Entry Test, thus providing grounds for creating hue and cry. Nearly over ten years have passed since the introduction of Entry Tests but students who get low marks against their high scores in the Board continue to allege irregularities in the Entry Tests. In this chapter no attempt is being made to discuss the reasons for the discontent of the unsuccessful candidates for admission to the professional colleges of NWFP. The Peshawar High Court and Supreme Court of Pakistan have already rejected their appeals once. Here an attempt is being made to elaborate the usefulness of

Entry Test to educational institutions and all others concerned as well as the strategy to be adopted for such a test.

## **PURPOSES OF ENTRY TEST**

Entry Test is the starting point for any student seeking to enter any educational institution. At this point every admitting educational institution has the right to know, through conducting an Entry Test, what kind of students it is admitting. The objectives of an Entry Test are to select for admission students with academic merit as well as appropriate personality and aptitude to meet the requirements of institutional objectives. Every educational institution is like a factory that needs raw material according to certain criteria and specifications, so that the factory is able to adopt appropriate manufacturing processes in order to mould the raw material into quality end-products according to needs of consumers in the society. Since the needs of society are supreme in consideration of determining institutional objectives, the institution has the obligation to lay down the specifications of the candidates at entry point and design appropriate test to determine which candidates meet the specifications of the institution, i.e. which candidates are most suitable for training in a particular institution? Furthermore such a test is very essential in view of the fact that the applicants for admission:-

1. come from a variety of socio-economic backgrounds,
2. have qualified from a variety of institutions of variable standards,
3. have qualified from a variety of Boards whose examinations are of variable standards, mostly subjective, lacking predictive validity and
4. in great numbers carry fake F.Sc. certificates and scores.

I detected as many as twenty admitted students to Khyber Medical College Peshawar from 1992 to 1994 originating from various Secondary Boards of the country

who were carrying fake F.Sc. certificates or falsely enhanced scores because of under-hand manipulation and were expelled from the college for good. In the absence of an honest Entry Test, those without merit succeed in usurping the rights of deserving students.

Lastly it is important to remember that whenever the number of applicants for admission to a particular educational institution is in excess of the number of available seats, and if they come from a variable background, the principles of justice demand that their relative merit must be determined by subjecting them to a single examination. In fact the merit so determined should form the primary basis of admission to all professional colleges to meet the provisions of Universal Declaration of Human Rights and the condition of Article 37(c) of the Constitution of Pakistan both of which emphasize equal access to higher education to all on merit. In fact the reservation of admission quotas for children of the privileged classes of society including the self financed seats for the children of the rich in universities and professional colleges in the public sector is a violation of constitution and fundamental human right and allows students with lower merit to get admitted on the strength of being children of rich parents at the cost of students carrying higher merit from the poor class. Fortunately, on March 24, 2001, the Supreme Court of Pakistan announced the judgment in appeals of medical students of Punjab declaring the reservation of seats for the children of army officers, doctors and overseas Pakistanis in medical colleges illegal and without lawful authority. I hope this decision will encourage other students with merit, who are deprived of their right by quota system or self-financed seats in all educational institutions, to approach the superior courts for getting their right.

The admitting institutions, the candidates, the Boards of Secondary Education, the feeding schools and colleges and the community equally share the benefits of Entry Test. Of course the full benefits of Entry Test will become



apparent only when it is given maximum credit in determining the merit for admission to professional colleges.

**BENEFITS TO ADMITTING INSTITUTION.** The Entry Test enables the institution to select candidates with the best academic merit and the right personality and aptitude as judged by the entry test and through interview by its own faculty and if it makes a wrong selection, the institution can only blame itself and not the Secondary Boards or the feeding schools and colleges where the students came from. The admitting institution can analyze the result of Entry Test every year and compare it with the subsequent collective and individual performances of the admitted students. In this way steps can be taken to improve the design of entry test every year in order to give it more predictive validity, reliability and objectivity. The result of entry examination can also reflect on the educational program of the admitting institution that can be modified according to the needs of the students, i.e. the weak areas can be reinforced in the curriculum appropriately.

**BENEFITS TO THE CANDIDATES.** The Entry Test will certainly eliminate the holders of fake certificates, the carriers of falsely enhanced scores and many more who succeed in the F.Sc. examinations through unfair means, to the benefit of deserving students. In fact many such students will not even dare take the Entry Test, lest it should expose their fraud. Hence Entry Test will protect the rights of those students who carry genuinely-earned F.Sc. certificates and scores, thus undoing the greatest injustice of the past that was because of total reliance on the results of Secondary Board examinations. Under the previous practice at least six precious months of the students between the taking of F.Sc. examination in March and the declaration of result in September were totally wasted. With the introduction of Entry Test, students now spend these six months preparing themselves for the Entry Test and the college teachers are able to facilitate their preparation, thus improving their knowledge and skills further, a great national gain indeed. One more benefit of Entry Test to the students is that if they

have made a wrong choice of the profession because of their ignorance or their falsely projected ambitions or the pressure of parents, such students can also be eliminated by a properly designed Entry Test. Lastly if by any chance a student could not do well in the Secondary Board examination due to reasons beyond his or her control, e.g. illness, accident, etc., he or she gets another opportunity to make up the deficiency in his or her scores by showing better performance in the Entry Test.

**BENEFITS TO THE SECONDARY BOARDS.** The secondary boards can benefit a great deal by comparing the results of their students in the board examination with their results in the Entry Test. The causes of all the major discrepancies can be investigated. The Secondary Boards can perform item analyses of the two examinations, correlate the conclusions in order to modify the composition of its future question papers for achieving better objectivity, reliability and validity. This is the best way that the Secondary Boards can rectify the faults in their system and practice of examinations. Then the Secondary Boards can compare the success rate of their students in the Entry Test with the students of other Secondary Boards and feed this information to the colleges under their jurisdictions. In turn the colleges can use this information for improving their instructional strategy for achieving better performance in the subsequent years. This approach may, in the long run, transform Secondary Boards into research oriented organizations. The Secondary Boards have already been influenced by the Entry Test in the last few years and they have included objective tests in their examinations. Similar changes have taken place in the examination system in colleges. Hopefully when the Entry Test will be improved further and given more credit in selection for admissions to higher education it will influence further the entire system of education in the country for achieving higher standards.

**BENEFITS TO FEEDING SCHOOLS AND COLLEGES.** The feeding schools and colleges can compare the results of their ex-students in the pre-Board tests, in the Board

examinations and in the Entry Test as well as correlate their results with students of other schools and colleges from the same Board and Entry Test as well as from other boards and Entry Tests. This will provide a plethora of information that can be used not only to improve the system and composition of examination but also the instructional strategy to the ultimate elevation of standard of education. This process can lead to a healthy competition between the schools and colleges to the benefit of students and the cause of education. The standard and scope of Entry Tests will also provide a sense of direction to the feeding colleges and schools in what to teach, how much to teach and what level of knowledge, skills and characteristics of personality are required of their students by the receiving professional colleges, universities and professions. Since the introduction of Entry Tests in NWFP visible changes have occurred in the schools and colleges towards improvement in the system of internal examinations that is encouraging.

**BENEFITS TO THE COMMUNITY.** The benefits of the Entry Test as discussed above are bound to result in improved standard of education, leading to production of better-prepared manpower for consumption by the community.

**STRATEGY OF ENTRY EXAMINATIONS.** The success of the Entry Test for admission to any institution and the benefits derived there from will depend to some extent on how well it is designed and how honestly it is conducted. Not to talk of the developed countries where colleges and universities of international repute have been successfully and beneficially conducting Entry Tests for many years, in Pakistan, Aga Khan University, Ghulam Ishaque Khan Institute of Technology, the Armed Forces Colleges and a number of other private institutions have been holding Entry Tests for many years successfully. It is suggested that the admitting institutions should take the following steps to make the Entry Test a success:-

1. Ensure the logistic support for conducting Entry Test.

2. Announce the admission policy at least one year in advance and publish the pattern of question papers simultaneously.
3. Select a core of honest teachers from the institution well in time, who should be trained in the technique of examination, to form an examination committee chaired by its senior most member. This committee should be enlarged to include subject experts of integrity from the feeding schools and colleges, an educational psychologist and an elected member of the community whose honesty is unquestionable.
4. The blueprint of the Entry Test should be prepared by the examination committee, members of which should be deputed to draw on the expertise of other institutions who have the experience of conducting Entry Tests. The blue print should be discussed with the representatives of academic councils of the admitting institutions and got approved.
5. The subject experts should contribute questions in the format, as decided by the committee, according to a table of specifications which should be discussed in a series of meetings to discard out of course and defective questions. The selected questions should be accumulated as a question bank in a computer. Questions from other unpublished sources can also be included after due screening of the questions, in order to enlarge the question bank as much as possible.
6. The preparation of question papers should be done on the morning of examination or a day before in strict secrecy from the question bank, allowing minimal possible gap of time between getting the printouts of question-papers and the administration of test. Several sets of question papers be made with scrambling of questions.
7. The Entry Test must be administered under strict supervision of a committee of dependable persons of

integrity who may be drawn from any walk of life but must be educated and known to be honest. Such persons should be briefed by the examination committee in advance regarding their duties that they will be expected to perform from the time of making the question paper to declaration of result. Of course this supervisory committee has to be assisted by a reasonable number of computer operators and supervisory assistants at the computer room and the venue of Entry Test who should not be teachers of the subjects of Entry Test and be persons of integrity.

8. The response sheets of the candidates should be fed to the scanner immediately after collection and the result declared, given to the press and put on the website on the same day, without any lag of time.

The success of Entry Test will largely depend on the proper design of the question papers but also on the speed of its administration from the moment of getting the question papers out of the computer to the moment of getting the result out of the computer, under the strict supervision of the responsible supervisory committee, allowing no time or opportunity for disclosing the question paper before administration or tampering with the response sheets and result. Since these points have been ignored, there is usually a great hue and cry against all the Entry Tests for the professional colleges of NWFP. In my opinion, if all the professional colleges and other educational institutions in Pakistan and other developing countries adopt Entry Tests for admissions, it will have a good effect on the educational standard. If the intermediate colleges and schools also join in this practice, it will have an overall good effect on education. Where the number of candidates for admission is small, Entry Tests can be taken pretty efficiently manually in the event of non-availability of computer and scanner. The teaching community owes it to the people to

introduce Entry Tests as one of the most important steps for improving the quality of education. Those in authority are urged not to delay the introduction of Entry Tests in their institutions in the best interest of the people. As Entry Tests get established, a good case can be made for introduction of a single provincial/national objective examination after intermediate level for admission to universities and professional colleges on the pattern of achievement tests as held in the United States of America, the European and the Far-Eastern countries. The Education Policies of Government of Pakistan of 1992 and 1998 had provision for the establishment of a National Education Testing Service; however it has not been established possibly because of lack of commitment on the part of successive governments.

I reviewed the Entry Test results of NWFP for admission to the two Medical Colleges and the Engineering University for 1996-97 and 1997-98. There were many obvious discrepancies between the scores of Matric, F.Sc. and Entry Tests despite the fact that the merit lists did not include those who scored high in F.Sc. and failed or did not appear in the Entry Tests. It is for the Secondary Boards and Intermediate Colleges to take notice of these discrepancies and find their causes. It is suggested that the merit list should also indicate the names of Secondary Boards, colleges and schools of origin of every candidate. The final list should be published every year and made available at nominal price to any one who wants to buy it. It should also be put on website so that every one can look at it with the click of the mouse. This will enhance the transparency of the Entry Tests and will facilitate their uses for feedback by all concerned as discussed above.

The formation of an independent examination authority by the name of Examination & Testing Authority (ETA) by the Government of NWFP was an excellent step. So far this authority has performed well in conducting the Entry Tests. The ETA needs to take up the job of training

examiners in making objective questions, an expertise that should be transmitted to more and more teachers for bringing a change in the system of examinations in the colleges and schools.

The future candidates for admission into professional colleges and universities and their parents must try to understand that education lays the foundation of the quality and character of the manpower that the country needs for its survival. The present pathetic political, moral and socioeconomic state of our poor country is largely attributable to the poor quality and character of the manpower that our educational institutions have been producing in the past. The present state of affairs in education is every day getting from bad to worse, spelling bigger national disasters for the future. If they have any desire to pull out their nation from marshes of the all round decline, decay and degradation, they must support complete revamping of education. The most important first step required in this direction is the introduction of clean and honest Entry Tests for determining the true merits of candidates seeking admission to colleges, universities and professional education. This in turn will transform testing methods in Boards, Colleges and Schools that will play the greatest role in elevating the standard of education.





## VI

# WHAT ARE THE BASIC NEEDS OF FORMAL EDUCATION?

Any hope of catching up with the progress made by the developed world and the standard of living achieved by the people living there cannot be approached, let alone giving the same to our people, unless we raise the standard of knowledge, skills and behavior of our populace. Various shortcut methods adopted by successive governments in most developing countries for raising the standard of living of people have made no headway except that these have widened the gulf between the rich and the poor, enabling the rich to amass wealth through corruption, fraud and exploitation of the poor and allowing the poor to reach abysmal depths of deprivation, hunger and disease. Pakistan is a poor country, but many of the government functionaries in the higher echelons of political and bureaucratic hierarchy live beyond their means and are seriously blamed for open corruption. This state of affair has been vividly exposed and proved beyond doubt to be worse than hitherto believed till today. From the very top to bottom the rulers, politicians and bureaucrats have looted and robbed this poor nation.

According to the census held in 1998, 55 per cent of Pakistanis were illiterate, 75 per cent of females were illiterate and at least 30 percent were below poverty line. Some improvement has taken place according to 2006 Annual report of State Bank of Pakistan that indicates a reduction of 8 % in overall illiteracy and 15 % in female illiteracy. It is high time that we stop following the wrong policies of the past, control corruption and lavish governmental expenditure and bring education to top priority for the future development of our nation, even if we have to

live a life of austerity for the next two or three decades. Adoption of such a policy will enable the country to produce top grade manpower in twenty to thirty years who will deliver to the nation with expertise, honesty and dedication. Once education is made the foremost priority of the nation, its basic needs have to be met so that the system of education can be drastically reformed. Experience has shown that no new system of education can be implemented efficiently and productively unless the basic needs of education are met.

### **THE BASIC NEEDS**

The basic needs of education, although inter-linked, can for convenience be discussed under the headings of STUDENTS, TEACHERS, PARENTS, FACILITIES, ADMINISTRATION and PLANNING.

### **THE STUDENTS**

STUDENTS are the focal point of education like the raw material that goes through a process to become the end product of formal education. The quality of the end product largely depends on the quality of the raw material. From this point of view, we need to pay serious attention to the needs of pre-school children from the day they are conceived in the wombs of their mothers, so that a solid foundation of a healthy, disciplined yet inquisitive and civilized individuals is laid at this early stage.

### **CARE OF PRESCHOOL CHILDREN**

It is said, "well begun is half done". We need to lay major stress on promotion of reproductive health, maternity and child welfare, specific control of childhood diseases and development of physical and mental growth of children with good nutrition, clean and disciplined habits in an environment which is conducive to physical and mental growth. In this complex function the parents, the medical profession, the nutritionists, the environmentalists, the population planners, the town planners, the municipal committees and corporations, district councils, the press and

media, the teaching profession, the educational institutions and the universities and all the concerned government departments and NGOs can play a great role to prepare excellent raw material for entry into education. The greatest attention should be given to education and training of parents, particularly the mothers more than 60 per cent of whom, as claimed by the government of President Musharraf, are illiterate in Pakistan. Education of childrearing mothers must be done on war footing through press and electronic media preferably in regional languages to benefit all. Child specialists, obstetricians, nutritionists, educational psychologists, primary school teachers, child welfare centers and maternity homes should be involved in this important mission. Ideally the elementary schools should register the families of those children who intend to seek admission of their babies in their schools. The schools should organize training courses for these families, mothers in particular, on child rearing and up-bringing with the support of all concerned agencies.

#### CARE OF SCHOOL GOING CHILDREN

Once the children enter the educational institutions, they must, throughout, remain the focus of attention by the parents, the teachers, the government and the community, in coordination, so that their legitimate physical, mental and social needs are met and they are not allowed to go astray. Every one agrees that politicians are amongst the biggest culprits who ruin education in the developing countries, specially in Pakistan. They have involved students in politics and their teachers too and made them conscious of their power but not of their weaknesses, of their rights but not of their responsibilities, of their nuisance value but not of their great value in preparing themselves for the future to act as agents of change for the better in society. Of course, this involvement in politics has been added on to by many parents and teachers who are themselves involved in politics and do not hesitate to use the students for achieving their selfish interests and political ambitions. In fact, in nearly all universities and colleges an unholy alliance has developed

between the nonacademic type political minded students and incompetent teachers and administrators as a result of which these students protect their allied teachers and administrators and in return they get all the undeserved favors in examinations and other matters. Students have been allowed membership of political parties and formation of political federations for which they are provided funds, arms and ammunition and are even nominated for elections to assemblies and sponsored for contesting elections. Senior and so called responsible politicians plant students of their choice as office bearers of political federations. They actively misuse them for achieving political objectives, for which the students are provided funds and all kinds of facilities under the sun. Many other favors are showered on such students profusely. No political party can claim immunity from this shameful practice that has destroyed discipline in educational institutions and that has been condemned by all sections of the society including the Supreme Court of Pakistan. Yet little has been done or could be done to eradicate this cancer from the life of students. Students need to be provided with healthy environment in the educational institutions, free of external influence and interference and conducive to growth of well balanced wholesome personalities.

Maintenance of discipline of staff and students in the educational institutions is the most important requirement of education that must be ensured by all concerned. Admitted that freedom of expression is the democratic right of students and staff provided this is exercised in a purely academic environment without any interference from politicians and political parties. This used to be the case in most educational institutions before the partition of India and it is much more needed after we have become an independent nation. Banning of student unions by the martial law regime in the early eighties has brought remarkable improvement in adherence to the time schedule of studies and examinations resulting in saving precious years of students. More can be achieved if the students' federations

are effectively banned but that cannot be done without the sincere cooperation and support of politicians. It is a shame that the majority of students and all the political parties have paid no heed to the advice of the father of the nation Quaid-I-Azam Mohammad Ali Jinnah who said, (21st March 1948, address to Public Meeting at Dacca)

“My young friends, students who are present here, let me tell you as one who has always had love and affection for you, who has served you for ten years faithfully and loyally, let me give you this word of warning; you will be making the greatest mistake if you allow yourself to be exploited by one political party or another....Your main occupation should be - in fairness to your self, in fairness to your parents, in fairness to the state - to devote your attention to your studies.”

## **THE TEACHERS**

Teachers are the builders of the personality of a student from the kindergarten to the highest level of education. Next to parents, it is the primary school-teachers who lay the foundation of the personalities of their students. In one way teachers are more important because a teacher can influence the personalities of a large number of students through out his carrier while parents can affect a few for a few years. The central role of teachers in education is undeniable. In fact the destiny of any nation depends on teachers who are the sole architects of the quality of national human resources.

## **QUALITY OF TEACHERS**

Teachers must be of top quality if at all there is any desire of producing the best quality end product of educational process. This can only happen if teaching profession is made the elite of all professions by providing teachers better status, salaries and amenities by the government and the private sector and recognition is given to the services of teachers at all levels. For this purpose teaching profession should also be included in the ambit if

Central Superior Services (CSP); Only then will talented persons get attracted to adopt teaching as a career.

## THE ROLE OF PRIVATE SECTOR

The induction of private sector in education has already resulted in better salaries and emoluments for the teachers and if the public sector does not follow suit, education will deteriorate further in government owned schools that cater for the majority of the population. However the free license given to private sector has also led to emergence of large number of poor quality educational institutions that need to be regulated. The salaries of school-teachers in public sector who have master degrees are nearly half of the illiterate skilled laborers, which is deplorable and the cause of shortage of teachers. Moreover only those join the teaching profession who are rejected from everywhere. To correct this anomaly the government should be prepared to pay newly inducted teachers at least twice of the illiterate skilled laborers.

## TRAINING OF TEACHERS

Appropriate professional training of teachers in educational process and in the subjects they teach as well as in the related administrative and managerial functions must be made prerequisite for joining teaching profession. In-service training of the school teachers must be organized continually and summer vacations should be utilized for this purpose. Teachers are not entitled to 3 month summer vacations, which are meant for the students only, like the other government servants. Two months of the summer/winter vacations should be utilized for in-service training of teachers and they should be allowed long study-leaves for improvement of qualifications. Recently, the government of NWFP has separated administrative and teaching cadres in education aiming at improving the managerial and administrative abilities of the educational administrators while teachers can concentrate on teaching. This step is highly welcome and will have, hopefully, a very good effect on education.



When young people will see that the teachers occupy the highest pedestal among professions in the society (better than Civil Services, Judiciary, Armed Forces, etc.) commanding the greatest respect of the community and the government alike, the most talented among young students will aspire to become teachers. Also, it must not be forgotten that teachers of universities and professional colleges are at the forefront of conducting research in different fields, accelerating the progress of the nations in science and arts that is in turn dependent on the availability of excellent research facilities and attraction of the best talent of the nation towards teaching.

### THE ROLE OF COMMUNITY

It must be remembered that teachers render a community service that demands close liaison with members of the community. Teachers must be accountable to the community for their performance. Conversely, they should be able to obtain maximum help of the community for promotion of the welfare of students that lies in good education in a disciplined environment. Such a close relationship and cooperation between teachers and the community, particularly the parents, is possible to develop only if representatives of the community and parents in particular are involved in the affairs of the schools and colleges and teachers are permitted to stay on the same station as long as both the parties are satisfied. In other words a teacher should be appointed to a particular institution or a certain district on contract basis and his or her contract should be renewed every three to five years as long as his or her performance is satisfactory and is acceptable both to the teacher and the administration-cum-community. The present system of permanent appointment of teachers and the use of transfer as the only way of reward or punishment has damaged the cause of education immensely and has been the big source of corruption. For those teachers who are already in regular service their continuation of service should be strictly based on performance.



## CARING TEACHERS

Teachers are often blamed for making the environment of schools unfriendly and unpleasant to students and are considered responsible for the large number of dropouts from primary and secondary education. This is certainly so particularly in the schools in public sector in the rural and tribal areas. For this purpose corporal punishment of students must be banned. Teachers must encourage students to ask questions and enter into discussions. Reward and incentives should replace the use of punishments as far as possible. Teachers should give equal importance to the curricular and the so-called extracurricular activities of students not only for imparting holistic education but also to make formal education a more enjoyable experience. Teachers should act as guides and helpers to students in solving their academic as well as social problems for which they must allocate reasonable amount of time. Such an approach will go a long way in preventing absenteeism and drop-out of students from educational institutions and will in the final analysis promote learning to achieve educational objectives and goals.

## SELECTION OF TEACHERS

Finally the selection of teachers for educational institutions demands great care. Merit in selection of teachers must be adhered at all costs. Needless to say that a teacher should be physically fit. Strict criteria of knowledge, skills and attitudes should be spelled out for selection of teachers such as:

- a). Knowledge. Teachers should have laid out educational qualifications in the subject they are expected to teach. They should be having at least graduation for schoolteachers, master for college teachers and Ph.D. or equivalent for postgraduate education. In addition a prospective teacher should have a diploma or adequate training/experience in pedagogy. Past experience in teaching and research should be given sufficient weight.

- b). Skills. Skills that are important for teachers include speaking, listening, reading and writing skills, computer literacy and managerial skills (for administrative jobs). Expertise in one or more para-curricular activities is a valuable asset of a good teacher that must be given credit.
- c). Attitudes. Attitudes of teachers include spirit of service to society, quality of leadership, liking for working in collaboration with other colleagues, flexibility, fondness of working with young people, integrity of character, sense of responsibility, punctuality, tolerance, patience, mental stamina for hard work and perseverance in solving problems through negotiations. Teachers must be kind-hearted, clean, polite and free of addiction to smoking, naswar (oral snuff) and other drugs. Lastly, the selection process of teachers for entry and promotion should be transparent, strictly on merit, objective, valid, reliable and performance based so as to ensure entry and promotions of quality teachers for imparting quality education.

## **THE PARENTS**

Parents are basically responsible for the present serious deterioration of educational standard and decay of the character of their children. In the first instance many parents themselves provide to their children an example of spoiled personalities who are copied by the youngsters. The rich parents are too busy in amassing wealth and the parents from the poor class are occupied by their struggle for existence. As a result, little attention is paid to the upbringing of children that is not regarded as an important consideration of short-term consequence and the long-term outcome is left to fate. When children grow up and are found to be incompetent and unsuccessful, these parents go out of the way to adopt all unfair, unjust and corrupt methods to ensure the success of their offspring throughout their lives in clearing examinations, getting admissions to professional colleges and universities and in getting jobs, transfers and

promotions. This destructive trend in the behavior of parents is spelling disaster for the future of the poor nations. If we can, through public education, make the parents conscious of their responsibility towards the upbringing of their children, it will go a long way in changing the future of the poor countries for better. Parents must realize that they are more than equal partners with the teachers, school administration and the community for the physical, mental, social, moral and spiritual growth of their children. Parents need to work in coordination with teachers and others concerned in an atmosphere of mutual trust and respect for the development of their children. Parents in general and the mothers in particular must pay full attention to the conduct of their children when not at school, building their sense of responsibility, caring attitude, disciplined habits and self esteem.

#### PARENTS AS CAUSE OF POPULATION EXPLOSION

Needless to say that parents alone are responsible for the population explosion by producing a large number of children in the developing countries. This contributes to a great extent to poor quality of upbringing of their children and, at national level, reverses the gains of all efforts towards social and economic progress. While the number of schools in Pakistan has increased several fold since the creation of Pakistan in 1947, the five-fold increase in our population has not allowed any significant increase in literacy rate. The increase in other resources e.g. water, energy, minerals, food, cloth, transport, medicines and hospitals has also miserably failed to keep pace with increase in population resulting in increasing pollution, overcrowding, unemployment, shortage of food, clothes and all consumable products, lack of shelter, poor health, rising prices leading to poverty and hunger. Over-population, poverty, lack of literacy and absence of quality-education work in a vicious circle that can best be broken by promoting universal literacy and quality education. Intensive public education for involvement of parents in the process of upbringing of the children and their education are badly

needed in all developing countries. In this context education of the present and future mothers deserves top priority (refer to Part II, subheading Education on Population Control). Parents must realize that the proper upbringing of children is becoming extremely expensive and therefore the size of the family must remain well within their means.

## **FACILITIES**

Lack of facilities in educational institutions is often cited as a reason for poor standard of education in our country. It is accepted that certain minimum basic facilities, commensurate with the available resources, are essential at all levels of education in different fields that can be determined by the experts and the state can ensure their provision. Everyone knows that all educational institutions should be built away from noise of traffic, in clean surroundings with adequate space, sufficient ventilation, lighting, seating and writing facilities, chalk and blackboard, quality text-books, stationery, teaching aids including audiovisual aids and computers with internet access, classrooms, libraries, laboratories, heating and cooling arrangements, potable water for drinking, canteens, toilets, boundary walls and adequate facilities for extracurricular activities including indoor and outdoor sports. Facilities for the so-called extracurricular activities are often not provided in most educational institutions in developing countries as if they have nothing to do with the curriculum as the name implies. In fact, these concern the most important domain of educational curriculum, i.e. the Affective domain that deals with development of personality and character, and for physical and mental fitness.

Some very depressing figures have been reported by the Consumers Rights Commission of Pakistan in April 2006 revealing 22,755 schools without shelter, 61,363 without drinking water, 96,708 without electricity, 76,312 without toilets and 71,681 with no boundary walls. Similar figures have been reported in the National Education Census (NEC) released by the Federal Education Ministry of Pakistan on

October 6, 2006. According to NEC, in the year 2005, 56,094 schools were without boundary walls, 46,766 were without drinking water, 81,633 were without electricity, 57,216 were without toilets and 9,776 were without buildings. (Sadly none of the two surveys have taken notice of the absence of facilities for sports and other so called extracurricular activities.) This is despite the efforts of the President Musharraf's government that has reduced these deficiencies by nearly 15-20 per cent in 5 years although the government claims to have increased the allocation of funds to education from Rs.75.88 billion in 2000-2001 to Rs.207.14 billion in 2006-2007.

One reason for this disparity between 2.5 fold increase in funding and slow pace of improvement in facilities is the poor utilization of funds which are released 3-6 months after the announcement of the budget in June and have to be spent by March next year. This allows less than 3-6 months for spending the released amount. I asked The Federal Education Minister of the previous government in a recently held conference at Peshawar that why the sum allocated to education largely remains unutilized and has to be surrendered every year in the month of April, when it is re-appropriated for purchase of luxury cars, furniture, appliances and equipments etc? He, apart from blaming the provinces for poor performance, showed his helplessness and put the blame on the Ministry of finance for delayed and incomplete release of funds on one or the other pretext. A report by Center for Peace & Development Institute, Islamabad, published in The News International on June 3, 2007 i.e. towards the end of financial year 2006-2007, confirmed that "only 20% of educational allocation was spent so far." This was further explained by the Federal Ministry of Education in a report on June 6, 2007 in the same paper to be due to delayed release of funds. I am sure some one at the helm of affairs can look into this problem and ensure that the funds allocated to education are released well in time, are non-lapsable and spent on education other wise such allocation will be considered a mere eyewash.

There are numerous slips between allocation of funds in the budget, release of funds to education department, disbursement of funds to implementing agencies (interrupted by hierarchical pilferage and embezzlement), delayed and incomplete utilization before the cup reaches the lip. This reflects the poor governance due to lack of will and priorities of the government for education.

Since Provincial Government is responsible for implementation in education, it should ensure that:

1. it investigates what is its share in the 30,000 countrywide GHOST SCHOOLS, fix responsibility and adopt necessary measures to rectify this shameful situation and prevent its recurrence.
2. it identifies what is its share in the 17,000 countrywide school-less villages and school-less urban blocks through a comprehensive survey and arrange finances for making schools where required, furnishing, equipping and staffing these schools, so that 100 percent of children are able to enter schools.
3. it determines which schools are short of facilities as pointed out in the two surveys mentioned above and make up these deficiencies in the shortest possible time.
4. the funds allocated to basic education are enhanced, made non-lapsable and are utilized 100 per cent with absolute transparency.
5. in secondary education, for the purpose of training of students in productive/earning/technical/vocational skills, workshops are provided in every school and college.
6. where schools are at a distance from the residences of students, free-transport facilities are provided.
7. basic education up to metric is made compulsory and free.



8. students from poor families are provided free books, stationary, school bags, uniform and even food-supplements e.g. vitamins, milk and biscuits.

It is reported that in Bangladesh free lunch is provided to schoolchildren that has increased the enrolment and attendance of children enormously. Why shouldn't such a scheme be introduced in schools in Pakistan and other developing countries? Schools should be made safe and secure particularly for girls in view of the poor law and order situation in poor countries.

According to international recommendations a developing country should spend at least six per cent of the GNP on education; that is more than thrice what Pakistan allocates to education and more than 15 times what it reportedly spends. More than half of what it spends is misappropriated. This is one major reason why education has deteriorated in Pakistan over the last over sixty years. It needs a strong political will to modify our priorities and rectify the miserable governance in Pakistan.

A minimal reduction in our defense budget and its diversion to education, as suggested by the late Dr. Mahboobul Haq, will probably do the trick. Moreover there is no dearth of foreign aid for educational development, provided our government machinery tunes itself to better utilization of funds. At the moment large sums for development of education are embezzled and political consideration, favoritism and nepotism instead of merit are the basis of selection of school-teachers, staff and students.

However, once such major mismanagement is rectified and the minimum essential facilities are available, the quality of education will largely depend on the joint efforts of the students, the teachers, the parents, the administrators, the community and the state. It is hoped that the underdeveloped nations will realize that basic education is the fundamental right of all children. It should be universally made available - indeed made compulsory - even with the minimum available facilities and should be made



free for the poor. Furthermore, it is important that the minimum equal opportunities of education are provided to all. After all, who knows where the geniuses of the nation lie? Only the minimum equal opportunities of education to all, at least at the basic education level, will bring out the entire talent of the nations for brightening the future of their countries. Basic education has to be made of the highest quality for all in order to provide a strong foundation for the higher education. No building will ever stand on a weak foundation. No amount of expenditure and planning will elevate the standard of higher education unless the base is made strong for which the priorities of the government must change.

Provision of equal educational opportunities of the same standard to all is a fundamental human right. However, equality of opportunities does not mean suppressing the effort of individual private educational institutions in attaining higher standard of education that should, on the contrary, be encouraged and supported. The private sector must be encouraged to participate in providing education at all levels since the government of Pakistan has failed to achieve universal education for so long. It is essential to impose regulations for ensuring minimum standards of education in both the private as well as public sector and to prevent exploitation of education for making wealth by the entrepreneurs in private sector. However the regulations should not be allowed to have a negative effect on healthy competition towards excellence. While giving support to the private sector the rulers must not forget that they cater only for the needs of children from the upper and upper middle class while 80 % of children coming from the lowest and lower middle class depend on the public sector schools that are grossly deficient in quantity and quality and as a result a very large number of children are trapped in the net of Dini Madrassas that many of them breed extremism. It is a pity that, after six decades of independence, the educational facilities of our country are still grossly inadequate, substandard and even subhuman, particularly at the school

level, while the standard of living of the rulers and the ruled belonging to upper and middle classes has risen enormously. This is the state of affairs in most poor countries. It is high time that this suicidal trend is reversed and enough funds are allocated and spent on providing facilities for universal and quality basic education. In this lies the hope of alleviating poverty from the poor countries and putting them on the path to progress and prosperity.

After ensuring the basic needs of quality education at primary and secondary levels, the states should also ensure that the basic facilities to all the three streams of education, i.e. vocational, professional and university education, are available in order to secure the production of a very high quality manpower for their national reconstruction, development and sustenance. For those who cannot afford education after Matriculation or Intermediate, a substantially larger number of those taking vocational education, should be sponsored by the state and other agencies concerned on merit but a smaller number of others with the highest merit going for professional and university education should be sponsored as encouragement. The sponsorship of individual students can be in the form of interest-free loans repayable later in practical life. Such sponsorship can also be provided by the future employers who should be involved in educational matters. However the self-finance scheme introduced by the government of Pakistan in state-owned institutions only helps the undeserving students from the rich class which is not justified whereas poor students with high merit are left out from admission to institutions made with public money.

The one "facility" that is sadly ignored in our educational institutions is TIME. People at large look upon time as a cheap commodity that they can afford to waste. Hardly ever any chief guest comes to a function in time. Most of the politicians, public office bearers, administrators, bureaucrats and teachers are late for their duties. Lately a general trend has developed in all sections of society to go to bed late and get up late and go for duties late. As a result the

young students also adopt the same care-free, lethargic attitude towards time, often coming late to classes, absenting themselves from classes, demanding holidays on little justification and not hesitating to declare their own holidays or go on strike on very flimsy grounds. It is not possible to reverse this trend in students by giving sermons. The best way is that the leaders in society in general and the parents and teachers in particular set a personal example of punctuality and duty consciousness. This should be accompanied by proper implementation of the rules of attendance with a built-in system of incentives for punctuality and better attendance and adoption of corrective measures for defaulters. Unfortunately in Pakistan the politicians are always on the side of students when there is a dispute between students and the teachers or administration, even when students are in the wrong, in order to remain popular among students who offer a larger vote bank than the teachers for future elections.

In his statement on television the Education Minister of NWFP from a previous government himself admitted that the schools and colleges in his province are open for merely 150 days in a year. According to a survey by education department of NWFP conducted in 2007, teachers at the government-run schools perform duties only for 120 days in a year while in private schools they work 285 days per year. In my opinion it should be ensured that educational institutions in the public sector are functional for nine months (270 days) a year. The summer vacations, or winter vacations in case of cold areas, should be curtailed to two months in one year and all other holidays should be accommodated in another one month. A standard academic session ought to be of nine months. In fact it is on this basis that the educational curricula are prepared in this country. No one should expect to check the falling standard of education if students and teachers have 4-5 months in which to accomplish the work of nine months. Perhaps the only exception where longer summer and winter vacations may be allowed are in most of the primary schools and some middle

schools in rural and tribal areas that have no electric fans for summer and no heating facility for the winter, because the young children need to be protected from extremes of temperature. However, it should be possible in due course to provide heating and cooling facilities in the class rooms and transport to enable these schools to limit summer/winter vacations to 2 months in a year.

Teachers should not ruin the vacations and holidays of students by giving them loads of homework. Holidays are meant for relaxation, recreation and enjoyment of students. Teachers may guide the parents in how to occupy children during holidays in healthy recreational and entertaining activities of children's interest for academic, social, physical and moral development. Involvement of children in sports, hobbies, visits, traveling, summer camps and social functions can be very entertaining and yet immensely helpful for personality and character development.

Establishment of an efficient school health service is essential for the promotion of health of students and prevention of diseases. This service should continually educate students on the role of nutrition and exercise in promotion of health, on the importance of personal hygiene, cleanliness, timely vaccinations, moral sexual conduct, abstinence from smoking and other addictions and the significance of early reporting of symptoms of illness in the prevention and effective cure of diseases.

**ADMINISTRATION.** In all fields of activities, good administration is the key to success. This fact equally applies to education. Hence educational administrators should be not only well versed in educational process but be also highly motivated to the cause of education and should be well trained in managerial abilities of running educational institutions. At present the appointment of administrators in schools and colleges in Pakistan is made purely on seniority and irrelevant professional qualifications. As a result of this policy some heads of educational institutions may prove a success but many more prove a failure. Educational administration should be made a specialty in which selected

teachers with the right aptitude are trained at the employer's expense. The separation of the cadres of teachers and educational administrators will improve the functioning of educational institutions a great deal. Like teachers institutional administrators should also be made accountable to the community and their service conditions be changed as suggested for teachers.

However idealistic they may sound, the above needs are basic to the success of any educational system. It is my belief that by upgrading and comprehensively reforming the education of our children, we can take our nation out of the downhill course of physical, moral, social, political and economic degradation that seems to be our destiny. Mere slogans of eradicating corruption, by those whose past is soaked in corruption, lies, hypocrisy, wicked exploitation and immorality, will do no good to our country. It must be understood by our people that the foundation of corruption, hypocrisy, fraud and immorality is laid in the educational institutions of our country. As a result each new generation is more corrupt than the previous one. We badly need to universalize basic education, regulate the scope of higher education according to our national needs and completely revamp education, so that it will produce the next generations of honest, hardworking, dedicated and patriotic young men and women who will take over the affairs of the country in future. Most of the present crops of men and women who run the affairs of our poor country within or without the government, including those who are waiting to take over the government, are beyond the scope of any remedy. However, they can do a favor to their children and grand children by changing their priorities and making education and its basic needs the foremost necessity of our nation for survival. Unless this is done, posterity will not forgive them for what is being done to this country.

**PLANNING.** Appropriate planning of education to meet the needs of the nation at federal, provincial, district and local community levels has never been given due attention in most developing countries including Pakistan, thus resulting in

Pakistan in 50 per cent out of school children, another 50 percent drop-outs from primary education and 20 per cent drop-outs from secondary education, poor quality of education, misdirected education, frustration of students during and after completion of education, unemployment and exodus of talent to foreign countries. According to National Education Census 2006, in Pakistan 6,149 urban blocks and 10,908 villages have no educational institutions. This reflects poor planning indeed. It can be said with good reason that universal primary education must be made compulsory, while basic education up to Matriculation and Intermediate level be regarded as a fundamental right, the facilities for which should be ensured for every individual as soon as possible. After this level, vocational and higher educational facilities must be properly planned according to needs of the countries. After secondary education the students will get into three streams of education: vocational education, professional education and university education. If the national facilities in these three educational sectors can be appropriately adjusted to the future needs of the country, and admission of students in these streams is done strictly on merit, it will reduce the problem of unemployment enabling the students to look forward to a certain future. As a result, this will motivate them to work hard and will reduce the brain drain from poor countries. Such planning is one of the basic needs of education in the underdeveloped countries that must be adopted on priority basis to enable the future custodians of their countries to move forward as a happy, hopeful and coordinated team and not as aimless, disgruntled, disillusioned, frustrated and confused group of lawless young people. The educational planners must understand that unplanned expansion of higher education in Pakistan, both in public as well as in private sector, has not only caused serious unemployment in the educated youth of our country but has also resulted in social evils amongst the young graduates and has taken away the incentive of a secure career from the minds of the students, killing their motivation towards studies. This has led to widespread restlessness, addictions, indiscipline, lawlessness and



disturbances in the student community all over the country. In fact, this deterioration in educational institutions has added a great deal to the overall worsening of the law and order and deterioration of socioeconomic conditions in Pakistan. A serious thought must be given to streamlining the education according to needs of the nation by developing a partnership between the educationist and the employer. The participation of employers in planning and administration of education will bring a sense of direction to education both in quantity and quality. Not only that, but it will beneficially attract the economic participation of the employers in the educational process. Therefore employers and educationists must become partners in arms in a revolutionary effort to revamp the entire system of education in Pakistan, of course, with close collaboration of the representatives of the people.

Lastly Urdu-medium schools in Pakistan that are owned by the government and cater for children of the poor and lower middle class, who constitute 90 per cent of the population, need special attention. These schools practice a system of education inherited from the colonial past that can only produce baboos (clerks). A crash program for training of teachers of these schools in modern concept and trends in pedagogy is badly needed. The syllabi need to be updated to meet the goals and objectives of education. There is need for introducing English as a subject from the kindergarten. The medium of instruction for science subjects should be English. The instructional strategy will have to be modernized in accordance with principles of learning. The system of examination must change to a mixture of continual problem posing objective internal and external evaluation so that examinations can be used for diagnosis and feedback. Quality of education also needs appropriate teachers-students ratio. Overcrowding of educational facilities seriously hamper quality of education. Governments and entrepreneurs of private schools and particularly professional colleges have been, in the past, guilty of destroying the quality of education by enforcing larger number of admissions than what could be accommodated. Sticking to the ideal number



of admissions to educational institutions and such other changes can be brought about in a year or two and will certainly elevate the standard of education.



## VII

# WHAT SHOULD BE THE PRIMARY CONCERN OF MEDICAL EDUCATION?

Since time immemorial, human beings have lived in communities based on principles of mutual protection of common interests, interdependence and division of labor, recognizing the role of parents to produce, nurture and grow families, of farmers to produce food, of clergy to lead and teach religious affairs, of butchers to provide meat, of cobblers to make and mend shoes, of young armed men to ensure external and internal security, of teachers to educate, of builders to build, of chosen elders to ensure justice, of heads of communities to rule, of healers to heal and so on. This well-knit organized system of community life enabled the community to survive the hazards of life and overcome all hostile forces. The more men and women got civilized, the more they developed and protected community life. With passage of time, communities learnt the benefits of peaceful co-existence and cooperation, merging themselves into states and nations. Doctors have been at the center of this communal network, this philosophy of interdependence, physically, mentally and emotionally involved in the total care of human health, much more than any other profession and therefore earned the maximum trust, respect and love of the people and the title of "THE NOBLEST OF ALL PROFESSIONS."

### DISINTEGRATION OF COMMUNITY LIFE

It is a general observation that after the second-world-war cracks have appeared in this organized community life, in the commitment to the rights of the family, community and nation, affecting members of all

professions, but it is painful to note that doctors, who are members of the most revered profession and who have been closest to the hearts of people, have violated their commitment to the community more than any one else. Members of the medical profession have displayed the maximum trend among the educated professional classes, of abandoning their parents, families and communities, migrating to bigger cities and richer countries, in quest of selfish ends of better material gains, and higher living and working standards. They act as if they owed nothing to those who carried them in their wombs, to those who loved them, fed them, provided them clothes, shelter, medicines, education, means of communication and what not, enabling them to stand on their own feet. However there is no aspersion on those who rightly travel to bigger cities and developed countries for some years for the purpose of improving their knowledge and skills and return to their homeland after completion of studies and training. Today many doctors are guilty of being responsible for ignoring their own kith and kin in rural villages, tribal areas and even in cities by their exodus to bigger cities and more prosperous countries. In fact this sordid phenomenon is not peculiar to Pakistan alone but has affected all countries of the world including the United States of America. What went wrong that led to this disintegration of community life, specially affecting the medical profession?

### **FAULTY TRAINING OF MEDICAL STUDENTS**

The leaders of the medical profession are of the opinion that although materialism is one major reason for bringing this change in attitudes of young people in general but in addition something has seriously gone wrong with the education of doctors, resulting in emotional and subsequent physical detachment of doctors from their families and communities, much more than other educated classes. Perhaps the earlier part of education at home at primary level and secondary level is equally responsible for damaging the attitudes and social values of young people. It is at east true of Pakistan, where literacy rate of parents is

very low, particularly of mothers, teachers are poorly educated and not trained in how to educate, national goals and objectives of education are unknown and not determined, educational methodology is inefficient and outdated and examination system is highly defective and riddled with corruption and malpractice. Most of my colleagues will agree that, to a much lesser extent though, the same features are present in the medical education of this country. There is no denying of the fact that there are cogent reasons for the frustration and disillusionment of doctors that drive them away from their own communities and country. Some of these are:- the over production of doctors, the lack of job opportunities in their own communities, the inadequate salaries, the poor educational facilities for their children, the substandard living conditions in the rural and tribal areas and smaller towns, the poor working conditions in the basic and rural health centers and the practice of favoritism, nepotism, political interference, absolute disregard for the merit of candidates and corruption in the selection, appointments and transfers of doctors in government service. Furthermore young doctors are quite naturally impressed by the sophistication of medical care that is provided by tertiary care, due to rapid advancements in medical science, and are hence interested to move to teaching hospitals in bigger cities and more advanced countries to acquire such capability. Good financial return in specialist care and good working conditions in big cities and advanced countries give further impetus to this trend. Notwithstanding these causes of migration of doctors from their communities to cities and advanced countries and of tendency to become specialists, over the last four decades, the world leaders of medical profession have tried to focus on the lack of correct national and institutional goals and objectives of medical education or the absence of adherence to appropriate goals and objectives and sticking to disease-oriented and hospital-based education in medical colleges as a major cause of creating a distance between doctors and the community.

## **NEED FOR SHIFT FROM DOPE TO HOPE & FROM POPE TO COPE**

Disease-Oriented Physician's Education (DOPE) gives the doctor a narrow outlook and builds his indifference to promotion of perpetual state of health, prevention of ill health and rehabilitation. DOPE also diverts the doctor's attention away from the family and community towards the individual. Since health is not merely the absence of disease, but a state of physical, mental and social well being, it cannot be achieved for the individual in isolation from his family and the community. For example, when an individual gets infected with HIV, he gets it from others around him and it equally affects all others around him physically, mentally and socially. It becomes a massive challenge for the infected individual as well as for his family, his friends, his community, the entire nation and the world at large to cope with this scourge. To face this challenge, his doctor has to face many moral, ethical, social and economic issues. The solution of the problem lies in the adoption of a balanced approach on the part of the responsible doctor to ensure health for the patient, his family and the community alike. The same applies to nearly all health problems that are caused or affected by the environment consisting of people, animals, buildings, plants, food, water, air, the standard of hygiene and so on. No health problem can be managed in isolation from the environment. Therefore, it is logical that medical education should shift the emphasis from DOPE to HOPE (health-oriented physician's education) and from POPE (patient's-oriented physician's education) to COPE (community-oriented physician's education).

This does not mean that the individual patient should be ignored, but he or she should be given a more comprehensive attention in the entire perspective of his or her social and geographical background. To give the medical student such a balanced outlook, it becomes obligatory that he or she should be trained both in the community health care facilities as well as in hospitals, in primary health care as well as in secondary and tertiary care facilities. However,

since primary health care is the main function of a community doctor this needs more attention than secondary or tertiary care in the undergraduate education. Primary health care is the need of 90 percent of the patients while secondary and tertiary care is needed by less than 10 percent. Primary health care is to be met in the community setting while secondary and tertiary care is hospital based. Promotion of health, prevention of diseases, care of mothers and children and rehabilitation of those discharged from hospital care, to be successful, has to be community based and not hospital based. The overall health of the nation is far more dependent on an efficient primary care in the community rather than on secondary and tertiary care in hospitals. This calls for change in the priorities of the state and medical educationists in favor of primary health care and community oriented medical education.

Despite repeated reminders to the medical profession by the World Health Organization since the 1978 World Conference on Primary Health Care in ALMA ATA that laid down the global program of HEALTH FOR ALL BY THE YEAR 2000, by the Edinburgh Declaration of 1988, by the recommendations of World Summit on Medical Education held in 1993, by the recommendations of many other national and international conferences on medical education, by the recommendations of the national medical councils of different countries, nothing has significantly changed in the majority of medical colleges and schools world over, particularly in the developing countries. It is high time that we all in the medical profession wake up to this reality and bring about a change in medical education to suit the needs of the community.

The WHO Declaration of "HEALTH FOR ALL BY THE YEAR 2000" at the 1978 World Conference on Primary Health Care in ALMA ATA defined the goal of health-care as "THE ATTAINMENT BY ALL THE CITIZENS OF THE WORLD, BY THE YEAR 2000, OF A LEVEL OF HEALTH THAT WOULD PERMIT THEM TO LEAD A SOCIALLY AND ECONOMICALLY PRODUCTIVE LIFE." Pakistan

was a signatory to this declaration. This promise has not been met by most countries.

It was back in 1987, well before the Edinburgh Declaration, when PAKISTAN MEDICAL AND DENTAL COUNCIL laid down under the heading of GENERAL EDUCATIONAL OBJECTIVES for M.B.,B.S., I quote, "The General Objective of the M.B.,B.S. curriculum should be to prepare a general purpose doctor who should be competent to deal with common health problems of the people on scientific basis and in accordance with the code of medical ethics, prescribed by Pakistan Medical and Dental Council, and should be able to continue postgraduate medical education in the specialty of his/her choice." The council went even further and described in detail the instructional objectives in cognitive, psychomotor and affective domains, i.e. what knowledge, what skills and what beliefs, attitudes and behavior the medical student must possess in order to meet the desired goals of medical education in Pakistan. However this did not have the desired impact on medical education in Pakistan because common health problems are taken care of in the community but medical colleges continue to concentrate on training of students in tertiary care teaching hospitals without any significant exposure to primary health care in the community.

The 1988 World Conference of the World Federation of Medical Education held at Edinburgh developed an organizational structure for supporting and sustaining the improved quality of medical education by establishing six regional associations, linked with the regional offices of WHO, UNICEF, UNESCO, UNDP and the WORLD BANK. The EDINBURGH DECLARATION contained twelve principles for reforming medical education, giving a clear sense of direction to medical educators the world over as follow:-

1. RELEVANT EDUCATIONAL SETTINGS
2. A CURRICULUM BASED ON NATIONAL HEALTH NEEDS



3. EMPHASIS ON DISEASE PREVENTION AND HEALTH PROMOTION
4. LIFE LONG ACTIVE LEARNING
5. COMPETENCY-BASED LEARNING
6. TEACHERS TRAINED AS EDUCATORS
7. INTEGRATION OF SCIENCE WITH CLINICAL PRACTICE
8. SELECTION OF ENTRANTS FOR NON-COGNITIVE AS WELL AS INTELLECTUAL ATTRIBUTES
9. COORDINATION OF MEDICAL EDUCATION WITH HEALTH CARE SYSTEM
10. BALANCED PRODUCTION OF TYPES OF DOCTORS
11. MULTI PROFESSIONAL TRAINING
12. CONTINUING MEDICAL EDUCATION

Based on the above twelve principles, the World Summit on Medical Education, held in Edinburgh in 1993, further elaborated twenty-two recommendations on implementing feasible strategies in medical education towards achieving a more meaningful medical education.

In December 1993, the General Medical Council of Great Britain followed the World Summit by submitting detailed recommendations on undergraduate medical education.

Briefly the world leaders in medical education have suggested:-

- (a) to enlarge the scope of educational programs to include all health sources of the community and not hospital alone, so as to provide experience of primary health care and community medical services as well as hospital-based services in secondary and tertiary care,
- (b) to establish a partnership between health educators

and health providers for planning and production of health man power in accordance with the needs of the community in quality and quantity,

- (c) to switch over from passive to active learning,
- (d) to bring about relevance to the institutional objectives in the contents of the basic clinical sciences, reducing the burden of factual information,
- (e) to bring about integration of basic sciences with clinical science,
- (f) to give problem solving education emphasizing health promotion, prevention of health problems and rehabilitation and not just curative treatment,
- (g) to make provision for elective work by students in areas of their special interests, to provide them chance of in-depth study, critical inquiry and research in an area of their liking,
- (h) to design an objective-directed, objective and problem posing examination system emphasizing the role of frequent internal examinations for the purpose of feedback to all concerned that should ensure problem solving abilities, professional competence and social values and
- (i) to allocate resources and organize continuing medical education.

AS A RESULT OF ABOVE RECOMMENDATIONS THE MEDICAL COLLEGES SHOULD BE ABLE TO PRODUCE A FIVE STAR DOCTOR AS SUGGESTED BY THE WORLD HEALTH ORGANIZATION WHO CAN:-

- \* ASSESS AND IMPROVE THE QUALITY OF CARE
- \* MAKE OPTIMAL USE OF NEW TECHNOLOGIES
- \* PROMOTE HEALTHY LIFE STYLES
- \* RECONCILE INDIVIDUAL AND COMMUNITY HEALTH REQUIREMENTS

## \* WORK EFFICIENTLY IN TEAMS

To give a practical shape to the above recommendations the Pakistan Medical and dental council will have to drastically change the curriculum of undergraduate medical education from the one that we have inherited from the colonial past. In the light of the objectives:-

- 1) the content of the basic subjects taught in the basic departments should be curtailed drastically,
- 2) all the applied aspects of the basic subjects should be integrated with clinical subjects,
- 3) the clinical teaching should change from system-based to problem-based education,
- 4) the emphasis of clinical training should shift from hospitals to community settings,
- 5) active learning should replace passive learning (lectures) to the maximum extent and
- 6) Continuous objective internal evaluation of student's performance should be given the major share in the total evaluation of students for certification.

## **REFERAL SYSTEM IN MEDICAL PRACTICE**

Ideally a medical practitioner should be master of all aspects of the human body and its health problems in an integrated manner to give the best possible care to the patient. It is because human body is a highly complex and integrated whole of multiple systems, organs and tissues that are interlinked, interdependent and work in a highly organized and coordinated fashion. Many diseases like cancer, diabetes and infections do not recognize the boundaries of organs or systems. For instance hypertension is not just the disease of blood vessels. It is also a cardiac, renal, hormonal, neurological, ophthalmic, psychiatric, social, economic and spiritual problem. This panorama of in depth knowledge of human health in one doctor is not

possible in view of the extreme vertical and horizontal expansion of medical knowledge and the dynamism of medical science. As a result medical profession has evolved and settled at three levels of medical practice.

Level a) is that of Primary Care Doctors, popularly called Family Physicians who have basic knowledge of all aspects of human health problems and are expected to be able to deal themselves with common and uncomplicated health problems satisfactorily in an integrated manner. They are the right persons to decide whether the problem is within their limits of knowledge and skills and if not who is the one more qualified to deal with the problem. They are required to refer the selected rare, undiagnosed as well as diagnosed but complicated problems to the Internists or to the relevant Specialists.

Level b) is that of Internists or Specialists of Internal Medicine and General Surgeons who have more detailed knowledge of all aspects of the medical or surgical human health problems and are expected to deal with common as well as some rare, simple as well as complicated and complex health problems, medically or surgically, satisfactorily with integrated approach. They include Pediatricians, Pediatric surgeons, Physicians, General Surgeons, and Geriatricians. They are required to refer some selected health problems that need advanced and sophisticated care to the relevant specialists. They are also expected to effectively coordinate the role of more than one specialist or even extra-professional disciplines if required.

Level c) is that of single organ or system or disease specialists who are equipped with the most up-to-date and detailed knowledge and skills of using the new diagnostic procedures, treatment modalities and advanced technologies in the management of problems pertaining to their specialties. They include both medical and surgical specialties like Cardiology and Cardiac Surgery, Neurology and Neurosurgery, Nephrology and Urology etc.

This system of first contact of the patient with the

Primary Care Doctor and referral of the selected patients from a) to b) and c) is working satisfactorily in the developed countries. This referral system is also applied in the reverse direction from c) to b) and a) for proper follow up and rehabilitation of the patient and for the education of those doctors in level b) and a). There is lack of application of this referral system in developing countries due to ignorance of the public and unethical conduct of doctors. This leads to poor care of the patients and waste of time, energy and funds to the detriment of the patient. Medical colleges and schools who train Primary Care Doctors, amongst whom many emerge as level b and c doctors, are expected to give medical students this concept of referral system of medical practice. It is the responsibility of the medical profession and the state to educate public on such a referral system for efficient utilization of the services of the medical profession.

In addition to the above measures medical students should be taught to develop a humane and holistic approach to medical practice over and above the application of scientific knowledge in dealing with health problems of the people.

### **HUMANE AND HOLISTIC APPROACH TO HEALTH**

There are two ways of looking at health issues of patients. One is the scientific way of practicing evidence-based medicine that has developed as the main approach to managing health problems. This is the backbone of modern medicine that is in vogue in the west and is increasingly gaining ground in the developing world. Evidence-based-medicine has become a standard practice everywhere and is vigorously taught in medical schools and colleges. The scientific method is rational and is based on objectively observable evidence of disease and its management. It is based on the knowledge of basic medical sciences and the changes that are encountered in the structure and function of human organs as a result of disease. The scientific approach also looks at the causes of disease, which are objectively

proven. The scientific medicine offers a large variety of safe methods of investigations that help in discovering the precise diagnoses. Once the diagnosis is proved only those methods of treatment are applied which have been objectively proven, to be safe and beneficial, by evidence. The scientific way is excellent because it carries the least chances of a wrong diagnoses or wrong treatment and offers the best chance of recovery from disease.

However, the draw back of scientific medicine is that it looks at human body like a machine and the doctor is its maintenance engineer. Moreover the practice of scientific medicine has become extremely expensive. With passage of years scientific doctors have forgotten the humane aspect of the human machine. Human beings have a soul, which is not detectable by science. The human machine has feelings of sadness and happiness, frustration and satisfaction, pain and relief, hunger and satiety, fear and courage, greed and contentment, ostentation and shyness, pride and humility, anger and calmness,, hopelessness and hopefulness, weakness and powerfulness of will, apathy an empathy, insensitiveness and sensitiveness to environment, hate and love and so on. Unlike the human being, machine does not have friends, family or community. Every human being is highly individualistic and unique quite different from others but the man made machines are identical copies of the prototype. A machine does not share any of these features of the human body. All these features of the human body have negative or positive effects on the structure and function of human machine. Can science measure them objectively? Can it objectively determine the effects of all these features on the structure and function of human body? If not then the human body must be looked at more comprehensively and not on the basis of evidence-based scientific medicine alone. The uniqueness of every individual must be recognized and looked at more carefully and comprehensively. It is true that the development of bias by the doctor and the patient must be vigilantly avoided. Doctors and patients must not be carried away by their own experience alone. Doctors must

remain open-minded but must not be blinded by the evidence of scientific medicine alone. There is much more to a human being than science can ascertain. The doctors, in addition to physical aspects of the patient must carefully evaluate the emotional, cultural, religious, spiritual, geographical, historical, social and economic aspects of the patient and their effects on his/her health and the way you manage his/her health problems. No doctor can claim to be a good doctor without having such a humane and holistic approach to the health-problems of the patient. Medical specialists who are masters of their systems/organs-oriented approach must realize that their systems/organs are not isolated from the rest of the body and its environment and are to be looked at in the perspective of a whole human being who is a social being and not a machine. General physicians, who are less likely to be trapped by the scientific approach, should make a positive effort to have a humane and holistic approach.

Hippocrates, the father of modern medicine said it 2500 years ago, "to observe all, study the patient rather than the disease, evaluate honestly and assist nature". Of all the shortcomings of the modern doctor the most glaring is his/her tendency to total reliance on the results of various investigations and objectively observed data. Every investigation and data should be interpreted in the perspective of the entire patient and his/her background.

Such humane and holistic approach to the health problems of people, which includes the evidence-based scientific approach, carries several advantages. In the first place it brings an awareness that disease is a departure from normal of a human being in the perspective of the entire environment with which he/she is in continuous interaction. The environment may be internal, external, physical, social, spiritual, economic, geographical, historical and what not. Hence the reason for this departure from normality may lie any where. As a result this humane and holistic approach gives a thorough understanding of the problem and prevents falling into a wrong tract. Therefore this approach saves energy, time and expense by prevention of expenditure on



unnecessary wide-spectrum investigations, which is a common practice of those practicing strictly scientific medicine only. It also prevents falling into the trap of erroneous reports/interpretations of laboratory and other investigations. I encounter a lot of prescriptions where doctors have been erroneously treating tests and not diseases or patients and as a result missing the correct diagnosis and damaging the patients with side effects of powerful drugs and procedures. The humane and holistic approach also brings to light the health-promotive and disease-preventive aspects of the problem as well as the future possibilities for the patient that are to the advantage of the patient and his/her entire community. The humane and holistic approach also facilitates, if needed, the participation of a team of specialists and even non-medical disciplines in the total care of the patient. It also helps in crystallizing the organic nature of disease from the non-organic and narrows the list of differential diagnoses. Consequently, the management of the disease, albeit the patient, becomes precise and yet comprehensive. It also becomes economical and to the overall benefit of the patient, his family and the community. Therefore practitioners of modern medicine must not lose sight of the humane and holistic approach to health problems of the patient, in the setting of his/her family and community because human is much more than a computer or a robot. This should be the primary concern of medical education. That is why management of human health problems is regarded more of an art than science. The practitioners of this art are far from perfect till they completely abide by their medical ethics. The crux of the matter is to ensure the right treatment for the right patient, in the right way, at the right time, in the right place and at the right cost.

### **MEDICAL ETHICS**

It will be not only futile but highly dangerous to consult a doctor who does not abide by his professional ethics. A knowledgeable and skillful doctor is of no use to patients and the society if he is unethical in practice. Medical ethics is a code of conduct of practicing doctors

evolved over centuries nationally and internationally that is based on the most admirable human values and principles. Medical profession is the guardian of human life and is responsible for defending living beings from the miseries and death from disease. In performing this duty a doctor has to conduct himself worthy of being called noble. Hippocrates was the first one who wrote an oath of medical conduct for those joining the medical profession about 2500 years ago. Since then the oath and the code of medical ethics have been amended many times by different countries, associations, councils, religious groups and colleges. World Medical Association is the largest assembly of doctors from all over the world that has repeatedly deliberated on this subject since 1948. Their recommendations on medical ethics are generally accepted as the guide lines by the medical profession. Medical institutions are required to teach medical ethics to medical students in order to give ethical physicians to the society.

**THE DECLARATION OF GENEVA** (World Medical Association, 1948, 1968, 1993, 1994) The 46th General Assembly of World Medical Association met in Stockholm, Sweden in September 1994 and issued the 4th amended copy of the medical oath, as prescribed in the Declaration of Geneva, by General Assembly of World Medical Association, in September, 1948, for the medical students to be taken on admission to the medical profession. The oath and the code of conduct prescribed by the World Medical Association have been adopted universally with some amendments by most countries. The world Islamic Medical Association has made amendments for the Muslim physicians of the world. The Pakistan Medical and Dental Council has also made a few amendments for the Pakistani physicians and dentists. All these amendments are in agreement with the spirit of medical ethics prescribed by the World Medical Association. The author has amended the code of medical ethics for the sack of clarity for medical students and young medical graduates.

## THE OATH:

1. I solemnly pledge to consecrate my life to the service of humanity;
2. I will give to my teachers the respect and gratitude which is their due;
3. I will practice my profession with conscience and dignity;
4. The health of my patient will be my first consideration;
5. I will respect the secrets which are confided in me, even after the patient has died;
6. I will maintain by all means in my power, the honor and the noble traditions of the medical profession;
7. My colleagues will be my sisters and brothers;
8. I will not permit considerations of religion, nationality, race, party politics, gender, ethnicity, friendship, blood relationship, animosity, virtuousness, sinfulness, criminal status or social standing to intervene between my duty and my patient (amended by the author);
9. I will maintain the utmost respect for human life from its beginning even under threat and I will not use my medical knowledge contrary to the laws of humanity;
10. I will protect human life in all stages under all circumstances, doing my utmost to rescue it from death, malady, pain and anxiety, to be all the way an instrument of Allah's mercy. (amended by P.M & D,C,)
11. I make these promises solemnly, freely and upon my honor.

## THE CODE OF MEDICAL ETHICS:

### DUTIES OF PHYSICIANS IN GENERAL

An ethical physician shall:

1. possess admirable qualities of personality and character the focus of which shall be the welfare of the patient for whom he/she shall be ever ready to do more than duty.
2. work in service of humanity for the dignity, honor, sanctity and preservation of human life, maintenance of physical and mental health in all stages of development, promotion of healthy life, prevention of diseases, rehabilitation of the sick, relief of human suffering and prevention of death with full responsibility, absolute honesty, sincerity, devotion, compassion and mercy even at personal inconvenience and under threat. A Muslim physician regards human life as a trust of God that must be preserved and maintained at all cost with Allah's mercy and compassion, the inspiration for which comes from the Holy Quran that says, "If you kill any human being, except for committing murder or inciting bloodshed, it shall be as if you have killed the entire humanity and if you save one life it shall be as you have saved the entire humanity."( Sura Al-Maidah 9, Ayat 32) Therefore all forms of killing from conception onward that include homicide, suicide, mercy killing (euthanasia) and abortions (except for saving the life of the mother or the prevention of serious fetal abnormalities) are prohibited. Since inflicting any physical or mental harm can lead to death, an ethical physician must not allow any harm, embarrassment or insult to human being including torture. Since any physical or mental comfort and relief from illness can save life, a physician must provide it..
3. give emergency care in all situations as a

- humanitarian obligation unless assured that others are doing the job with equal or better competence.
4. Apart from emergencies, have the right to choose his/her patients and the place and environment where to work.
  5. conduct himself in a manner to earn love and respect of the patient and the society for himself and the medical profession.
  6. pay equal attention to all irrespective of class, cast, creed, color, nationality, religion, monetary returns, regional, lingual or socioeconomic status, gender, blood relationship, friendship, party politics, righteousness, sinfulness, criminal record, or other worldly considerations. (According to Quran one human being, who ever he or she may be, is equal to the entire humanity)
  7. not discriminate on any grounds except on the ground of emergency or seriousness of the illness that may need out of turn preferential treatment.
  8. always maintain the highest standards of professional conduct.
  9. certify truthfully only that which he/she has personally experienced or verified.
  10. not permit motives of profit or loss to influence the free and independent exercise of professional judgement on behalf of all patients.
  11. in all types of medical practice, be dedicated to providing competent medical services in full technical and moral independence, with compassion and respect to human dignity.
  12. deal honestly with patients and colleagues and strive to expose those physicians deficient in character or competence or who engage in fraud or deceit.
  13. abstain from the following practices as unethical:

- a) Self advertising or canvassing by physicians, unless permitted by the law of the country and the code of ethics of the national medical association/council.
- b) Paying or receiving any fee or other consideration solely to procure the referral of a patient or for prescribing or referring a patient to any source.
- 14. respect the rights of patients, colleagues and other health professionals, and shall safeguard patient's confidence. Informed consent to a treatment is a right of the patient that must be ensured.
- 15. use great caution in divulging discoveries or new techniques or treatment through non-professional channels.
- 16. adopt continuing medical education for the benefit of his/her colleagues, patients and the community
- 17. comply with all the regulations governing the delivery of health care
- 18. respect the dignity of the dead.
- 19. be honest, sincere, truthful, responsible, caring, kind and sympathetic and always ready to do more than his/her duty.
- 20. not approve selling or purchasing of human blood or organs.
- 21. not exploit financial and social opportunities offered by medical profession e.g. commercializing secret remedies and exploiting his/her relationship with patients e.g. charging higher fees from rich patients or exploiting the help of influential patients for personal favors etc.
- 22. participate in public health education.
- 23. observe the principles of the Declaration of Geneva on medical ethics approved by the World Medical Association.

## DUTIES OF PHYSICIANS TO THE SICK

### AN ETHICAL PHYSICIAN SHALL:

1. always bear in mind the obligation of preserving life.
2. owe his/her patients complete loyalty and all the resources of his science. Whenever an examination or treatment is beyond the physician's capacity he should summon another physician who has the necessary ability.
3. observe absolute confidentiality of all confided in him/her by the patient even after the patient has died.
4. give emergency care as a humanitarian duty unless he is assured that others are willing and able to give such care equally or more competently.
5. consider his/her patients as brothers and sisters, mothers and fathers and sons and daughters.
6. act in the ultimate interest of the patient even at the cost of temporary discomfort, pain or physical and mental weakness to the patient.
7. not violate the privacy, moral and legal rights of the patient, not examine a patient of the opposite sex or a minor without the presence of an attendant.
8. not refuse to give consultation because of the inability of the patient to pay fee.
9. not cast an evil eye on his/her patients
10. not impose his/her advice or treatment on patients who do not ask for it.
11. not operate or do risky procedures with out the written consent of the patient or of the next of kin, if the patient is incapable of giving intelligent consent, except in an emergency situation when the physician may have to act even without consent in the best interest of the patient to save life.



12. not accept transfer of blood or organs without the written consent of the donor and recipient or of the next of kin in case either is incapable of giving consent, except in life saving emergency.

#### DUTIES OF PHYSICIANS TO EACH OTHER, TO MEDICAL STUDENTS AND OTHER PROFESSIONAL WORKERS

##### AN ETHICAL PHYSICIAN SHALL:

1. behave towards his colleagues as, or better than, he would like to have them behave towards him.
2. not entice patients from his colleagues.
3. eagerly share his knowledge, skills and attitudes with fellow colleagues, medical students and other members of the medical profession.
4. give free consultation to his/her teachers, colleagues, medical students and their dependants.
5. try to become a role model for his colleagues and medical students
6. not interfere in the treatment of patients admitted under care of other colleagues except with their permission or in emergency.
7. not criticize his/her colleagues in front of the patient.
8. maintain cordial relation with all members of the medical profession.

In summery the primary concern of the medical education should be to produce a knowledgeable, skillful and ethical primary care doctor who can manage the common health problems of the people.

**PART II**  
**INFORMAL EDUCATION**



## I

# WHY AND HOW TO ADOPT CONTINUING EDUCATION ?

"SEEK KNOWLEDGE FROM THE CRADLE TO THE GRAVE" is a famous saying of Hazrat Ali. The Japanese in management follow the principle of "KAIZEM" that means improve continuously for ever. Education is a natural process that begins when the child is born and continues throughout life but in the present age it cannot be allowed to remain a passive process and needs to be accelerated by all the means at our disposal. Educational institutions promote this process and expand its dimensions in pursuit of national goals and objectives of education. There is a common misconception among students that one day their education will get completed and their hard days will be over. This misconception is the result of degenerated and out-dated system of education.

## THE ROLE OF SELF-LEARNING AND SELF-EVALUATION

Good education must develop in the students the attitude to become efficient and enthusiastic self-learners and self-evaluators. Both these qualities will develop in a student only when his school, college and university make learning for him a purposeful and an enjoyable activity. Furthermore, since evaluation is an integral part of learning, this has also to be made an entertaining and beneficial experience. Such evaluation should assess applicable knowledge through problem-posing questions, lay more emphasis on feedback for rectifying mistakes, clearing misconceptions, appreciating good work, suggesting improvement and

introducing many incentives and rewards for good performance and excelling previous responses, rather than on its value for certification. Once a student acquires these two characteristics of being an efficient and enthusiastic self-learner and self-evaluator of his knowledge, skills and attitudes, he will no more regard institutional education as hardship and will look forward to continuing education in practical life as a means of reaching the highest pedestal of human life. This principle is beautifully highlighted by a Chinese saying that if you give a man a fish, he will eat it for a day but if you teach him how to fish, he will eat it for the rest of his life. It is only when we get a nation of such motivated educated men and women that progress and prosperity will meet us halfway. It is evident that there do not exist many such educational institutions in Pakistan that would have laid down the foundation of such a positive attitude towards continuing education. This fact makes the task of promoting continuing education extremely essential and difficult but something can be achieved with generous allocation of resources, time and effort by everyone to this very important activity.

CONTINUING EDUCATION is defined as education after the completion of formal institutional education for acquiring certificates, diplomas and degrees. In today's aggressively changing world of science and technology and profusely expanding ocean of knowledge and skills, continuing education is essential to maintain and constantly improve one's quality and quantity of knowledge, skills and attitudes to the mutual benefit of all. It is in the dynamic life after completing the formal education that the individual becomes productive in whatever capacity he or she may be working and will need continuing improvement of his/her product or service in the light of new developments to meet the changing needs of the society. Both the quality and quantity of production and services provided by the educated depend on the quality and quantity of continuing education and application of the latest knowledge and skills in all spheres with the right attitude. Any nation that cannot adopt

continuing education consistently as a way of life will not be able to keep up with the rest of the world and in fact will find itself carrying a begging bowl to the point of self destruction. That is why the holy prophet Muhammad (PBUH) said,

**“SEEKING KNOWLEDGE IS OBLIGATORY FOR EVERY MUSLIM MALE AND FEMALE.”**

Continuing education can be adopted as a life style if the attainment of the attitude for it is made as one of the most important national goals of formal education and is actively infused in students before they pass out from schools, colleges and universities, so that they enter practical life as self-learners and self-evaluators. If this is done, half the battle is won, but even then considerable effort will be needed at individual and collective levels as well as at governmental and non-governmental levels to promote continuing education in all walks of life. This will require a) Incentives, b) Facilities and c) Organization.

### **INCENTIVES**

Incentives should be generously and profusely provided to accelerate and spread the process of continuing education. Public recognition in press and through media, material rewards, local, provincial and national awards, promotion in jobs and provision of jobs, scholarships and many other incentives should be made available for all the professionals for their participation in research and publications. Similarly financial incentives in the form of free of cost traveling, boarding, lodging and cash prizes be provided to all those who participate in educational activities like conferences, seminars, symposia, workshops and courses. Those who prescribe and contribute to journals, books, and newspapers and participate in the organization of educational activities or contribute to development of learning resources in print, sound and pictures should be rewarded. All those who display evidence of accelerated improvement in their knowledge, skills and attitudes, at whatever level they may be, should be suitably compensated.

The government should allow exemption from income-tax on all expenses incurred on participation in continuing educational activities and on financial contributions made towards such activities. Preparation and provision of educational resources and the means through which they are communicated to the public, e.g. print and electronic media, should be appropriately subsidized to make learning resources available at nominal cost to the poor people of developing countries. Any taxes on import of paper, stationery, books, journals, equipment of electronic media, e.g. printing machines, copying machines, computer hardware and software, audio-visual aids and any other learning resources should be abolished.

## **FACILITIES**

Perhaps the oldest facility for continuing education is the institution of public libraries that are present in the cities in most countries of the world. However this facility is generally not available to the rural and tribal population which is a sad reflection on planners of education. Another depressing fact about these libraries is that most of them have become store-houses of poorly preserved, moth-eaten collection of out-dated manuscripts of historical interest. More attention to the preservation of these historical books and periodicals of great educational value is called for. At the same time there is immediate need for updating the public libraries by providing them latest editions of learning resources, e.g. books, journals, periodicals and newspapers, audio-cassettes, videocassettes, compact discs and computer discs, for use of the educated on continuous basis. In today's world it has become essential to equip the libraries with audio and video cassette- and cd-players, slide viewing boxes and slide/movie projectors, monitors, TV sets, cameras, computers and access to electronic mail and internet to keep up with the galloping speed of expanding knowledge in the world. All public libraries should be well furnished and air-conditioned to make them comfortable for readers.

Since continuing education is synonymous with keeping abreast of the latest developments in knowledge, skills and attitudes, the highest seats of learning, which are the universities and professional colleges, should be made centers of excellence and be provided with maximum facilities for promotion of knowledge, improvement of skills and acceleration of research. Such institutions should be made responsible for holding regular short courses, workshops and evening classes in addition to their normal diploma and degree courses for the purpose of continuing education. Open universities that are used for conducting education of those who cannot get admission to educational institutions and for promoting literacy in non-school-going children and adults can also promote continuing education of the educated class. For continuing education the role of television and radio is well known and therefore radio and TV-receiving sets must be provided, to all those groups who cannot afford them, at suitable public places particularly in rural areas. Establishment of academies for in-service continuing education as has been done for armed forces, civil services and certain professions should be encouraged in all fields at all levels.

Lastly correspondence courses have a great place in promoting continuing education, particularly for those who, for reasons of economic and social constraints or for being in far-flung rural areas, cannot attend educational institutions.

## **ORGANIZATION**

Organization of activities of continuing education must remain the responsibility of universities, professional colleges, academies, research- organizations, governmental departments, autonomous bodies and non-governmental organizations, societies and associations. Refresher courses, congresses, conferences, seminars, symposia, workshops and lectures at local, provincial, national and international levels within the country and abroad should be organized by all concerned on regular basis. Sponsorship for all such



activities should come forth from all the beneficiaries and consumers of these activities. Selected members of the professions should be frequently sent abroad for study tours, refresher courses, conferences, fellowships and workshops and similarly experts from abroad should be invited frequently for conducting educational activities within the country, so that transfer of knowledge and technology should continue to developing countries non-stop. Finally, despite all the activities suggested above, if implemented, it cannot be assumed that continuing education would have resulted in improved knowledge, skills and attitudes of all those participating in these activities. Hence there will be a need to incorporate a continuous system of monitoring and evaluation for all educated persons throughout their active lives to ensure that the goals and objectives of continued education are met. In most developed countries periodic testing by the employers is obligatory in most professions to monitor the continuing education of their employees. The employers in developing countries must not hesitate to start such testing of the employees every 2-5 years and make it conditional for grant of promotions, advance increments, awards and fellowships that will improve their performance and productivity. It is hoped that with the passage of time the expertise to organize continuing educational activities will develop and will make such organization cost-effective.

The secret of progress of any developing nation lies in the birth of an urge for continuing education among its people to catch up with the advances of science and technology of the developed nations. This urge must be created in students during formal education. The role of the teacher is not of a fuel pipe but of a spark plug. Referring to this is a well known English saying that, "EDUCATION IS NOT THE FILLING OF A BUCKET BUT THE LIGHTING OF A FIRE." Once this fire is lighted in formal education continuing education will become a lifelong habit that will spell progress and prosperity. Any nation that does not pay utmost attention to this aspect of education will remain backward and dependent on the charity of developed world.



## II

# WHAT ARE THE PRIORITIES OF PUBLIC EDUCATION ?

Light travels with lightning speed, sound passes in seconds, wind blows, water flows, plants and animals grow, even the finest particles of matter move and time waits for none. This dynamism of nature is reflected in the continuous multi-dimensional expansion of knowledge, which keeps on changing, and consequently accelerating, advancing, refining and sharpening intellectual abilities, physical skills, beliefs, attitudes and behavior. Men, women and children have the right of access to this panorama of universal change, which they can gain through formal education, continuing education and public education.

Public Education is the education of all the people, whether educated or uneducated, whether literate or illiterate, on all issues posing a risk to their survival and on all matters pertaining to promotion of healthy, socially and economically productive life. History is witness to the fact that the downfall of a nation is inevitable if its people are allowed to remain lying in gutters of ignorance. Ignorance is the root cause of deteriorating standards of physical and mental performance of people, resulting in poor productivity and self-destructive social evils. People must be pulled out of their ignorance by continuously upgrading their level of awareness, through the print and electronic media, so that they can realize and defend their physical, mental and social well-being, individually and collectively. Real progress in society cannot occur without transformation in Knowledge, skills, attitudes and behavior that can only be brought about and maintained by education. Therefore, most of the hot subjects on which there is need for intensive public education and for which resources and expertise must be

mobilized, will be briefly touched upon in this chapter.

## **I. EDUCATION ON MORALITY AND ETHICS**

### **THE NEED OF ROLE MODELS**

This is the most essential need for civilized behavior and must make the foremost component of public education, in view of the rapidly deteriorating moral standards and escalation of corruption, crime and terrorism to astronomical heights in most parts of the world particularly in developing countries. The responsibility of this education primarily lies on the shoulders of parents and elders, followed by teachers, religious scholars, and leaders in society. By leaders I do not mean strictly political leaders, but all those who are heading any group. It is true that corruption flows like snow melting from the top and so do righteousness and piety. So whoever occupies whichever top is responsible for education of his or her group on morality that essentially is the distinction between right and wrong. The Holy Prophet Muhammad (PBUH) once said, "every one is like a shepherd (group leader) and every one will be accountable for his subjects." However, the most effective way of teaching morality is not through giving sermons but through display of personal example of good conduct. Hence all those who are leaders in society from heads of families to heads of states, owe it to their children and grand children to conduct themselves in a manner befitting role models. Those who cannot act and behave in this manner do not deserve to be the leaders. If, in a democratic set up, the electorate is not deeply conscious of this fact, their elected representatives are bound to be corrupt, as is the case in most third world countries, and consequently democracy in such circumstances is bound to fail. We must rescue democracy in our country by public education on morality and ethics because if democracy fails, Pakistan fails.

### **THE ROLE OF HISTORY AND INCENTIVES**

To add to this effort, historical events of exemplary nature, from which others can learn a lesson, should be

highlighted through films, drama and literature and via print and electronic media. Good moral behavior must be patronized, projected, propagated, encouraged and rewarded so that others may follow. Local, provincial, national and international recognition of those who can play a model role and their exposure to public through press and media will be of great educational value.

## **PUNISHMENT AND REHABILITATION/EDUCATION**

Punishment to those who are caught in corruption, crime, violation of law and other acts of moral misconduct, with recovery of embezzled wealth to the national exchequer or the rightful owners is a must for providing a lesson for others with such evil tendencies but even more important is the education and rehabilitation of criminals that must not be ignored to prevent the recurrence of such crimes. It is the duty of the state to vigilantly watch the moral conduct of its people through its law enforcing agencies and bring to book the wrong doers, who must be targeted for education and rehabilitation. It is also the duty of the state and the society to eradicate the causes of crime by controlling deprivation and social injustices in society. It is equally the responsibility of the people to help the state in enforcing law by honestly reporting to the authorities any information that they may possess that might help in catching the law-breakers and thus supporting the process of moral reformation. With the industrial revolution many unscrupulous industrialists, for the sake of their profits, damage the interest of consumers. It is again the moral obligation of the state to enforce quality control on all consumer goods whether manufactured in the country or imported, and thus make the industrialists, businessmen and entrepreneurs conscious of their obligations to the consumers. It is unfortunate that, in many countries, often the guardians of society have themselves fallen prey to anti-social behavior. Unless the governments and the people of the affected countries join hands for education on morality, in order to eradicate the cancer of dishonesty, hypocrisy, favoritism, nepotism and corruption from the society, such

countries will continue to face a dark future. Any amount of hammering of public minds on this issue is not only justified but badly needed.

## **THE CAUSES OF CORRUPTION**

Finally the basic causes of corruption, crime, violence, moral misconduct and irresponsible behavior should be investigated and removed through educational and administrative efforts. People may adopt wrong means to achieve the right ends because the right means are not available for achieving the right ends. Terrorism, robbery and thefts are many a times acts of desperation by those who are deprived by society of their legitimate rights. It is the duty of the state and the society to make the right means available for achieving the right ends. Social and economic deprivation, unemployment, violation of merit and fundamental human rights and other social injustices are some of the common causes of distorted and criminal behavior in society. These need to be looked into and rectified by mobilizing public opinion against these unjust practices through public education. In the end the law-enforcing agencies must ensure the fear of law without which the habitual criminals will continue to break the law. For this the law-enforcing personnel must be highly alert, efficient and deadly honest, while public must be educated through electronic media and press for fully supporting the efforts of law enforcing agencies. It is highly unfortunate that, according to transparency international, Police and Judiciary are among the top three most corrupt departments in Pakistan.

## **THE ROLE OF MEDIA**

The role of media and film industry in influencing the conduct of people is enormous. Unfortunately this sector is highly politicized, commercialized and more concerned to guard its absolute freedom than to exercise equal sense of responsibility towards reformation of society. In an illiterate society where the majority of the so-called literate are also stranger to written material and do not possess reading habit

people can be only reached through radio, television and cinema. It is the responsibility of this sector to convey the message of God, history, culture, science, literature and arts to people to mitigate their ignorance and upgrade their physical capabilities, mental outlook, values and spiritual perceptions.

## **II. PUBLIC HEALTH EDUCATION.**

There is the very old saying that health is wealth. When Charlie Chaplin earned the first million dollars he gave his mother the good news. She calmly replied, "son, may God give you the health to enjoy it." No one will disagree that without good health one can get neither education nor wealth, can derive no comfort or joy from God-given resources and beauty of the universe and can lose everything one has, including one's own life, happiness and freedom. Then why is it that health is not among the top priorities of the successive governments of most of the developing countries? Don't we owe it to the people to let them know what is health and how to achieve it and maintain it? In fact most of the subjects on which public needs education one way or the other are related to health. We cannot wait for formal institutional education - not available to the vast majority of people in the poor countries - to meet this urgent public need. According to first ever National Sanitation Policy of Government of Pakistan reported in the News International on January 11, 2007 more than half the population is lacking proper sanitation facilities. To be more precise 45 percent of all households do not have access to latrines; 51 per cent are not connected to any form of drainage; 35 percent are connected to open drains and 16 per cent to underground sewerage or open drains. Such deplorable situation calls for urgent public health education. We must educate public how to promote health, how to prevent diseases, when, where, through whom and how to get treatment for their ailments, and how to rehabilitate those who carry the disabling effects of illness. The major topics in the field of Public Health Education that need attention on top priority include:-



**D). PROMOTION OF HEALTH.** For promotion of health, the main requirements are clean environment, good personal hygiene, healthy living styles, clean air, sunshine, clean water, clean, adequate, unadulterated and balanced diet enough to maintain normal body weight, regular, moderate, enjoyable exercise in fresh air for at least half an hour a day preferably daily or at least 3 to 5 times a week, and spending some time in fun, recreation and hobbies preferably with family and friends after a hard day labor or a busy week in work.

**EXERCISE.** The benefits of exercise for health are not well known to public. Exercise increases the rate of circulation that in turn replenishes oxygen and nutrition to all parts of body resulting in to improved performance of every organ. If regularly performed every day exercise reduces body weight due to burning of body fats but increases size, tone and power of muscles. It lowers blood pressure, blood sugar, harmful circulating fats and reduces the clotting tendency of blood. Exercise also increases healing power, improves immunity against infections, increases strength and prevents softening of bones (osteoporosis) and delays aging process. And above all exercise gives a terrific feeling of well being, alleviates anxiety and depression and enhances confidence.

**AREAS OF COMMON INTEREST.** Education of communities on shouldering the responsibility of taking care of areas of common interest, i.e. cleaning public places and streets, disposal of waste, provision of efficient water and sewerage drainage system, plantation on streets and open spaces, maintenance of playgrounds and common recreation facilities, preventing anti-social activities and promoting social activities, is badly needed for ensuring a healthy environment. These basic needs of promoting good health cannot be attained with wealth alone. There is need for intensive and continuous public education on these health needs and how to get them in order to mould the behavior of people into clean and healthy living styles.

CLEANLINESS is the foremost necessity for healthy



life. Quran lays great stress on clean living by saying:

“God loves those who live a clean life”

The Holy Prophet (PBUH) said:

“Cleanliness is half the faith”

( Muslim & Tarmazi )

Health care and nutrition is the fundamental human right of all from conception till death. There is great need for educating mothers on the care of the fetus before birth, on the importance of breast feeding in the first two years of life and on the hygienic, physical, mental, social and nutritional needs of the growing children.

Furthermore, the knowledge of hygienic, physical, mental, social and nutritional needs of adolescence and adult life, in the light of advancing medical science, needs to be continuously transferred to the people to ensure an excellent state of health for the whole nation in the most productive years of life for socio-economic prosperity of their people.

Finally, every nation owes it to the senior citizens of the country to give them the know-how of promoting a healthy living. Old people need extra protection against exposure to extreme weathers, injuries, fractures, infections, under-, over- and mal-nutrition, and other insults to human body because of their weakened constitution and poor resistance to diseases. Public must be educated to give extra regard and help to the senior citizens.

**(II). PREVENTION OF DISEASES.** The prevention of common incurable diseases that kill and cause disability of the largest numbers, diseases that cause to the nation the loss of large number of working hours and days and diseases that create economic hardship and bring miseries to the affected, their families and communities is essential. The common preventable health disorders include: infectious diseases particularly in the extremes of life i.e. in the young and elderly, Coronary Heart Disease, Cancer, Cerebro-Vascular Accidents (strokes), AIDS, Tuberculosis, Hepatitis, Malaria,

Diabetes Mellitus, Hypertension, a large variety of Infections in the skin, eyes, ears, nose, throat, and systemic organs, addictions, road traffic accidents, physical violence, firearm injuries, burns, over- and under-nutrition, malnutrition, poisoning, occupational hazards, genetic and congenital disorders (both inherited and acquired), allergic diseases, mental illnesses, degenerative disorders and so on. Their prevention is possible at a much lower cost through public health education. There is an old saying that prevention is better than cure and, of course, much cheaper than curative treatment. Moreover complete cure is not always available and whatever is available is at times beyond the means of the patient or carries the risk of serious and indeed fatal complications while prevention is convenient, carries no risk and is highly economical.

Heart disease and cancer are among the leading causes of death in the world but their incidence has been brought down in the last three decades in developed countries through effective public health education on the role of;-

1. NUTRITION, by advising reduction in intake of excessive calories, animal fats, salt and sugar and maintenance of normal body weight through keeping a balance between intake of food and output of calories,
2. EXERCISE, by advocating regular moderate exercise in fresh air, on empty stomach at least four days a week,
3. Abandoning use of tobacco and alcohol drinking, by banning smoking in public places and educating people in general and the young generation in particular on hazards of smoking and consumption of alcohol.
4. PREVENTION by adopting timely vaccination in childhood, other methods of preventing diseases and early detection and timely curative treatment of

medical disorders.

Many congenital abnormalities have been effectively prevented by educating mothers about a) the hazards of using drugs without prescription and exposure to radiation in pregnancy, b) the necessity of prevention and early, effective and sustained treatment of infections, diabetes and hypertension in pregnancy and c) prevention or termination of pregnancy where it poses danger to the life of the mother or the fetus. Inherited disorders can also be avoided by educating public to avoid intra-family marriages such as marriages between first cousins and by counseling members of the affected families.

Similarly through observing cleanliness and strict hygiene, most of the infections have been controlled by the advanced nations. In the underprivileged nations, infections are still the leading cause of illness in all age groups, the greatest cause of loss of working days in adult life and the cause of the overall highest number of deaths particularly in young children, mothers and the elderly. Transmission of infection occurs through air, water and direct contact with the skin and mucous membrane. Public must be made aware of these modes of transmission in order to influence them for adopting healthy behavior.

### **AIR-BORNE INFECTIONS**

People ought to know that coughing and spitting passes on respiratory infections like common cold, sore throat, influenza, tuberculoses, pneumonia, whooping cough, measles, etc., to others through the air and therefore spitting in open must be given up and mouth must be covered while coughing. Inhaling infected or polluted air in overcrowded or dirty places or on the busy roads leads to the same infections and chronic lung diseases. Through the throat and lungs the infections may also enter the blood affecting other organs causing meningitis, rheumatic fever, heart and kidney infections, miliary tuberculoses, septicemia and so on, all of which can be prevented by covering nose and mouth with a piece of cloth or wearing a mask in crowded and polluted

places and avoiding overcrowded places while all efforts must be made to keep the atmosphere free of pollution.

## **WATER-BORNE INFECTIONS**

According to World Health Organization impure water causes the death of an infant every second and the water borne diseases kill around two million people in the world every day. Moreover 80 per cent of diseases and deaths in the developing world are caused by contaminated water. Water, which looks clean, may not be actually clean, safe and fit for drinking. It gets contaminated either at the source (the wells) or during storage in the overhead or underground tanks or in distribution pipes. Contamination usually occurs with suspended pollutants in the air, discharges from factories, organic and inorganic pollutants in the soil, excreta of humans and animals, infected material on hands, cutlery, cups, and glasses. Flies, cockroaches, insects, rats and other animals, may also introduce contaminants. Ingestion of such contaminated water and water-containing food articles leads to typhoid fever, vomiting, diarrhea, dysentery, cholera, abdominal TB and many serious infections in the blood and body organs, e.g. poliomyelitis, hepatitis, septicemia, etc. These water-borne diseases can be avoided if all the Municipal Committees and the water supplying agencies supply potable water which is sure to be clean and potable at delivery point by keeping constant supervision on the storage tanks and pipe-lines that often get damaged with passage of time. It is the duty of the state to ensure that potable drinking water is available in all the cities, towns and villages on top priority. The fact that nearly 70 percent of Pakistani population has no access to safe drinking water speaks very low of the successive governments that ruled this country for more than half a century.

We can prevent these diseases further by washing hands with soap and water before every meal and after using toilet or touching dirty objects, washing with soap and water all objects used for eating, boiling water for drinking,

washing with antiseptics all eatables that are eaten uncooked e.g. fruits and vegetables, keeping food and drinks covered and protected from flies and all sort of contamination. All areas of storing, selling, making, transporting and consuming eatables should be fly-proofed. If freshly cooked food is not consumed soon, it must be refrigerated or discarded. Surface water drainage channels should be cleaned and sprayed with disinfectants and insecticides. Adulteration of food items must be controlled. All this can be achieved after intensive public health education at minimal cost.

## **DIRECT CONTACT WITH SKIN AND MUCOUS MEMBRANE**

Infections can also enter the body through the intact or broken skin and mucous membrane and therefore all injuries to the skin must be properly washed with soap and water and even treated with antiseptics and kept free of contact with dirty linen and other infected objects. Taking daily bath is essential to keep body clean. Sexual transmission of infections, e.g. AIDS, Syphilis, Gonorrhoea and other sexually transmitted diseases occurs as a result of contact of infected semen and sexual secretions with bruised mucus membrane of the sexual organs that can best be avoided by refraining from sexual acts with more than one partner or by using condoms during intercourse.

## **ANIMAL BITES**

An important cause of getting infections through the skin is from insect bites. Malaria, Dengue fever and Yellow fever result from bite by mosquitoes that breed on stagnant water. Their prevention involves protection of skin from mosquito-bite as well as eradicating mosquitoes by destroying them with insecticide sprays and providing efficient drainage of water to prevent collection of stagnant water. Many other insects like lice, mites, ticks, sand flies, etc. are responsible for injecting germs through the skin causing serious human ailments like Acute Viral Hemorrhagic Fever and Leishmaniasis that can be avoided by maintaining scrupulous cleanliness.

Bite by rabid dogs, jackals, Cats and bats can cause fatal disease of hydrophobia that can be prevented by yearly vaccination of pet animals and vaccination of the bitten person immediately after bite by a suspected rabid animal. For controlling hydrophobia and other dog-borne diseases the stray dogs must be eliminated and licensing and vaccination of pet dogs must be enforced by the government.

### **INJURY BY DIRTY SHARP OBJECTS**

If a person with dirty skin injury is not immunized against tetanus he must report immediately to the nearest doctor or hospital casualty for getting anti-tetanus injections and immunization against tetanus. One more common source of infection via skin is through injections with used syringes that must not be accepted at any cost. Fatal diseases of AIDS and Hepatitis are commonly transmitted by contaminated syringes. Injured mucous membrane in the mouth and genitalia must be washed with antiseptics to prevent these diseases. In most of the poor countries like Pakistan treatment through injections is demanded by the ignorant patients because they think this is the quickest way of getting cured. Unfortunately the quacks and many doctors encourage the use of injections, intravenous drips and transfusion of unscreened blood for their pecuniary interest. The more reckless practitioners even re-use the disposable syringes and needles. This practice has resulted in enormous increase in the prevalence of virus hepatitis and other infections. There is need for intense public education on the dangers of unnecessary use of injections.

### **PERSONAL HEIGINE**

Proper disposal of human excreta and dirt, keeping one's person, personal clothes, belongings and one's environment clean and fly-proofing the houses, restaurants and all places where food is kept and consumed are the very basic requirements of controlling the spread of infections.

Taking daily bath with soap and water and changing clothes to get rid of the dirt accumulated on the body as a

result of present-day escalating environmental pollution , washing your mouth and brushing teeth before retiring at night and after taking meals, and frequent washing of hands and private parts with soap and water whenever they become dirty are strongly recommended as a safeguard against many infections. Self-scratching must be avoided to prevent some skin infections. All knives, scissors and blades must be thoroughly washed with soap and water before use.

## **SEXUALLY TRANSMITTED DISEASES**

Lately AIDS has assumed a threatening posture in Pakistan largely due to returning HIV-positive patients from abroad, most having contracted the disease through sexual contact while some have got it from receiving blood transfusions and intravenous injections. Moreover other sexually transmitted diseases are already prevalent in the lower class of population that further predispose them to AIDS. It is high time that sex education is introduced in schools and public is educated on dangers of unbridled sexual behavior. Use of injections and blood transfusions should be avoided as far as possible as they carry the risk of AIDS, hepatitis and other fatal complications.

## **VACCINATION**

Some of the infections can be very effectively eradicated through timely vaccination. It is the miracle of the twentieth century that smallpox has been completely eradicated from the world through effective vaccination. Poliomyelitis may happen to be the second disease to be effectively eradicated from the face of earth in a few years. If people are taught to vaccinate their children in time, there is no reason why other dangerous diseases like Tuberculosis, Tetanus, Whooping cough, Diphtheria, Measles, Mumps, Hepatitis A and B and so on cannot be completely uprooted from the society. Vaccination against Hepatitis B is given early in the newborn period. BCG vaccination is given at birth and again at the age of thirteen years to prevent tuberculosis. Infants can be vaccinated against Tetanus, Whooping cough, Diphtheria, Polio, and Measles after the



age of three months. Then in early childhood they should be vaccinated against Mumps and Hepatitis A. Females should be vaccinated against German Measles well before they get married.

Anti-Rabies vaccination should be given immediately to every victim of dog bite even if the animal is remotely suspected to be Rabid. Vaccination of domestic pets against various diseases is a must. Vaccination of all against Cholera, Typhoid, Influenza and Meningococcal Meningitis must be taken whenever there is danger of such epidemics. The latest recommendations of World Health Organization on preventive vaccination program should be printed in local languages as posters and pasted at prominent places in lobbies, corridors and waiting rooms of every vaccination center, clinic, hospital, school, mosque, railway station, post office, bus stop, court and other places of public gatherings and their knowledge should be widely disseminated to all sections of society through talks, press and electronic media. Vaccination of international travelers is essential against infectious diseases that are prevalent in the countries intended to be visited. Yellow Fever, Typhoid, Cholera, Meningococcal Meningitis, Influenza and Viral Hepatitis fall in this category of diseases. Vaccination against Influenza and Meningococcal Meningitis is compulsory for all those proceeding for pilgrimage to Saudi Arabia.

### **TRAUMA, BURNS and DROWNING**

These are preventable causes of death and disability through public education. Traffic accidents are preventable by educating the public in general and the drivers in particular on the rules of highway-code. Simple wearing of seat-belts and helmets can prevent thousands of head injuries and deaths. Trauma from fire arms and bomb blasts have deep rooted social, economic, religious, cultural and political causes that can not be solved through use of force but a long term solution can be evolved through public education. Accidental Burns and Drowning can also be prevented through public education.

### **(III). CURATIVE MEDICINE**

The role of education in adopting curative medicine is equally important to save lives as well as alleviate human suffering. The importance of early reporting of illness to doctors in curing diseases and preventing complications cannot be over emphasized. Unfortunately, in poor countries even in educated families, self medication is very common, so that by the time patients report to the doctors their illnesses are advanced and complicated not only in their natural course but also because of the mismanagement by quacks and are at times beyond the scope of any curative treatment. It has been frequently observed that patients and their families make their own decisions about which doctor/specialist to consult and as a result they frequently fall into the hands of wrong specialists.

#### **THE ROLE OF FAMILY PHYSICIAN**

Patients do not know that a symptom in the foot may have its origin in the heart or kidneys or liver or brain or intestines or glands or elsewhere and only a general physician or an internist (internal medicine specialist) is in a position to understand where the problem lies. Numerous poor patients with simple functional headache approach the neurosurgeons and neurologists and are subjected to unnecessary expensive investigations e.g. CAT Scans of brain and EEG at a great cost. Numerous poor patients with depression, anxiety and indigestion land in the clinics of heart surgeons and heart physicians where they are subjected to expensive cardiac investigations. If such patients would report to a family doctor or a non-specialist doctor in the hospitals they could be easily sorted out and very few would be identified and referred for specialist opinion.

Regarding day-to-day care of health problems a sane approach is that every family should choose a general-purpose doctor, a person in whom the family has trust and confidence, called the FAMILY PHYSICIAN. Such a family physician who should be regarded as physician friend of the family should not be changed without a compelling reason,

and should remain at the first line of consultation for any health problem. People should understand that the family physician will be able to handle the day-to-day health problems much more promptly and economically and will be in the best position to decide when the disease is about to cross his (her) limitations and which specialist or hospital will be the right one to refer the patient to. The role of family physician in education of the family and community in adoption of various measures for promotion of health and prevention of diseases is also of immense importance to the overall health of the community. Similarly the follow-up and rehabilitation of patients on discharge from the care of hospitals and specialists can be best performed by the family physician. The family physician can keep a record of the past history of the patient and his family relevant to his health that will not only give him a deep insight in the present and future health problems of the patient but this information will be of great value to any new doctor that the patient may have to consult.

### **IMPORTANCE OF RECORD KEEPING OF:**

#### **a) INVESTIGATIONS**

Patients should also be advised to maintain a file of the record of their prescriptions and investigations that will be of great use in the management of his present and future health problems. It is rather frustrating to the doctor when a new patient presents himself in the clinic or hospital forgetting to bring his old prescriptions, investigations and drugs taken in which he has invested a great deal and at times not even remembering about his past illnesses. Thus he/she is deprived of the benefit of their fresh appraisal by the doctor and frequently subjecting himself to a lot of unnecessary expenditure on undergoing fresh investigations that were already done a short while ago. More over fresh investigations are no substitute for the previous investigations by any logic. Sometimes patients fail to bring previous investigations because the previous doctor told them that they revealed no abnormality, forgetting that the

new doctor may find something in them that the previous doctor could have missed.

## **b) PREVIOUS TREATMENTS**

Drugs taken, previously, may be the cause of the present complaints. Doctor must be told the name of the drug that caused reaction in the past so that it is not repeated. At times the diagnosis is missed or its severity misjudged because its symptoms are modified, suppressed or increased by a drug taken or omitted by the patient but not brought to the knowledge of the doctor. In many diseases like diabetes mellitus and high blood pressure the doctor needs to adjust the dose or change the previous drug. By not knowing the name of the drug taken and its dose he is not in a position to make a reasonable adjustment to the treatment.

It is in the interest of patients not to use more than one prescription simultaneously except with the consent of all the doctors involved. Taking drugs from more than one prescription simultaneously even from the same physician can be dangerous. Self-medication carries this and many other risks and therefore must be avoided.

## **RELIANCE ON UNQUALIFIED ADVICE**

Ignorant patients rely more on the advice of other patients having similar symptoms or on the rumors prevalent in matter of treatment. Public needs intense education in how to handle health problems and avoid listening to advice of unqualified persons or resort to self-decisions in highly technical matters of health without obtaining the timely advice of the family physician.

## **THE WHOLE TRUTH**

Patients also need to be educated for giving the whole truth on inquiry by the doctor. Hiding information or giving incomplete or wrong information to the doctor can not only mislead him in making a diagnosis but can lead to a chain of wrong decisions to the detriment of the patient. It is not for the patient to decide which information is relevant to his

diagnosis and which is not. Only the doctor can pick up the relevant facts from the patient's history.

### **SOME ETHICAL MATTERS**

People also need to be told that, in admitted patients, doctors are bound by their own code of medical ethics that prevent them from seeing or commenting on patients who are under the care of another doctor except with the permission of the primary doctor. People must also know that doctors are bound by their own medical ethics not to disclose the information given by the patient to someone else except with the consent of the patient. These are simple matters of common sense though seldom known to, or understood by, even the educated patients.

Public needs education on differences between quacks and doctors trained in the science of medicine and the dangers of consulting quacks and others belonging to systems of unscientific medical practice. The importance of this subject for public education dictates the need for a separate chapter that has been included in this book.

### **III EDUCATION ON POPULATION CONTROL**

POPULATION EXPLOSION, with increase in world population by 250,000 each day, has become the biggest challenge of modern times that on the one hand is eroding and nullifying all the efforts towards socioeconomic progress and on the other hand has become the major cause of:-

- a) increasing poverty, persistent illiteracy, environmental degradation, high incidence of diseases and epidemics,
- b) scarcity of necessities of life including food, drinking water, clothing, houses, schools, medicines, hospitals, means of communication and transportation, shortage of energy resources resulting in escalating cost of all commodities and services to the extent that poor people and children are starving for all necessities of life more and more in number every day.

- c) shortage of jobs resulting into unemployment and
- d) escalation of social evils, e.g. selfishness, greed, theft, robbery, fraud, corruption, violent behavior, murder, kidnaping for ransom and human suffering.

The worst affected people are the poor mostly belonging to the developing world. Increase of population is negating all efforts towards improvement of literacy, quality of education and standard of living, towards fighting poverty, diseases and deteriorating law and order that are threatening the life of living beings on earth. World resources are limited because their exploitation and development have failed to keep pace with increase in population. Human needs are unlimited and multiplying fast due to galloping population growth. Today nations are fighting for resources and the more powerful are trying to grab whatever they can. When, with increasing population, shortage of resources becomes an overwhelming individual concern, individuals will fight each other for property, jobs, food and other necessities of life. This will aggravate selfishness, greed, hatred and violence leading to anarchy and the ultimate extinction of the human species. Energy shortage and escalating price of petroleum in the face of rising demand due to population explosion, has created a crises of phenomenal rise in cost of consumer goods and food leading to starvation affecting the poor population of the world. Food prices alone have escalated by more than double in one year. As a result, globally, nearly one billion persons go to sleep hungry every night and a child dies out of hunger every 6 seconds. No power on earth can control the rising prices of all commodities in the face of increased demand due to profuse growth of world population that will become nine billion by year 2050 AD.

### **IGNORANT HUMAN RESOURCE**

People have to be convinced that producing more children is self-destructive for the human race that can be only partially prevented by imparting children universal quality up-bringing and excellent education to make them



productive assets for humanity. There is no doubt that the potentials of a human being are far more than of any man-made machine. These potentials are developed in humans through universal quality education and training. When put to full use, such population will remain a resource and an asset to humanity. Un-educated, un-trained and ignorant population is only a drain on resources and a curse for humanity.

## **OVER POPULATION AND HUNGER**

The world is inhabited by over 7 Billion people today out of whom 40 % (2.8 Billion) are children and out of these 75 % (2.5 Billion) are living in the developing countries mostly in Asia and Africa. At least 50 % (1.25 Billion) of these children in the developing countries come from the very poor class that lack food, clothing, shelter, basic health facilities and schools to go to. Many of them die of starvation, exposure and diseases and those who survive are physically and mentally weak, least productive and ignorant. Many of them become criminals, extremists and terrorists. According to security analysis done by the Food and Agricultural Organization (FAO) of United Nations in 2006, 74 out of 120 districts in Pakistan are food deficient and 1.85 million children, mostly in the rural areas, are undernourished and at the risk of malnutrition. More than 400 million children around the globe are hungry, 800 million people around the world are chronically hungry, 1.5 billion persons in the world thrive on less than one US dollar (Pak RS.70) a day and some one dies every 3.6 seconds from hunger. Those who survive this state of deprivation, exposure and starvation remain physically and mentally underdeveloped and become the victims of numerous medical and social problems. With the present rate of increase in population in developing countries the situation is bound to get from bad to worse every year. If the present trend of population growth continues in the coming decades, particularly in the deprived section of the world, the situation in the developing countries will become unmanageable and chaotic. The governments and people of



developing countries must learn a lesson from these facts and take up public education on population control on a war footing in order to prevent the development of such a situation so as to narrow the widening gap between human needs and resources. It is the collective responsibility of the affluent states and rich people to prevent the death and suffering of the deprived people of the world from hunger, starvation and diseases through awareness on population control and universal quality education.

## RELIGIOUS POINT OF VIEW

It is our faith that God guaranties food for his entire creation. Allah says, "And how many living creatures carry their livelihood with them? Allah provides them with their livelihood and provides you too (Alquran, Surah 29, Ayat 60). The Muslim clergy usually preach that God is responsible to provide food for all and adds to it that therefore humans should produce as many children as destined by God. This is a distortion. Will man accept to live in hunger or at best get what stray dogs and cats eat? Even for the worse of food, although God provides every thing, man/woman has to make some effort to put the morsel in his/her mouth because God will not do it for him/her. Man/woman has to work hard to earn his/her food. If there are too many people and not enough jobs many who fail to get jobs will have to face starvation. One solution of this problem is to increase the employment opportunities to which there is a limit. The other solution lies in controlling population growth to which there is no limit. If neither of the solutions is possible, the poor man will suffer from hunger and starvation and at best will fail to get the quality of food that the rich man enjoys. That is why hunger, starvation and famine hit the poor people of the poor countries of the world and not the rich. It's a shame that most people are oblivious of this suffering of humanity and contribute to population growth with impunity. What has the government of Pakistan done on this vital issue except slogans? Public has the right to know the size of the problem of increasing over population, the adverse effects of high birth rate on the

newborn and his/her future, the mother, the family, the community and the nation and the dangers it poses to the future of the coming generations and the country.

Population planning is not prohibited by any religion but misunderstanding regarding this issue is present in the mind of the poor, illiterate and ignorant people. Such misunderstanding must be removed by proper education. Parents must be clearly informed that it is the killing of the fetus after conception, except for saving the life of the mother and prevention of birth of abnormal babies that is prohibited in most religions. But, there is no ban on prevention or delaying of conception in any religion. God says in Quran, "Do not kill your offspring out of fear of want; We shall feed you and them too; their killing is a grave blunder." (Sura Al-Isra,31). The clergy also preach that the Holy Prophet (PBUH) advised to produce more children to increase the size of the Ummah of Islam. It was a timely and perfect advice of the Holy Prophet at a time when world population was very small and particularly very scanty in the unfertile and barren land of Saudi Arabia but reason dictates that it would have been the opposite in present time. Some say, "it is a sin to interfere in acts of God." The poor who are generally highly religious and derive a lot of solace from religion in time of distress easily accept this distorted thinking. However appropriate reasoning must neutralize this misleading teaching by the clergy. Certain foods and water are essential for life but if there are too much of them they will produce health problems and floods. Therefore we must prevent their excess. Epidemics, draught and famine are acts of God but we are obliged to prevent them for the sake of humanity. Humanity itself is a blessing of God but if a human being tries to destroy human beings we are within our right to kill him in defense of humanity provided there is no non-lethal method available for stopping him. If overpopulation becomes a threat to human beings we are duty bound to prevent it by all legitimate means for the sake of life and prosperity of the entire humanity. Allah says, "I never change the condition of a people until they change it

themselves" (Al-Quran, Ar-Ra'd 13, Ayat 11). This means that God gives full freedom to man to improve his condition by all legitimate means. Unfortunately this Ayat is translated and interpreted differently by different Islamic scholars that indicate their personal bias. Change is a word that will include any change for the better or worse. God says it is for men (and women) to bring that change and He will not. Condition includes physical, mental, socio-economic and spiritual condition. There is no reason to exclude physical, mental and socio-economic condition and only limit the meaning of condition to spiritual state. Producing more children individually or collectively is going to adversely affect the physical, mental, socio-economic and even the spiritual state of the persons and the future of your family and the people. You are duty bound to discard any selfish considerations and do family planning for the collective benefit of humanity.

#### SOCIOECONOMIC INSECURITY

Social and economic insecurities of life are the major causes of promoting the desire for producing more children by the poor who expect their children to grow up and provide social and economic support to the parents in old age. The poor, particularly in the rural settings, because of poor law and order situation, feel more secure in large families with plenty of male members and, therefore, feel the need for producing more children, sons in particular. Any steps taken to ensure the security of life are important for encouraging population control. If people are provided security of health, food, clothes, property and shelter in old age, they will not produce more children when they are young. The high incidence of unemployment, the low wages of the employed, the high cost of living, the poor state of law and order and the uncertainty of jobs for the poor people in developing countries provide ample reasons to the poor to produce more children. Many poor people produce more children to neutralize the effect of anticipated high mortality of infants and children but if life of infants and growing children is made more secure by good nutrition and better

health-care for the children and their mothers, fewer parents would be tempted to have more children. A welfare state must assume the responsibility to take care of the life, health, food, clothes, property and shelter of the poor, must ensure free basic quality education to the have-nots and provide security to all in order to overcome the problem of population explosion. Insurance schemes can be introduced in many sections of society to provide financial cover in times of distress, illness and old age. My father (1892-1969), who was a poor school teacher but was a practicing Muslim and a religious scholar in his own right, used planning of his family so that the difference between the ages of any two consecutive siblings was about 5 years. He argued that this planning enabled him to save and take care of our education.

Therefore, we must educate people on safer methods of family planning and the short- and long-term beneficial effects of birth control. The fact that the population growth is 2.61 per cent per year in Pakistan and that our total population had swollen to 135.78 million according to 1998 census, has exceeded 162 million in 2006 and is increasing by almost 5 million each year is enough evidence of our failure in motivating people towards control of birth rate. The population of the present Pakistan was 16.576 million in 1901. This means that there is almost a ten-fold increase in 100 years. If the same pattern of population growth continues Pakistan will have nearly 1.5 billion people to accommodate and care for by the beginning of 22nd century. Already in Pakistan half the children have no schools to go to and a third of population is below poverty line. What to talk of progress, will we be able to increase schools, hospitals, water and food supplies, clothes, houses, transport, gas, oil and electricity ten-fold, to sustain just the present position? What a horrific situation will it be?

#### **IV. ENVIRONMENTAL POLLUTION**

Environmental pollution has become a major hazard in 21st century and is going to spell disaster for human existence in this century. Pollution of air and contamination

of water and food are the major causes of diseases and death in the developing countries. Preservation of healthy environment on land with clean air, water and food has become a major concern of all countries of the world. This can be achieved with full participation of all men, women and children and of all sections of society that can be obtained only after sufficient public education. Education alone can motivate people to live clean and let others live clean, to build a beautiful, lush green and refreshing abode under a blue sky for themselves and their fellow beings.

First of all, living beings themselves are the major cause of environmental pollution, among whom human beings are at the top of the list. Direct pollution of land, water and air by the human excreta and waste of the living beings and industries is still a major health hazard in poor countries that can be overcome by education. Similarly the pollution of air by dust, smoke, gases and noise emission from the poorly maintained automobiles is largely the result of ignorance of their drivers and owners. As a result the level of air pollution in cities of Pakistan is many times the upper level of accepted international standards. In the city of Peshawar in Pakistan average carbon monoxide level is 17-38 PPM against the WHO upper limit of 9 PPM, the dust level is 10 times more than the WHO limit while the noise level is 90-100 db against the WHO limit of 85 db, the ozone level has reached 49.5 particles per billion, sulphur dioxide is 46.5 and nitrogen is 44 particles per billion. These figures have alarming implications for the residents of Peshawar. Almost similar is the situation in other major cities of Pakistan. Global warming due to green-house effect and ozone layer depletion as a result of emission of noxious gases from industries, automobiles and burning of fossil fuel will threaten life on earth in the near future unless public opinion compels the states to control this danger. Loss of fertile land due to water logging, salinity and erosion, if not controlled, will lead to serious food shortage. It is the lack of awareness rather than economic necessity that leads to deforestation in the under developed countries. Members of

the public and agencies responsible for environmental sanitation need education to motivate them for proper disposal of excreta and waste, appropriate drainage of sewerage and water, careful maintenance of automobiles, care of plants and trees and self-protection from all harmful environmental pollutants, both organic and inorganic, including industrial waste, dust, fumes, smoke, chemicals, radiation, etc. These are life-threatening hazards that can only be controlled by bringing about a change in public behavior through education. Every state must make effort to provide alternate sources of energy at affordable cost so that poor people will not burn wood for heating and cooking. Similarly better, stronger and cheaper alternatives to wood should be developed for use in construction.

**V. AGRICULTURAL EDUCATION** is a great necessity of developing world where there is increasing demand for food due to high growth of population. In these countries like Pakistan, farmers are generally illiterate and ignorant of the use of modern knowledge and technology in order to boost up the quantity and quality of agricultural production. We are fortunate that in the sixties a martial law president realized the importance of developing agriculture for national survival and started public education in this sector to our advantage today. However the need for public education in agriculture sector continues to stay as we are still miles behind the western world and our needs are escalating due to rising population as a result of which the yield from agriculture is still short of our national needs.

We still have not introduced corporate farming which is a standard practice in most developing countries. There is need for better utilization of water resources, improved harvesting techniques and development of better post-harvest crop-management. While financial assistance and incentives are badly needed particularly for the small farmers, such assistance is open to abuse unless supported by intensive education in the agriculture sector.

**VI. ECONOMICS** has become a rapidly expanding science of immense importance in today's life. An understanding of



principles of economics will certainly influence the attitude and behavior of people towards cost-effectiveness, population control, environmental preservation, education, healthy living and hard work for greater productivity, resulting in better standard of living. There is a pathetic lack of motivation for hard work in Pakistani people that needs to be rectified. The knowledge of economics will give them understanding of dynamics of economic forces and factors leading to improved quality of life. Such an education must continue in simple and easily understandable language, so that people can become active participants in economic development and do not remain indifferent onlookers as they are today. It is the man in the street whose hard work and austerity will lead to economic prosperity of the nation and freedom from dependence on the loans of the developed nations. People will appreciate the role of austerity for economic progress if they can understand the simple economic principle of supply and demand determining the prices of all commodities. Through public education the common man must be made to understand how to get rid of the shameful economic slavery of the rich nations. The bowl of beggary cannot be broken in a single stroke by any individual but has to be destroyed over a period of time by the collective and persistent effort of the whole nation. While people must be educated to produce more for economic emancipation from the domination of the rich people and rich countries, we must bring revolutionary changes in our basic education in order to impart productive skills to our youth emerging from our schools and colleges. The combination of getting an insight in economic factors and the possession of productive skills will put our youth on the road to prosperity.

**VII. SOCIOLOGY** is a science of origin, evolution, development, organization and functioning of human society that determines the fundamental laws of social relationship. In recent years a disintegration of family and community life has been seen both in the East and the West that has also adversely affected the spirit of humanitarianism, nationalism and patriotism and has given birth to selfishness and injustices in society and exodus of the young from their own communities and countries. Fundamental human rights of individuals are freely violated by



the states and the rights of the family, community, society and state are not understood by individuals. The terms of social contract are violated by the rulers and the ruled alike. Such a state of affairs calls for commencing urgent education of public on these matters that are of primary concern to civilized living. People need to be continuously educated on their culture and history to revive their spirit of identity with members of the community and the nation.

In the same context religious education has a very important part to play in bringing about coherence, piety and nobility in society and negating the effects of ill-educated extremists. All religions teach love and tolerance but religious teaching in the hands of the illiterate clergy results in hatred and violence. A positive effort has to be made to educate people against religious, ethnic or racial hatred and create an atmosphere of love and affection in the society.

Promotion of collective public welfare activities in streets, villages, towns, districts, provinces, countries and above all in educational institutions to bring about the participation of the younger generation will go a long way in arousing community feelings and the spirit of patriotism and humanitarianism.

**VIII. POLITICS** concern the systems of governments that run the states. In democracy it is the right of the people to decide who should govern the state and how should the state be governed. It is unfortunate that in our country people vote for petty considerations, completely oblivious of the interests of the nation and ignorant of the systems of governments. Political, social and economic issues are inter-linked about which most of the illiterate and the majority of the literate population are in the dark. I am sure there is no dearth of learned personalities in Pakistan on these subjects who should come forward to educate the common man. Only then democracy will get a chance to thrive in this country and put the nation on the path to progress. Everyone gives many reasons for the repeated failure of democratic governments in Pakistan and other third world countries but the basic

defect lies in the wrong exercise of vote by the ignorant electorate. If people are educated on the principles that must guide them in deciding for whom to vote then honest and patriotic leadership may emerge to steer the country out of troubled water towards prosperity.

**IX. PUBLIC SERVICES.** It is the duty of all those professions, government departments, autonomous bodies, non-governmental organization and private agencies that offer public services to educate the public how best they can utilize their services and also prevent the misuse and abuse of such services. In the absence of such education people misuse and abuse most beneficial and life-saving services and many more persons in need are deprived of the services and are often at a loss where to go and whom to contact for help. Thus help delayed is help denied to the utter frustration of the help seekers.

**X. ADVANCES IN SCIENCE.** Lastly, public must be continuously kept updated by the media and press on all new developments, inventions, discoveries and research in science and technology that take place in any part of the world that affects human life.

Education on the above topics that are of vital importance to human survival should not be left only to the awareness programs in press and on electronic media but should also be included in the courses at school at earlier and appropriate levels, so that they can bring about behavioral change in young people who are more impressionable and receptive at their young ages. Such formal education will arouse continuous curiosity and the demand for public education for all times. Public education is a standard practice in developed countries but in developing countries like Pakistan we are way behind. Such education of public is essential for pulling the people out of the existing ignorance, enabling them to improve their quality of life and ensuring accountability to people of all those who are involved in public service.

Before I conclude, it is important to mention that the

English newspapers, periodicals and books have a limited circulation; a small minority of our public can read and understand English and still fewer are in the habit of regularly reading articles or books. I hope that those few who read this chapter will come forward with contributions on any of the subjects that are of their interest for public education. However considerably more readers will gain if papers and books on public education are written and translated into the national and regional languages and published in newspapers belonging to these languages. Needless to say that a large share of public education has to be taken over by the electronic media that are the major source of reaching the illiterate and the ignorant Pakistanis who constitute the majority of our population. I hope that the program producers and managers of television and radio will take a serious note of this fact and allocate more time to public education.



### III

## HOW TO STOP AIDS?

### WHAT IS AIDS?

AIDS is the acronym for ACQUIRED IMMUNODEFICIENCY SYNDROME, a disease the pandemic of which has taken the world by a devastating storm since the year 1981. Still many people in the developing world are unaware of its invariably fatal nature or of its immeasurable potential for destroying the world's economy. AIDS puts communities and families in gloom of poverty and famine, who helplessly watch the painful and miserable journey of the sole bread-earners and of the rising stars of the families towards an embarrassing and shameful end. AIDS kills innocent spouses and children leaving behind widows, widowers and orphans who have none to depend upon for survival. AIDS is more torturing than the most powerful nuclear bomb, because it does not kill its prey

instantaneously but slowly destroys the defense mechanism of the infected person over several years.

## **SYMPTOMS OF AIDS**

On the average for ten years time in adults and for five years time in children the infected person is free of symptoms but is subjected to irrational subtle or overt rejection and contempt by the society. After this extraordinary long incubation one day the patient develops painful sore throat and mouth, enlargement of lymph nodes in the neck, arm pits and groins, starts losing strength and weight, gets prolonged fever with persistent diarrhea and skin lesions. This is only the beginning of a most cruel and agonizing death that comes through scores of bizarre infections of all systems of the body including the resurgence of epidemics of tuberculoses, syphilis, typhoid and many viral, bacterial, protozoal and fungal diseases and certain forms of cancers afflicting the poor patient one after the other or together that relentlessly defy the most powerful treatments, melting the flesh, and reducing the patient to a living but paralyzed and mentally deranged bare skeleton.

Such a victim of AIDS is neither able to communicate with others nor able to swallow, urinate or defecate at will, lying in pain, fever and filth, totally dependant on family and odd friends. Finally, life comes to an end in the most sorrowful, pitiable and distressful manner in a matter of months under the sad and helpless eyes of those few who care for him.

This is the dreadful and gloomy scenario of AIDS that is at its peak in SUB-SAHARAN AFRICA that accounts for about half of the total number of HIV infected persons in the world and is likely to engulf Asia next. By the end of the Twentieth century about fifty million people in the world had fallen in the ruthless jaws of HIV since 1981.



## THE STORY OF AIDS

The story of AIDS began in the cities of New York and Los Angeles in the USA in June 1981 when the first thirty-one patients of odd infections called opportunistic infections with dirty, soggy, white, ulcerating and sloughing lesions in the mouth and throat, unusual pneumonias and multiple purplish tumors of the skin and oral cavity presented to the physicians. There were several common characteristics of these patients. They were all homosexuals and sexual contacts of each others. Their ailments were resistant to normally effective treatments. They all had a downhill course with bizarre infections (resistant to antibiotics) and various forms of cancer which were previously rarely found in other patients. It took two years of intensive research long after the initial patients had died to discover that the cause was an infection with a virus later on named HUMAN IMMUNO-DEFICIENCY VIRUS (HIV). It was so named because it paralyzed the immunity, i.e. the defenses of the human body and the disease it caused was named AIDS, i.e. ACQUIRED IMMUNO-DEFICIENCY SYNDROME. Later on it came to light that the infected adults remained carriers of the virus without symptoms for about ten years and were labeled HIV infected persons and after this long incubation period when symptoms of the disease appeared they were labeled as patients of AIDS.

## **WHERE FROM THIS VIRUS CAME?**

The answer to this question is still unsettled. From the retrospective studies of preserved human sera and other evidence, it has been suggested that the virus might have been there in the human bodies prior to becoming harmful for many years, running down in families from parents to children and from children to their children through generations, thanks to the high standards of sexual morality in old times. Obviously the virus was not detected earlier because it did not cause disease. It is only when the virus caused illness in 1981 that the Biological Scientists focused their attention on discovery of the virus. Mainly there are two plausible theories to explain the emergence of virulence in a pre-existent virus. Since they high light the importance of human behavior in converting a benign virus into a lethal strain, their knowledge is most essential for the common man for understanding their significance in prevention of AIDS.

## **THEORY OF CHANGE IN A BENIGN VIRUS**

It is well known that viruses are capable of changing their disease-causing characteristics if they have a chance to enter the bodies of different living beings and face a variety of environments. It is possible that originally this virus remained in the same families through vertical transmission from parents to offspring down the line staying in the same environment and as a result remained non-virulent. It was when the virus got a chance of horizontal transmission because of growing international traveling and migration during and after the World War II and the post-war era of rapid communication and prosperity leading to free sex with multiple partners particularly in homosexuals and through extensive use of injections and blood transfusions that the exposure of the virus to a large variety of environmental conditions in human bodies of different familial, ethnic, geographical and racial origin may have made the virus change its nature from non-virulent to a virulent one. Most probably this change in the original virus took place in the



xties or early seventies in the HOMOSEXUALS in the two big and crowded cities of the United States where they were known to practice sexual contact with multiple partners every night.

### **TRANSMISSION FROM GREEN MONKEYS**

Secondly it is known that this virus that existed in GREEN MONKEYS in Africa and the Caribbean Islands and caused a minor febrile illness in these monkeys, may have passed through sexual contact, scratches, bites or needle stick injuries to those human beings who loved and played with these animals (zoophilics) or to those who looked after them as veterinary workers/nurses/doctors. Haiti has been known as a popular holiday resort for affluent holiday-makers from the neighboring countries including homosexuals who may have received this virus from the locals through sexual contact or sharing injections with infected drug addicts.

### **RELIGIOUS VIEW**

Notwithstanding what the scientists say about the origin of HIV, some clergy of the west and east are of the opinion that AIDS had appeared on the world scene as a punishment to the sinners indulging in growing sexual immorality and drug addiction, just like syphilis which affected the sexually immoral adults and their children for nearly four hundred and fifty years. It is important to point out that this inference of the clergy is specific to sexually-transmitted diseases which is not shared by most liberal minded people and need not be generalized for other health problems nor such conclusions of the clergy should deprive the patients of sexually-transmitted diseases from the human sympathy, compassion and kind treatment that all patients deserve.

The Holy Quran has narrated the episodes of the nations of Nooh, Aad, Samood, Looth, Madain and Pharaoh (Firauon) who were destroyed by Allah because of their sins and disobedience to Him. The most relevant among them to

the present topic is the story of the nation of Looth in Sura-al-Araf where Allah says:-

“We sent Looth, who said to his people, ” you commit such shameful acts that no people before you ever committed in the whole creation. That is you practice your lust on men, in preference to women; you are indeed a people transgressing all limits.” (7-80,81)

The Holy Prophet Muhammad (PBUH) predicted such epidemics in very clear words by saying:-

عن ابن عمر قال قال رسول الله لم يظلمر الفلجشته في قوم قط يُعلِنُوا ابها الأَفْشَى فِيهِمُ الطَّاعُونَ وَالْأَزْجَاعُ الَّتِي لَمْ تَكُنْ مَضَتْ فِي أَسْلَافِهِمُ الَّذِينَ مَضُوا

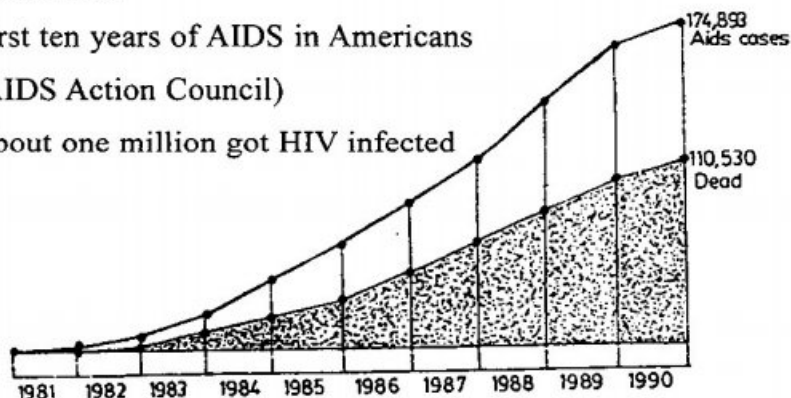
(سنن ابن ماجه كتاب النكاح باب العقوبات)

"If and when nations commit vulgarity and unacceptable acts openly, there will come plague and other epidemics that were never heard of and never seen in their forefathers."

First ten years of AIDS in Americans

(AIDS Action Council)

About one million got HIV infected



## WHAT IS THE SIZE OF THE PROBLEM OF AIDS?

**NORTH AMERICA:** In ten years from the onset of AIDS in North America about one million American men, women and children were HIV infected, 174,893 had developed

AIDS and 110,530 had died by the end of 1990. Up to the end of 1996, about 150,000 adults had died and 37 out of every 100,000 North American adult population had AIDS. By the end of 1997 2.3 million had been HIV infected with prevalence rate of 565 per 100,000. By the end of 2002, in North America, there were 980,000 adults and children living with HIV/AIDS and 45,000 persons newly infected with HIV were reported in one year.

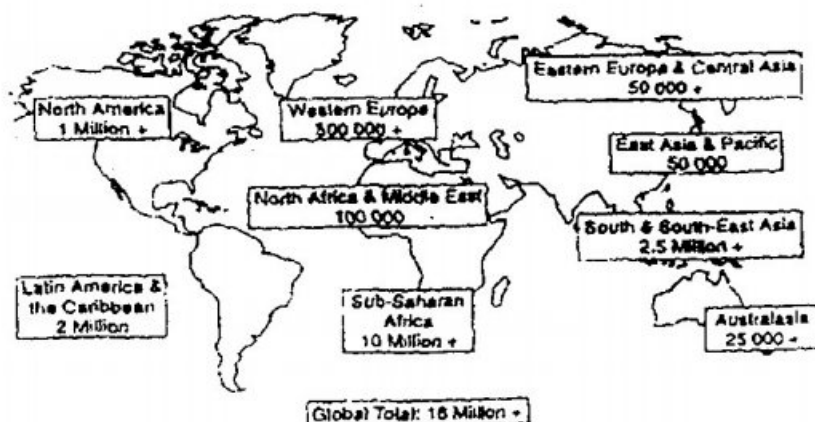
### **WORLD:**

By June 1991, 163 countries of the world reported 371,802 cases of AIDS to WORLD HEALTH ORGANIZATION. In 1991 the worldwide WHO-estimated number of HIV infected persons was 10 million, out of which 3 million were expected to be females and one million children. By June 1994 WHO reported estimated presence of 16 million HIV infected persons in the world and the fastest rate of spread was in Asia where eight-fold increase in one year, in estimated HIV positive cases, was reported. By the end of 1995 the number of worldwide HIV infected cases rose to 24 million and in December 1996 the figure crossed 29 million, affecting virtually every part of the world. In 1996 more than 3.1 million new cases were estimated and about 1.5 million patients including 350,000 children died of AIDS. Up to the end of 1996 since the start of the pandemic about 5 million adults and 1.4 million children had died of AIDS, while about 21.8 million adults and 1.4 million children were living with HIV infection or AIDS the world over.

## THE HIV/AIDS SITUATION—mid-1994

Region	Estimated Total adult HIV Infections	Estimated Total adult AIDS cases	Cumulative Reported AIDS cases (adult and paediatric)	Ratio of HIV infections in men to those in women
Australasia	> 25000	> 5000	5158	5-6
North America	> 1 million	> 450 000	421418	5-6
Western Europe	> 500 000	> 150 000	111877	5-6
Latin America & the Caribbean	2 million	> 400 000	102359	4
Sub-Saharan Africa	>10 million	2 million	330 805	0.83-0.91
South and South-East Asia	>2.5 million	250 000	7195	2-3
East Asia and Pacific	50 000	> 2000	1073	5-6
Eastern Europe & Central Asia	> 50 000	> 7 000	3932	5-6
North Africa the Middle East	100 000	> 15000	1302	4
Grand Total:	> 16 million	>3 million	985 119	1-5

## THE ESTIMATED GLOBAL HIV INFECTIONS FROM BEGINNING OF PANDEMIC TILL MID-1994 (THE WHO REPORT)

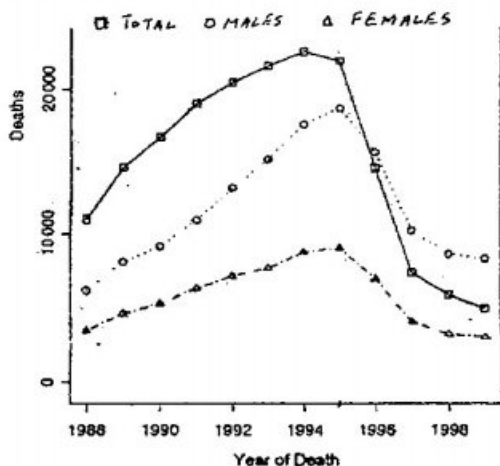


By end of December 1997, as per report of UNAIDS/WHO, all over the globe 30.6 million adults and children were living with HIV infection, 11.7 million had died including 2.7 million children from AIDS since the

beginning of the epidemic. These figures already surpassed the WHO predictions for year 2000. In fact at the dawn of twenty-first century the total number of HIV infected patients in the world since 1981 were estimated to be over fifty million. According to UNAIDS/WHO report by December, 2002, total number of people living in the world with HIV/AIDS were 42 million. In year 2002, 5 million newly infected HIV persons were recorded in the world out of which 4.2 million were adults, 800,000 were children under 15 and 2 million were women. In this year 3.1 million died of AIDS. That means that the number of new cases exceeded the deaths by nearly 2 million showing the alarming acceleration of the pandemic of AIDS across the world.

All over the world the proportion of effected females has increased to nearly 50 per cent on the average, although, in the Sub Saharan Africa 61 per cent females are affected. There is evidence that while in the developed countries the number of newly infected persons fell below the number of deaths, in the developing world there is multifold increase in the number of newly HIV infected persons outnumbering the deaths from AIDS particularly involving Sub-Saharan Africa, India and now China. In fact, in United States, the number of deaths from AIDS has fallen sharply since 1995.

#### AIDS DEATHS IN UNITED STATES 1988-1999



It was estimated in 1996 that throughout the world about 7500 new infections of HIV occurred every day which increased to 16,000 new infections per day in 1997. WORLD HEALTH ORGANIZATION had estimated more than three million newly infected people in 1996 and 5.8 million in 1997, almost a two fold increase in one year. Another depressing revelation is that more and more new HIV infections are occurring in heterosexuals probably because heterosexuality is a more natural form of instinctive behavior that is far more common than homosexuality.

On Sunday, July 11, 2004, UN Secretary General Kofi Annan, in his message to the International AIDS Conference in Bangkok, revealed that more than 20 million have died of AIDS since 1981 and warned that Asia's economic successes were threatened by the spread of HIV/AIDS after experts warned that only a three years window remained for the region's leaders to head off a crisis that could exceed anything yet seen in sub-Saharan Africa.

According to data published by UNAIDS on the World AIDS Day, on December 1st, 2007, globally, there are 33.2 million people living with AIDS and 2.1 million have died in 2007. However 2.5 million new infections have occurred still exceeding the number of deaths.

### **PREDOMINENTLY MUSLIM COUNTRIES:**

Fortunately the incidence of HIV infection and AIDS has been the lowest in the Muslim countries. By 1st December 1991 WHO received the reports of only 888 AIDS cases from fifteen Muslim countries of the Eastern Mediterranean region that included Pakistan. By middle of 1994 the HIV infections in North Africa and Middle East were estimated to be 100,000, i.e. 1/100th of Sub-Saharan Africa and 1/25th of South & South-East Asia by that time, yet the rate of progression by itself was alarming and called for intensive public education on prevention of AIDS.

### **PAKISTAN:**

The first case of AIDS was reported in a Tanzanian

student in Karachi in 1986. By December 1, 1991, 18 cases of AIDS and 113 HIV infected persons were reported. By the end of 1995, that is in the first ten years of its emergence in Pakistan, the number of HIV positive reported cases had gone up to 753, which is nothing compared with what happened in America, Africa and Europe, but this figure is believed to be much lower than the actual because of under reporting, lack of facilities for HIV testing even in blood banks and antenatal clinics, exorbitant cost of testing and the reluctance of people to get their blood tested because of the attached stigma of sex and because many non symptomatic persons do not wish to know about HIV positive test that they regard synonymous with a death sentence for a disgraceful sin. In fact most of the reported HIV positive persons and patients of AIDS in Pakistan are those who have been working abroad mostly as laborers and drivers in the United Arab Emirates and some in Europe, the United States and Far-East. They, on detection of being HIV positive, were deported or returned on their own.

The Federal Ministry of Health of Pakistan gave an estimated figure of 35,000 HIV positive persons in Pakistan in 1995 that in the opinion of many physicians was an underestimated figure and most of them believed that this figure was the tip of the iceberg. Many thought that we might be sitting on the top of a volcano that may erupt any time in the coming years. Already on November 1, 1996, the United Nation AIDS (UNAIDS) Program reported that a total of 1033 HIV positive persons were reported and an estimated 50,000 persons were HIV infected in Pakistan. In the year 2002 the total number of patients of AIDS since 1986 had reached 2000 and the estimated HIV positive cases are over 70,000. In year 2007, according to UNAIDS, the number of HIV positive individuals in Pakistan has risen to 85,000 and the deaths from AIDS have risen to 3000. It is comforting that in 20 years AIDS has not broken loose the way it did in many other countries, thanks to the relative higher standard of sexual morality of Pakistanis but this offers no room for complacency. The fear of spread of AIDS



in Pakistan is real because of the profuse use of injections by the quacks, dental practice by unqualified self-styled dentists, surgical practice by barbers, emerging of large number of unregistered substandard blood banks and laboratories and increasing number of drug addicts by injections. The United Nations Drug Control Program registered four million hard-core drug addicts in Pakistan in the year 2000 and only five percent were using syringes. In only three years the number of syringe users in drug addicts has gone up five times. Already these factors have led to an epidemic of Virus Hepatitis and AIDS might be the next one although it may not become visible now because of the ten years long incubation period of AIDS. Already, on the World AIDS Day on December 1st, 2007, published in the News International, data from the CIDA-funded HIV & AIDS Surveillance Project 2006 reveal that prevalence of HIV infections among Injecting Drug Users (IDUs) stands at mind-blowing 51.5 per cent in Sargodha and 30 per cent in Karachi. This spells disaster for the future of Pakistan.

**PREDICTIONS OF WHO** It is now known that most predictions of WHO regarding the pandemic of AIDS have come true with the exception of Thailand where intensive preventive measures were taken and Muslim countries where the influence of religion came in the way of spread of HIV infection. So far no vaccine or cure has been discovered and whatever treatment is available, only prolongs life by a few years and is beyond the means of a common man.

W.H.O PREDICION BY YEAR 2000 A.D.			
Heading	Number/ percent affected	Average Age	In The Aftermath
HIV Infected AIDs patients	40 million 10 million	15-25 years 25-30 years	Many Million Widows and Widowers.
AIDS Children	2.5 million	Under 5 Years	Many More Million Orphans
HIV + in Developing countries	90% of HIV + in the world	_____	Many Billion Dollars Economic loss per year mostly to developing countries
Percentage of Heterosexuals	80% of all sex related HIV +	_____	

## HOW IS THE HIV INFECTION TRANSMITTED ?

The infection of HIV passes from infected persons to others through three routes:-

### I. SEXUAL TRANSMISSION

Eight out of every 10 persons receive the infection through sexual intercourse during which the infected secretions from the genitals, i.e. semen and vaginal secretions of apparently healthy looking HIV infected persons or AIDS patients, enter the previously uninfected partners. Present data reveals that 7 out of 8 so infected receive the virus from partners of opposite sex and only one gets it from the partners of the same sex. Infection is more likely to get transmitted if the contact with the infected person is frequent, if the infected partner has developed symptoms of AIDS or if either of the two partners has lesions of another sexually transmitted disease on anogenital region.

WINDOW PERIOD is an interval from the time of contact/entry of virus in the body till such time that the newly infected person's blood becomes HIV positive which is on the average about six weeks but can be as long as six months. It is extremely important to be aware of the WINDOW PERIOD during which the infected person is highly infectious although his blood is HIV negative.

HENCE HIV NEGATIVE TEST DOES NOT EXCLUDE THE PRESENCE OF HIV INFECTION IN THE HUMAN BODY IN THE FIRST SIX MONTHS OF INFECTION. Therefore any person with a reputation of lax moral values or history of multiple sexual partners or of extramarital sexual contact in the last six months is a potential risk of being HIV-infected person even if HIV-negative.

## **II. TRANSMISSION THROUGH INJECTIONS AND INJURIES**

One out of every 10 persons gets the infection through receiving infected blood or blood products usually by intravenous injections and rarely by other penetrating injuries by infected needles, blades, knives and sharp objects. The largest number of victims of this mode of transmission are those who receive blood and blood preparations as treatment for diseases such as Hemophilia, Thalassemia, accidental bleeding and those who share injections with others for drug addictions. Unqualified dentists and barbers using unsterilized knives and scissors are another source of transmission of HIV in developing countries.

## **III. VERTICAL TRANSMISSION**

Another one out of 10 persons is the UNFORTUNATE NEWBORN Baby who receives the HIV from infected mother in the womb or during delivery. Up to half of babies born of HIV positive mothers are infected with the virus, more so from mothers who have developed symptoms of AIDS. Since all HIV infected children will die in their childhood, they pose no danger of continuing vertical transmission. Transmission of HIV from lactating mothers to infants through breast feeding is a rare possibility that poses lesser risk to the life of the baby than the overall risk from artificial feeding.

## **PREVENTION OF AIDS**

Since no vaccine or curative treatment has been discovered against AIDS, PREVENTION is the only choice

available to the people to defend themselves against the pandemic of AIDS. If people will clearly understand the three modes of transmission of AIDS, they will not find it too difficult to protect themselves. Fortunately prevention is easier than expected due to the following characteristics of HIV:

1. The virus is unable to survive outside the environment of human body for long except in duly preserved human blood, plasma, serum, semen, certain secretions and organs.
2. The virus is easily killed outside the human body by drying, heating, boiling and usual antiseptics.
3. The virus cannot penetrate through intact skin.
4. The virus does not infect through inhalation of air.
5. The virus does not infect through food tract except through ulcerated mucous membrane.
6. The virus is present in significant amounts only in the semen, vaginal secretions, blood and organs of human beings.
7. The virus is transmitted through sexual contact mostly after repeated exposures.

As a result of the above characteristics, HIV is not likely To be transmitted through:-

1. Feces and urine.
2. Food and drinks.
3. Mosquitoes and other insect bites.
4. Casual contact, e.g. hand shakes, embracing, etc.
5. Sharing swimming pools.
6. Sharing showers and toilet seats.
7. Sharing cups, plates, utensils, cutlery, towels, etc.
8. Proximity with patients of AIDS in homes, hotels,

offices, class rooms, public transport, waiting rooms, cinema halls, hospitals or at work.

9. Light kissing.

10. Spitting, expectoration, coughing and inhalation.

Therefore prevention of AIDS requires blocking the three routs of transmission as follow;-

#### **I. SEXUAL TRANSMISSION OF HIV**

This is the main rout of infection of HIV that can be blocked by:-

(a) Abandoning premarital and extramarital sexual acts with others in all its three forms, i.e. heterosexuality, homosexuality and bisexuality. It should be remembered that almost all the reported HIV positive persons in Pakistan contracted the infection while living abroad without their spouses. Such Pakistani repatriates as well as foreigners from countries where AIDS is highly prevalent and have come to Pakistan for work are the main source of infection to local population. The same applies to most countries in Asia and Middle East. It is important to realize that HIV infection attacks those who are indiscriminate in their sexual relations. Sex becomes a subservient force when it is founded on love but without it sex becomes a dominant devilish force that drives most people to senseless sexual promiscuity and ultimately they get sexually transmitted diseases such as AIDS.

(b) Promoting the use of condoms by HIV positive married persons to protect their spouses and by others who find it impossible to avoid adultery, warning them that the use of condoms is inferior to complete abstention from adultery, because condoms are vulnerable to tears, perforations and leaks permitting the virus to cross over. The hundred per cent lethal nature of AIDS should discourage every sensible person from opting for an inferior choice. However condoms have proven to be effective in preventing HIV transmission and must be made available at subsidized price to all and

even free of cost to high risk individuals.

(C) Performing circumcision as early as possible, but at the latest before puberty, is recommended for prevention of AIDS. According to a recent Australian study published in British Medical Journal in June 2000, men who are not circumcised are up to eight time more likely to get infected with HIV than circumcised males.

(D) Abandoning sex toys. Sharing of sex toys that is perhaps more common in lesbians is a source of transferring the virus. Their possession and use should be strictly prohibited and their manufacture, import and export should be banned.

(E) Possession and display of pornographic literature, pictures, videos and movies must be banned.

(F) SAFE SEX refers to those forms of sexual activities in which there is no exchange of semen, vaginal secretions or blood between sexual partners. It was felt in the West that if people in general and the teenagers in particular are convinced to restrict their sexual activities to practice of safe sex, they can be protected from AIDS and yet will not be deprived of enjoying sex. However, the only forms of safe sex are SOLO/SELF MASTURBATION, and BODY MASSAGE away from private parts. Any sexual activity in which two or more partners permit the exposure and handling of private parts and sensual contact of their bodies should be regarded risky even when there is no exchange of semen, secretions or blood. It should be understood that the instinctive tendency of advancing from low risk sexual actions to high risk behavior is not easy to stop particularly when such acts are frequently repeated in privacy or when the partners are under the influence of alcohol or narcotic drugs. (So far no convincing evidence has been produced to prove that the practice of safe sex has reduced the incidence of HIV infection.) In such situations the devil in the subconscious ultimately succeeds in arousing the sexual passions, accelerating the tempo of sexual interaction till the inevitable act is completed resulting in exchange of semen and vaginal secretions. Once the curtain is lifted there is no

end to repetition of such shameful acts. It therefore requires a conscious mental effort with clear and rational mental faculties to suppress the evil subconscious desires to which the Holy Quran has referred in clear words:-

"O believers, do not follow the footsteps of the devil. If anyone follows the footsteps of the devil, he will command what is shameful and wrong." (XXIV-21)

I predict that the war against AIDS will be won by those who follow the teachings of their divine religions on sexual morality for which Allah has given clear directives in the Holy Quran such as:-

"O children of Adam, let not the devil seduce you in the same way that he caused your first parents to be expelled from heaven." (VII-27)

God has repeatedly forbidden shameful acts in very clear words in The Holy Quran as:-

"Do not go near shameful acts whether they are in public or in privacy." (VI-151)

Adultery has been forbidden in unequivocal language in the Holy Quran in these words:-

"Do not go near adultery for it is a shameful act and evil road (to other evils) (XVII-32)

The Holy Quran has laid down the basic principle of sexual conduct in these words :-

"And those who control their sexual desire, except with their spouses and whomever their right hand may possess (the captives), then they are free from blame. Those who go after anything beyond, are indeed transgressors." (XXIII-5,6,7) God has further emphasized the concept of marriage by saying:-

"Among His signs is that He created for you spouses from among yourselves, that you may live in peace with them, and spread love and compassion between you and them: surely there are signs in that for those who reflect "



It is very clear that Islam advises us to adopt love and compassion between sexual partners as the basis of sex and since loyalty to one's partner is the hallmark of true love, it is bound to restrict sexual contact to one and only one partner. Where love is lost, loyalties cease, sexual behavior becomes unbridled, exposing the couple to risk of AIDS and the breakdown of many a life partnerships.

Since narcotics blur the conscious mental faculties that are important to control sexual behavior, Allah forbids the use of narcotics in the Holy Quran by saying:- (V-93)

“O men of faith, these intoxicants and gambling and idols and divining devices are dirty acts of the devil; avoid them, so that you may prosper.”

The Holy Prophet (PBUH) further emphasized the ban on intoxicants in these words:-

“All intoxicants are forbidden and what is intoxicating in large quantity, even its minute part is forbidden.”

On another occasion the Holy Prophet (PBUH) said as narrated by Abu Ya'la ibn Shadad ibn Aws:

“ A wise person is one who keeps a watch over his bodily desires and passions, and checks himself from that which is harmful and strives for that which will benefit him after death; and a foolish person is one who subordinates himself to his cravings and desires and expects from Allah the fulfillment of his futile desires.” (Tirmidhi)

The teachings of Islam on sex and narcotics are equally supported by other divine religions.

The seventh commandment given to Moses states: "You shall not commit adultery", while the old testament says, "He who commits adultery has no sense", (Proverbs:32).

In the Gospel of Mathew, Jesus is quoted as saying,

"But I say to you that everyone who looks at a woman lustfully has already committed adultery with her in his heart" (Matthew:5,28).

Christianity also prohibits the use of such substances that clearly affect the functioning of the brain. It is mentioned in the Old Testament that, "Whoredom (prostitution) and wine and new wine take away the hear (mental perception or the ability to know)."

Christian Scriptures also take an interest in marriage that they consider as sacrosanct, and urge that "the husband should give to his wife her conjugal rights, and likewise the wife to her husband", maintaining that this is a right specifically for them to exercise to the exclusion of everyone else, for, "the wife does not rule over her own body, but the husband does; likewise the husband does not rule over his own body, but the wife does." (1 Corinthians: 7, 2-4)

The summary of all religious teachings is that religion encourages and promotes love, compassion and marriage, and prohibits all other alternatives for sexual enjoyment that are regarded acts of vulgarity and are condemned. Religions further advise the preservation of the human rational mental faculties and discourage the use of all substances, such as drugs and all narcotics substances that may impair them, regardless of the manner in which these substances are taken or administered. Religions also urge personal and public cleanliness and promote public health for the protection of human beings from the dangers of infection by destructive diseases, the most dangerous of them, in this day and age, are sexually transmitted diseases, the latest and the most lethal among them being AIDS.

It is more than obvious that the key to prevention of AIDS lies IN PROMOTION OF LOVE AND COMPASSION IN ADHERENCE TO ONES MARITAL LIFE PARTNER IN SEXUAL MATTERS AND IN ENCOURAGING EARLY MARRIAGE. IF MUSLIMS, JEWS AND CHRISTIANS CAN BE SENSIBLE ENOUGH TO FOLLOW THE TEACHINGS OF THEIR RESPECTIVE

RELIGIONS ON SEXUAL MORALITY, ATLEAST TWO THIRD OF THE WORLD POPULATION WILL WIN THE WAR AGAINST AIDS.



**LIFE PARTNERS**

## **II. TRANSMISSION THROUGH INJECTIONS AND SYRINGES.**

(A) The greatest source of HIV infection through this route is blood transfusions and other blood products. Infection from this source can be avoided by strictly observing the following rules:-

1. Testing blood and blood products for HIV before administration. This is an essential moral and ethical obligation of every blood bank and every laboratory which prepares blood products to ensure that only HIV negative blood and blood products are released for giving to patients.
2. Since HIV negative test does not exclude the possibility of the presence of the virus in the blood of those infected donors who are still in the WINDOW PERIOD at the time of collection of blood, therefore blood donations must not be accepted from all those who are potential HIV carriers, e.g. those who had extra or pre-marital sex in recent years, those who had blood transfusion in recent years, those who have been drug abusers by injection, prostitutes and the sexual

partners of all the four groups.

3. Despite above measures AIDS will continue to spread in developing countries because of uncontrolled use of syringes and blades by quacks, unqualified dentists and substandard laboratories as well as blood transfusions by unregistered blood banks. Use of recycled syringes and blades also pose a danger of spreading AIDS. There is urgent need for putting a complete ban on quackery, use of recycled syringes and blades and dismantling all substandard laboratories and blood banks.

(B) The second common mode of transmission of HIV through injections is found among drug abusers who share syringes and needles. Such person should be persuaded to abandon use of drugs by injection; but if this is not possible, they should be encouraged to use disposable syringes which should be discarded after using once. The supply of disposable syringes and needles to such persons free of cost has considerably reduced the incidence of new infections in cohorts of drug abusers.

(C) Use of any sharp objects contaminated with human blood can spread HIV and must be prevented by stopping such practices and customs as:-

1. Circumcisions by barbers and quacks.
2. Use of unsterilized common razor blades by barbers.
3. Practice of tattooing with contaminated needles.
4. Practice of piercing ears and noses with unsterilized needles for jewelry.
5. Use of unsterilized needles, scissors and knives by quacks and all others.
6. Use of unsterilized acupuncture needles.

Injuries from discarded used needles, blades and other sharp instruments to patients, doctors, dentists, barbers, nurses, other medical workers and children who might play with such objects should be prevented by taking great care

during their use and immediate disposal of such objects after use.

### **III. VERTICAL TRANSMISSION FROM MOTHER TO CHILD**

THIS can be prevented by the following measures:-

1. Six monthly HIV testing of spouses whose partners are HIV positive till they become HIV positive.
2. Advising HIV positive husbands/spouses to abstain from sex or else use two latex condoms each time they meet for sex to protect them from HIV infection.
3. Offering contraception for HIV positive women.
4. Monthly HIV testing of pregnant females, if the husband is reported to be HIV positive.
5. Offering termination of pregnancy to HIV positive females.

### **COUNSELING**

Counseling of HIV positive persons, their contacts, families and friends is absolutely essential not only for proper management of patients but also for effective prevention. Through the process of counseling the task of education must continue at personal level. Needless to say that there is great need for ensuring the confidentiality of patients, removing the unfounded fears of the patients, their relatives and the community in which they live and promoting humanitarian support and compassion towards the patients and their families.

### **SCREENING FOR HIV INFECTION**

Diagnosis of all HIV infected persons and containing the spread from such persons as early as possible can be the key to effective prevention of AIDS, because the source of infection is in such persons and the main mode of its transmission is through sexual contact. However, this is neither feasible nor possible for the following reasons:-

1. The vast majority of people are HIV negative and therefore HIV testing of all will not be cost-effective.
2. HIV testing cannot be imposed on every one, otherwise the majority of people who harbor even remote fears of turning positive, will try to avoid the test at all costs or else adopt all unfair means to get a false HIV negative test, thus evading detection by corrupting the whole system.
3. Each HIV testing by the simplest method costs Rs.1000.00 (20 US dollars), which no country in the world can afford for its whole population.
4. HIV testing will not detect the infected persons in the first six weeks to six months of infection, i.e. in the window period.

Therefore the only practical way of useful screening for HIV is to educate people who are at high risk of being HIV positive to offer themselves for voluntary testing more than once, six months apart, with a firm promise of absolute confidentiality. Such high risk groups include:-

1. Marital partners of HIV positive persons.
2. Babies of HIV positive mothers.
3. Male and female prostitutes and their sexual partners.
4. Needle sharing drug addicts.
5. Those who received blood transfusion, blood products or organ transplants in recent years and their sexual partners.
6. Those who had premarital or extramarital sex in recent years.
7. Frequent international travelers including seamen and employees of commercial airlines.
8. Long distance professional drivers and taxi drivers.
9. Prisoners.

10. Those having other sexually transmitted diseases.
11. Those having received injuries with unsterilized syringe-needles or surgical instruments used by HIV positive patients.
12. Patients of Chronic Renal Failure on hemodialyses.
13. Pregnant wives of HIV positive males should be tested at monthly interval till they turn positive.
14. Hotel bearers giving room service should be tested six monthly.

### **WHAT IS THE REAL DANGER OF AIDS ?**

The real danger to the future of the developing world lies in the vulnerability of the teenagers to AIDS. According to a report of WHO, nearly 30 percent of the world population, i.e. two billion, are between the ages of 10 and 24 years. Of these more than 4 out of 5 live in developing countries, often in conditions of economic deprivation. These figures indicate that unless developing countries like Pakistan pay very serious attention to education of the children and teenagers on prevention of AIDS, particularly with reference to the role of love and compassion in sexual morality in the light of religious teachings, these nation are going to face the greatest catastrophe of all times as we enter the twenty-first century. To avoid the colossal destruction of the future custodians of these poor nations, a chapter on prevention of AIDS, other Sexually Transmitted Diseases (STD) and sexual behavior should be introduced in schools as a part of compulsory health education and the clergy in Islamic religious schools and the priests in churches should be also persuaded to give this education to children in the light of their religious teachings. Furthermore, the electronic media should undertake this mission on top priority basis. Our escape from AIDS lies in adherence by everyone to the principles of morality as laid down by the divine religion he follows. I have no doubt that by doing so the predominantly Muslim, Christian and Jewish nations and any others who follow such sexual morality can be the first ones to win the



war against AIDS. IT IS OBVIOUS THAT THE DEVIL  
MUST BE BURIED BEFORE AIDS CAN BE BEATEN.



## IV

# QUACKERY OR A MISFORTUNE OF AN IGNORANT SOCIETY?

The ever expanding world of quackery is posing a very serious threat to the health and lives of people in the developing countries in general and in Pakistan in particular. It is high time that this issue of immense public concern is discussed in public by the public for the public. It is a pity that at times the voice of truth is choked by the likes and dislikes of some editors who are generally considered the frontline defenders of freedom of expression and as a result very important issues are not allowed to appear on the pages of our newspapers. Having suffered this fate once, I venture to write this chapter for public education in the hope that someday, somewhere, it will meet the eyes of the readers who would love to know what it is all about.

### **WHAT DOES QUACKERY MEAN?**

A quack is generally regarded as an ignorant pretender to skills, especially in medicine and surgery. Quackery is simply the practice in which quacks, who are ignorant of the science of medicine, indulge in unscientific and many a time unethical management of health problems. The pretenders of the knowledge and skills of Medical Science that they do not possess are frauds and criminals who are one step higher than the quacks, although traditionally included in the meaning of quacks. Thus quacks have the unlimited potential to damage and kill patients and destroy the health of the community at large. This is not likely to happen in an educated and enlightened society whose members have logical thinking and awareness of their rights. It is also true that all quacks are ignorant but one

cannot call all of them pretenders or frauds. Perhaps, in case of many quacks, quackery is adopted fraudulently in order to satisfy their greed for wealth, influence, fame, or to meet genuine needs of livelihood in a competitive but ignorant society, but there is no denying the fact that many quacks work with sincere spirit of service to the ailing humanity, completely oblivious of their ignorance and the damage they cause.

A nation in which quackery not only survives but thrives and prospers, reflects the illiteracy and ignorance of that nation and leads to increasing illnesses, sufferings and deaths, loss of national productivity, economic depression, poverty and the downfall of that nation. If there is any national desire to achieve health for every Pakistani, every effort must be made to eradicate quackery in the twenty-first century through a revolutionary and not an evolutionary process.

## **TYPES OF QUACKS**

There are mainly six categories of quacks in our society. These are:-

1. THE UNQUALIFIED PRACTITIONERS
2. THE HAKEEMS
3. THE HOMOEOPATHS
4. THE FAITH HEALERS
5. THE QUALIFIED QUACKS
6. THE MISCELLANEOUS GROUP

1. The unqualified quacks, perhaps, constitute the largest number of quacks in Pakistan. These are the persons who have obtained a poor and erroneous knowledge of some forms of therapy, either by remaining dispensers, chemists and druggists in shops, medical technicians, operation-theater assistants, male nurses and drop-outs from medical colleges or they have been just in company of doctors

as assistants, attendants of the chronic patients, ward orderlies, hospital sweepers, servants of doctors and even medical hostel bearers. Pakistan is crowded with such quacks who are available in every street and every corner of the country, playing hell with the health and lives of the people. Unqualified dentists are included in this group who have the potential of causing infections in the oral cavity that can lead to septicemia, endocarditis and meningitis. They are also suspected to be a major source of spreading Virus Hepatitis and possibly AIDS.

2. The Hakeems are a second group of quacks who pretend or believe to have the knowledge of what they call Unani (Greek) system of medicine, but in fact they are the persons who have inherited a collection of recipes of concoctions, the so called MUJARRAB NUSKHAS (tried and effective recipes), from their forefathers through generations and the recipes of one Hakeem are a secret from the others, and which they administer to patients on their vague impressions of the so called nature of illness. Admittedly, Hakeems are generally experts in public relations and have a good general understanding of the psychology of the ignorant patients and their attendants. Their prescriptions are generally inexpensive and the more successful among them combine the art of faith healing with their administration of treatment. These are the reasons for their success in a largely illiterate, poor and ignorant society of ours.

Since the creation of Pakistan Hakeems have become more organized and alert to the threat to their existence. They try to mislead the unwary by claiming that they are the torch-bearers of the ancient Greek (Unani) medicine and Arabic/Islamic medicine and regard the old physicians of those times as their forefathers and the originators of their system of medicine that they call Unani medicine, for which I find little evidence in the history of medicine.

## HIPPOCRATES

To begin with, Hippocrates of Cos, Greece (Unani), who perhaps lived for one hundred and one years, from 460 BC to 359 BC (or to 370 BC) was the first Greek (Unani) Physician who is universally regarded as the father of modern medicine. It was he who severed the art of healing from witchcraft and superstition. His descriptions of many diseases are still, after over two thousand years, unsurpassed by the authors of modern medicine. A few aphorisms of Hippocrates, based on his experience, are as follows:-

" No head injury is so slight that it should be neglected, or so severe that life should be despaired of."

" Convulsions supervening on a wound are deadly." (Tetanus)

" Those naturally very fat are more liable to sudden death than the thin."

" In jaundice it is a grave matter if the liver becomes endurated."  
(Cancer and Cirrhosis of Liver)

## THE SCIENTIFIC APPROACH OF UNANI PHYSICIANS

The scientific OBJECTIVITY of HIPPOCRATES was apparent in his four teachings, which are:-

1. Observe all
2. Study the patient rather than the disease
3. Evaluate honestly
4. Assist nature

Hippocrates descriptions of Phthisis (Tuberculosis), Puerperal Septicemia (Severe infection in blood circulation of the mother at the time of birth of the baby) and Epilepsy

(paroxysmal convulsions) are still good enough to become a part of any modern text book of medicine. The famous Hippocratic Facies is still taught to medical students by Surgeons and Physicians in medical colleges and is mentioned in every textbook of clinical medicine and surgery. The oath of Hippocrates is still the beacon light of ethical conduct for doctors of Science of Medicine. In fact Hippocrates, the father of Greek/Unani Medicine, can be truly called the father of modern scientific medicine, a fact which is universally recognized and any claim of the Pakistani Hakeems over Greek Medicine is not valid in present age. There is no doubt that under the influence of Hippocrates, many other Greek and Roman Philosopher-Scientists like Socrates, Pythagoras, Plato, Aristotle, Galen, Aretius of Cappodocia, to name a few, laid the foundation of modern Medical Science.

Again in "the dark ages", between 7th and 13th century, when Europe was in the grip of ignorance, it were the Islamic/Arabic/Persian Philosopher-Physicians who carried the torch of scientific knowledge of Medicine to new heights.

Al-Razi (841-926 AD) wrote more than two hundred books and treatises on medicine, chemistry, physics and philosophy. The most famous of his books on medicine, Al Hawi had 22 volumes which was one of the main textbooks in the medical school of Paris for many years.

Al-Zahrawi (930-1013 AD) was the most famous surgeon of his time who designed more than 200 surgical instruments to perfect the skill of surgery.

Ibn-Sina (980-1037 AD), truly the genius of medieval ages, was considered the second Aristotle. His works excelled the achievements of Razi and those who followed him. He wrote about one hundred books on Medicine, Philosophy, Astronomy and Poetry and became famous all over the world for his book "THE CANON OF MEDICINE". This was an encyclopedic book, covering all aspects of Medical knowledge, known up to 10th century, in

five volumes, containing one million words, and remained a reference book for medical schools of Europe for seven centuries.

Ibn-Rushd (1126-1198 AD) wrote books on philosophy, medicine and law.

Ibn-Maimon (1135-1204 AD) the son of a Rabi, wrote on philosophy, law, medicine, public health, hygiene and poisoning and translated many books of scientific value from Hebrew and Latin.

Ibn-El-Nafis (1208-1288 AD) was the first to challenge the concept of blood circulation of Galen and described pulmonary circulation, four centuries before William Harvey, in 1628, demonstrated the circulation of human blood. Ibn-EL-Nafis wrote, " ...But this blood, after being refined, must of necessity pass along the pulmonary artery into the lungs to spread itself out there and to mix with the air until the last drop be purified. It then passes along the pulmonary veins to reach the left ventricle of the heart after mixing with the air in order to become fit to generate the vital spirit."

## **THE DERAILED BOGIE OF HAKEEMS**

These are some of the great names who immensely advanced the science of medicine. But it is sad indeed that from fourteenth century onwards the decline of Muslim/ Arabic and Persian physicians started and gradually resulted in the present day Hakeems (quacks) and Hikmat ( a form of quackery), whose diagnosis and treatment are based on anecdotes, who are unaware of the scientific method of investigation, who have no knowledge of the scientific technique of objective evaluation of Hippocrates and who are ignorant of the basic biological sciences which form the foundation of modern scientific medicine; while the European physicians carried the flame of Hippocratic medicine to its present zenith. In fact the western physicians, first of all, picked up the thread of scientific medicine from the great Muslim scholars of the Arabic/Persian/Islamic medicine, then followed the Roman and Greek philosophy of medicine, then pursued the



thoughts of ancient Egyptian medicine, Chinese medicine, Indian medicine, pre-Columbian American medicine and whatever else they could lay their hands on. Today, they are studying the prehistoric medicine to find some light for the salvation of mankind. The modern Medicine has achieved wonders in controlling most infections, vital organ diseases and cancer but the breakthrough in genetic engineering and gene manipulation is likely to achieve miracles in curing the most fatal disorders in this century.

Hakeems would have become extinct long ago had they not existed in the ignorant society of Asia, especially the Indo-Pak subcontinent. Hakeems severed their ties with Greek/Unani medicine and Islamic Medicine nearly seven centuries ago, while the Western Scientist-Physicians became the true inheritors of the precious heritage of Unani and Islamic medicine. The western physicians nurtured the seeds of scientific medicine sown by the Unani (Greek) philosopher-physicians into a robust tree of modern Allopathic medicine with its numerous branches sprouting all over in full blossom bearing fruit every day.

It is true that all that is said by the Persian and Arabic/ Islamic, Roman, Greek, Egyptian, Chinese and Indian Philosophers-Physicians, is not necessarily correct. While most of their thought showed the road of success to Western researchers, some of their erroneous concepts, or thoughts, distorted by history, have been proven to be wrong by the present day scientists and discarded. Hakeems of today have inherited most of the distorted versions of their concepts or misconceptions and little of their wisdom.

I would like everyone to understand that The author does not mean any insult to the persons of Hakeems, many of whom are worthy and highly respectable and sincere members of the society, nor is he against the use of useful indigenous herbal medicines but is against giving "the cushtas" (the so called tonics containing Arsenic, Gold and other heavy metals used by Hakeems) and Allopathic drugs in the hands of naive persons who know nothing about pharmacology, pathology and basic medical sciences that are essential for the rational use of these drugs. This

represents the point of view of all those practicing Allopathic Medicine.

**3. THE HOMOEOPATHS.** Homoeopathic Medicine is the antithesis of modern Scientific Medicine and does not aim at treating the causes of disease. Its very basic rationale is upside down. It believes, the smaller the amount of a drug, the more power it has, which is completely illogical and impossible to accept. It says, "let likes be treated by likes i.e. burns by heating, vomiting by emetics (i.e. drugs which cause vomiting), hyperacidity of stomach by sulfuric acid that makes little sense. Homoeopaths admit that they treat only the symptoms of disease and not the causes of disease. They argue that what matters to the patient are his symptoms from which he is suffering. They forget that until and unless the causes of the disease are eradicated or they disappear in the natural course of disease the symptoms will appear again with more complications and in the mean time the disease will also spread to many others organs and persons. The Homoeopaths claim that Homoeopathy is an art with a philosophy of its own and not a science and therefore does not lend itself to scientific analysis. If this is so then why to discuss it any further. The President of the All Pakistan Homeopathic Association, in 1995, made an unbelievable statement, in one of their conferences in Peshawar, that Homeopathic doctors in India have cured a few patients of AIDS, while the incidence of AIDS was mounting by one million each year in India. If this is not quackery then what else is it?

**4. THE FAITH HEALERS** are in abundance in Pakistan. They are basically highly intelligent persons, religious by inheritance, sometimes pious personalities, who have developed the art of soothing and healing through informal psychotherapy. There are people with faith in them who benefit from such therapy. There is no harm if such therapy is used to supplement the science of Medicine for those who carry such faith. But if left alone, they could delay the use of proper scientific treatment, thus allowing the disease to become irreversible, leading to suffering and death of

patients. If the faith healers understand that delay in proper diagnoses and treatment of patients is unwise and accept that patients need the help of qualified doctors, one would be prepared to take them off the list of quacks with the exception of those dealing in witchcraft and cunning trickery to loot the patients.

**5. THE QUALIFIED QUACKS.** There is no dearth of qualified quacks in Pakistan. They are generally doctors who have got into medical colleges through fake F.Sc. marks or certificates or have qualified through use of unfair means in medical examinations, or have obtained degrees from substandard unrecognized Medical Colleges or are carrying fake MBBS and MD degrees or are incompetent and unethical despite their degrees. Many so called qualified doctors indulge in unethical and criminal practices to make quick money. Illegal abortionists and issuers of false medical certificates are at the top of the list of such criminals. Over and above them are the qualified doctors, specialists included, who have fallen into the rut of medical practice, ignoring medical ethics, and have given up updating their knowledge and skills. Over the years, the ethics of such doctors deteriorate, their knowledge becomes obsolete and harmful and their skills get rusty, unsuitable and damaging to the patient. Continuing Medical Education with state controlled monitoring of their professional abilities and ethics is the remedy of such quacks, without which they do not deserve to retain the registration of Pakistan Medical and Dental Council. Furthermore, efforts must be made to disqualify and deregister permanently all those who have entered the noble medical profession by fraud or are indulging in criminal practices. The Pakistan Medical and Dental council must initiate criminal proceedings against such persons. Added to this group is a large number of trained dispensers and nurses working in the clinics of general practitioners who are allowed by these very practitioners to prescribe and administer drugs on their own initiative particularly when the doctors are away from the clinics. For this form of quackery the doctors must feel

ashamed of themselves and their medical associations must exert pressure on them to give up such practices.

**6. THE MISCELLANEOUS GROUP.** Lastly there is a big group of miscellaneous quacks. There are people who indulge in quackery, in addition to their primary professions, as their birth right. Barbers are one example of such quacks who do a lot of damage through their dirty knife. Then there are the illiterate manipulators of bones, joints and muscles who do more harm than good to the patients. Allopathic drugs are sold with free medical advice by general stores, cigarette, pan and biri shops and vendors in the streets. Patients are branded with hot iron rods to cure diseases. Others cover the patient's body with the stinking skin of freshly slaughtered sheep. Crooks are busy pretending to remove kidney stones, cancerous tumors or diseased organs, cut or inject into or extract pus/dirty blood from nerves in painful neurological conditions without leaving a scar of their surgical miracle, simply to swindle the poor patients of their hard earned money. Battery-operated electric shocks are given to paralyzed parts of body by uneducated and untrained persons without any scientific rationale, simply to make money. External hemorrhoids (Piles/Skin tags at anus) are excised at exorbitant costs, without any asepsis or sterilization of instruments, by quacks for no rhyme or reason.

Sexual symptoms are fully exploited by all kind of people who freely advertise their miraculous remedies in the press and on the walls across the streets. Even witchcraft is exercised freely. Added to this is the quackery of acupuncture, practiced by even qualified doctors. One can keep on counting innumerable acts of quackery in this country but there is no use, unless a law is made and implemented to eradicate quackery, or until the people are educated enough to reject them. One misfortune of Pakistan is that many a time, the most highly placed, educated people are gullible and ignorant. What can one say of educated people who traveled as far as Philippine to get the brain and liver tumors of their patients extracted by a tricky woman

who did not even leave any scars of her so called spiritual surgery!

### **DAMAGE OF QUACKERY TO PUBLIC.**

We do not have authentic data on this subject but there is no disagreement between experienced doctors that the free permit to quackery has done great harm to the people of Pakistan. Some of the salient damages caused by quackery to patients are as follows.

Quacks using allopathic drugs have no knowledge of their pharmaco-dynamics (i.e. the pharmacology, mechanism and effects of drugs), or the side effects or the correct indications and contraindications, or the drug interactions, doses, mode and duration of such therapy, or the antidotes required. These quacks continually harm patients, resulting in delay of proper treatment, emergence of lethal side effects, development of fatal complications resulting in enhanced suffering to the patients and their relatives and greater mortality. Drugs can affect the Anatomy (i.e. the normal structure), the Physiology (i.e. the normal function) and the Biochemistry (i.e. the normal chemistry) of the body of patients for better or for worse. Their proper use may rectify the patho-physiology (i.e. the abnormality of function) and the pathology (i.e. the abnormality of structure) of human body in diseases, but their improper use can make the pathology worse, condemning the patient to great suffering and death. How could a person who is unaware of the basic medical sciences of Anatomy, Physiology, Biochemistry, Pathology and Therapeutics (i.e. the science of treating diseases with external agents) be given free license to use these drugs, which are double-edged weapons? Such practices have resulted in resistance of bacteria to drugs making good cures ineffective. This has led to an ever increasing incidence of drug reactions and toxicity, and infinite increase in incidence of tuberculoses, typhoid and numerous other infections and congenital abnormalities in the newborn.

The biggest harm to human health in Pakistan has

been done by the freedom of chemists and druggists and everyone else to sell medicines to anyone even on verbal requests without prescription and also against written paper slips from anyone. As a result of this practice, chemists and druggists and other unauthorized drug sellers have become the most common practitioners of quackery in the country playing havoc with the lives of people. I request the government of Pakistan to ban this practice at once and prescribe heavy penalties for the violators.

It is universally agreed that the use of surgical knife and needles, in the hands of quacks, has done more harm to the society than good. Problems from such misuse include Abscesses in arms and buttocks, Sepsis and Septicemia, Infective Endocarditis, Meningitis, Tetanus many other life-threatening Infections, Hematomas, fatal bleeding and paralysis as a result of injury to blood vessels and nerves. Drug addictions and the most lethal diseases of this century like AIDS, Virus Hepatitis, Cirrhosis of Liver and Cancer affect millions of people as a result of injections, intravenous drips and surgery by quacks. Intravenous drips and drugs through injections are given freely by quacks to almost every patient that result in many deaths from fatal drug reactions, Cardiac Arrest, Cardiac Failure, Pulmonary Edema, etc., etc. Some quacks call the patients for injections every day for the sake of monetary gains, but unaware of the fact that many of these patients do not return because they have landed in hospitals with drug reactions and other complications of injections or have gone to the grave. The recent emergence of virus C and B hepatitis epidemics in Pakistan, Afghanistan and other developing countries is primarily due to re-use of disposable needles and syringes by the quacks. The use of knife and needles by quacks must be banned urgently to control these epidemics and many other infections.

It is sad indeed that successive governments of Pakistan have paid no heed to the demand of Medical Profession to put some sort of ban on quackery. It is the tragedy of democracy in an illiterate and ignorant nation that



the elected rulers pay more attention to the wrong demands of the ignorant majority instead of to the right demands of the educated minority. Since quacks are many more in number than the qualified doctors, no elected government is prepared to ban quacks and quackery. However, we hope that if democratic process is allowed to thrive in this country, people will learn, our leaders will learn, but with the present, snail-pace progress of Pakistan, it will take centuries for the nation to rise from the marshes of disease and ignorance at the cost of numerous human lives.

I hope that the present government will set aside EXPEDIENCY in their decisions, and will take difficult decisions in the public interest. It is getting too late to ban Quackery and we have no hopes from the so called democratic Governments of the future to take such a difficult decision. Even if those at the helm of affairs ban Quackery for the remaining days of their rule, it will have a salutary effect and will be remembered by posterity with admiration. Before I conclude, let me state the proverbial saying of HIPPOCRATES for the benefit of the present Government of Pakistan that,

" LIFE IS SHORT AND ART IS LONG;  
THE CRISIS IS FLEETING,  
EXPERIMENT RISKY,  
DECISION DIFFICULT."

But, for the sake of safety of lives of the poor, ignorant and innocent people of Pakistan, the difficult decision of banning Quackery has to be taken. The future generations will weigh the worth of the guts, courage, honesty and sincerity of the present government on the basis of such difficult decisions and not on the basis of easy decisions.

We understand that a total ban on quackery may not be possible at this stage, but the least this Government must do is to make a beginning by imposing the following



restrictions on quackery:-

1. To ban sale of drugs by chemists and druggists without a prescription by a qualified, registered allopathic doctor, as well as to ban sale of allopathic drugs by all unauthorized persons.
2. To ban the use of injections, surgical knives and allopathic drugs by non-allopathic practitioners and quacks.
3. To completely ban the advertisement of drugs and other forms of treatments on the walls, buildings, sign-boards, in press and Electronic Media.
4. To close fake hospitals, laboratories and clinics run by proxy by non-doctors in the name of qualified doctors.
5. To ensure registration of all practicing qualified doctors of every system and their clinics, laboratories and blood-banks.

Two ordinances were issued against quackery, ironically, by the two Martial Law Governments in 1962 and 1982 but both of them were defective, according to an eminent lawyer, and as a result could not be implemented. We look up to the present elected Government of Pakistan and the worthy members of the legal profession to join hands with the medical profession by framing flawless laws which can be implemented to prevent the ruthless exploitation of the innocent and ignorant patients by the quacks.



## V

# SMOKING OR TRIPLE MURDER ?

### HISTORY OF SMOKING

Use of tobacco was prevalent in America when Columbus landed on that continent in sixteenth century. Tobacco leaves were mostly chewed, powdered and used as snuff or smoked in pipe or rolled and smoked as cigars particularly in Cuba and the West Indies. It was then that Columbus gave the name of Tobago to one of the West Indian Islands. In the middle of sixteenth century the Spanish sailors to tropical America brought with them tobacco and introduced its uses to Europe. Initially it found its way to the Royal families of Europe and then spread to the rest of population. In 1561 AD the French ambassador to Portugal, Jean Nicot, presented some tobacco seeds to Catherine de Medici, the Queen of France, who later became a user of tobacco snuff. Nicotine is said to have been named after Nicot. Similarly in the 17th and 18th centuries European sailors, soldiers, businessmen and ambassadors carried the seeds of tobacco to Africa and Asia. With the development of paper industry it became easy to use hand-made cigarettes. The invention of cigarette-making machine in 1880 and the use of refined milder tobacco in cigarette made this mode of tobacco consumption very popular towards the end of 19th century. The first and second world wars in the 20th century greatly pushed the habit of cigarette smoking that reached its peak in the sixties and seventies. People of the Indian subcontinent belonging to the poor class took up smoking as rolled leaves of tobacco called biri and smoked tobacco through hubble bubble while those in the north adopted the use of powdered tobacco leaves as oral snuff called naswar.

There was always some opposition to the use of tobacco in different countries. Even legislation was enacted to discourage its use but it never worked because of the tremendous power of tobacco industry that employed every means to popularize the use of tobacco in general and cigarettes in particular and also because of lack of convincing evidence about its harmful effects on human health. Added to this was the role of royal families, aristocracy, world leaders, fashion designers, movie stars, advertising agencies and the media, who always set the pattern of living styles for the highly impressionable young people all over the world.

### **NEW EVIDENCE AGAINST SMOKING**

It was after the second world war that convincing evidence started accumulating about the harmful effects of tobacco and cigarette smoking. It was published for the first time by the Royal College of Physicians of London in 1962 and drew public attention to the hazards of smoking. This was followed by a detailed report of the Surgeon General of the United States in 1964 that further reinforced the case against cigarettes.

There is today overwhelming evidence that smoking is dangerous for health. Pressure against the manufacture, sale and use of cigarettes in the developed countries has reached such a height that the multinational manufacturers of cigarettes have diverted their attention to the developing countries for manufacture and marketing of their products. For the last several decades European and American brand cigarettes are more cheaply and profusely available in Pakistan and other developing countries than in Europe or the USA. As a result, cigarette consumption has fallen in industrialized countries and has risen sharply in the developing countries, so much so that, according to a WHO release in London in September 1994, by year 2000 AD 40 million adult smokers in developing countries would have lost 20 years of their lives because of smoking. According to another WHO release in 1997, out of 1100 million smokers

in the world, 800 million were in the third world. In the later half of the 20th century, 50 million out of 260 million male deaths occurred due to smoking. Deaths due to tobacco-related diseases in the world occur at the rate of 11,000 per day and are expected to rise from 4 million in 1999 to 10 million in year 2030. Today 80 per cent of smokers are living in low and middle income countries.

### **THE PRESSURE ON CIGARETTE INDUSTRY**

The pressure on the cigarette industry in the west is of such a magnitude that the whole industry can become bankrupt if the damages suits of the patients suffering from cigarette-induced diseases are granted. Consequently, in June 1997 the cigarette industry in the USA agreed to pay 368 billion US dollars in 25 years towards the health care, in return for immunity against the suits for damages by those who have suffered because of cigarette smoking. Many believed that if this deal had gone through, the tobacco industry would have got away with murder by paying peanuts and it would have retrieved this amount anyway by increasing the price of cigarettes. However this deal was not approved by the Congress.

### **ATTITUDE IN WEST**

In Western countries cigarette smoking is no more an acceptable social indulgence and cigarette smokers are a small minority in social functions and other public gatherings, usually shunned by the majority. They are frowned upon and considered less than sensible. The cause of this change in public attitude towards smoking is the weight of evidence proving the disabling and lethal effects of smoking.

### **PREVALANCE IN THE WORLD**

Globally over one billion people smoke cigarettes ; of these about 0.8 billion are males and 0.2 billion are females. Most people pick up smoking in their early teens and become regular smokers by eighteen years of age. In the USA alone about one million children and teenagers start

smoking every year. At the peak of its popularity in the USA in 1955, 68 percent of males and 32.4 percent of females over the age of 18 years were regular smokers. In the rest of the world too the incidence of smoking has increased in females as a symbol of their social emancipation. Age-wise, the highest incidence of smoking is in the teenage that continuously declines with increasing age. Current statistics reveal that globally 82000 to 99000 young people start smoking every day.

### **COST OF SMOKING**

Tobacco smoking terminates life prematurely by at least 4 to 8 years in about four million persons in the world every year and inflicts considerable human suffering before death occurs at enormous cost to individuals, families and the society. In the USA alone, 434,000 smokers die annually from smoking-related diseases which is one fifth of the total number of deaths per year. It has been estimated that, on average, 5.5 minutes of life are lost per each cigarette smoked that are equal to the approximate time consumed by smoking one cigarette. In other words smoking shortens life by a duration equal to the total time spent in smoking. If it is assumed that one smoker is spending a very modest amounts of one US dollar a day, it will amount to burning to ashes 365 billion US dollars per year world-wide at a colossal cost to the health and lives of the human race! If this amount could be spent on public welfare instead, the world would have been a much better place to live in. Never before has man ever seen a willful wastage of human resources of such magnitude.

### **SMOKING AS THE CAUSE OF FIRST MURDER**

RESPIRATORY SYSTEM consisting of air passages and two lungs is the first target of inhaled smoke. The airways that are constantly bombarded by the puffs of smoke, relentlessly struggle to get rid of smoke particles.

## **CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)**

Sooner or later the effort to get rid of smoke causes cough and expectoration of sputum so insidiously that the smoker often ignores it. Gradually the quantity of sputum increases due to increase in the size and number of mucus-secreting cells and glands in the airways. The doctors call it **CHRONIC BRONCHITIS**. This is accompanied by gradual narrowing of the airways that makes breathing difficult, first noticeable during exercise. So the smoker loses stamina for exercise and is unable to keep up with his friends during brisk walks or climbing or playing games, an embarrassing development for a young man.

As the narrowing of airways progresses it cause more obstruction to the outflow of air from lungs, hence called **CHRONIC OBSTRUCTIVE LUNG DISEASE (COLD)** or **CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)**. This leads to trapping of air in both lungs causing swelling of lungs that gradually makes chest barrel shaped called **EMPHYSEMA**. This reduces the ability of the lungs to give oxygen to the blood and take away carbon dioxide and water particles that are the waste products entering blood from the body tissues. Now it becomes more difficult for the smoker to breathe even on walking on level ground or to keep up with his/her companions in day-to-day shopping. The carbon monoxide in the tobacco smoke is absorbed in the blood. This combines with hemoglobin converting it to carboxy-hemoglobin that is unable to carry oxygen from lung to body tissues. Added to this is the reduced absorption of oxygen from the lungs that creates a perpetual state of anoxia (lack of oxygen) in the human body impairing the functioning of all organs. As a result the smoker develops subtle impairment of intellectual abilities, poor concentration, lapses of memory, inaccuracies in judgment and physical fatigue.

This difficulty in breathing and slow deterioration in mental and physical functions continue for several years.

About 20 to 40 years after the beginning of smoking, the smoker starts getting ACUTE EXACERBATIONS of chronic bronchitis due to infections of damaged lung passages in the winter months. These episodes make the patient fight for every breath on slight activity or even at rest. The forced flow of air through narrowed airways produces musical sounds called wheezes. The skin of hands, feet and face and the lining of the lips, tongue and mouth become blue due to shortage of oxygen in the blood. This is called cyanosis. Not infrequently smokers so affected become confused, drowsy and may fall unconscious. Without treatment death may occur; with treatment partial recovery may occur from the acute illness. The chronic disease, however, keeps on increasing till another winter sets in.

Each winter brings on more such episodes till in a few years such episodes start occurring through out the year, putting the smoker into right heart failure called COR PULMONALE, ultimately terminating life and ending the long-drawn misery of the smoker and his family. About 14 million Americans, mostly smokers, are affected by this condition mostly in their middle age that is nearly 5 per cent of the entire population. Smokers are six times as likely to develop COPD as are nonsmokers. Of the 70,000 deaths from COPD in the USA in 1988, 82 per cent were attributed to smoking.

### **MISCELLANEOUS ACUTE RESPIRATORY AILMENTS**

Apart from this chronic respiratory disability, acute respiratory infections, e.g. Acute Bronchitis, Influenza and Pneumonia, are more common in smokers than in nonsmokers. Smoking delays the recovery from respiratory infections. Smokers undergoing surgery have a higher incidence of post-operative chest complications than nonsmokers. Smoking aggravates allergic common cold, sore throat and Bronchial Asthma. Not uncommonly smoking causes Laryngitis resulting in hoarseness of voice. Spontaneous Pneumothorax is a condition in which the lung ruptures and collapses like the punctured tube inside the tire



of a motor car. This is a distressing condition and may even be fatal, and is more common in smokers than nonsmokers.

Cigarette-smoking women using oral contraceptive pills are more likely to develop coronary heart disease and are prone to develop blood clots in the veins of their legs sometimes leading to fatal pulmonary embolism (migration of blood clot to lungs).

## **CANCER OF THE RESPERATORY TRACT**

Cigarette smoking causes CANCER of the lung, the commonest cancer in the world and a dreadful disease that strikes out of the blue, hitting the smoker without warning. When it appears, it is often too advanced for its surgical removal. Such a smoker often coughs up blood in the sputum. The chest may become painful, and breathing difficult. Spread of cancer to other organs occurs very early. These smokers may even present with headache, vomiting, convulsions, paralysis, loss of speech and coma due to spread of cancer to brain and nerves. Most of these smokers lose appetite, become weak and wasted and death occurs on the average after a year of suffering. There is no drug available to cure this disease or alleviate the suffering. About 180,000 new cases of lung cancer were expected in the USA in 1997 predominantly in cigarette smokers. The average risk of getting lung cancer in smokers who smoke 20 cigarettes a day is 10 times more than in nonsmokers. The risk is directly proportional to the number of cigarettes smoked so that for 40 cigarettes a day the risk is more than 25 times. In the USA 143,000 deaths occurred from lung cancer in 1991 and 85 per cent of these were attributable to cigarette smoking. Tobacco is today regarded the most important known carcinogen to human beings and is responsible for 25 to 30 percent of all cancers in developed countries.

Cancer of the sound box (larynx) in the throat is another consequence of smoking that chokes the voice and obstructs breathing before leading to an eventual death unless detected very early for some useful treatment.

**CARDIOVASCULAR SYSTEM** consisting of heart and blood vessels is next in line to suffer from adverse effects of smoking.

**HEART** is the primary target of cigarettes that gets hardening and narrowing of its arteries called **CORONARY ATHEROSCLEROSIS** or **CORONARY ARTERY DISEASE** or **CORONARY HEART DISEASE** or **ISCHEMIC HEART DISEASE**. The resultant reduced blood flow to the heart muscle is a common cause of pain in the chest during exertion called **ANGINA**, a condition that restricts smokers from physical activities. When the narrowed coronary arteries get blocked by the super-added blood clots often referred to as **CORONARY THROMBOSES**, the cigarette smoker gets severe chest pain sometime radiating to jaw, arms or abdomen accompanied by cold sweats as a result of death of cardiac muscle called **MYOCARDIAL INFARCTION**. This is the commonest cause of death in the world today. Some patients of myocardial infarction go into Cardiac Arrest, Acute Cardiac Failure or Shock and die with or without chest pain. Others may develop chronic cardiac failure causing swelling of legs and shortness of breath that may continue for months or years before death occurs. Approximately a quarter of all patients with coronary heart disease die suddenly without any previous warning, a distressing situation for the family and friends of the deceased. Coronary heart disease is the second commonest cause of death, after cancer, in the USA and Europe and the second commonest cause of death in the rest of the world, being second only to infections. A smoker is two to two and a half times more likely to get coronary heart disease than a nonsmoker. There are three major risk factors of Coronary Heart Disease: smoking, hypertension, and high blood cholesterol level. If smoking is joined by one other major risk factor, the risk of CHD increases fourfold and if all the three risk factors are present, the risk of CHD rises eight fold.

**BRAIN.** Arteries supplying blood to the brain are also affected by the same process resulting in strokes called

**CEREBROVASCULAR ACCIDENTS (CVAs)** that are the commonest cause of paralysis and dependant bedridden miserable life in old age, ultimately leading to death. It is the third leading cause of death next to cancer and coronary heart disease in the USA and Europe. CVAs are 2 to 3 times more common in smokers than in nonsmokers. Some old smokers gradually lose intellectual ability called **DEMENTIA** consequent upon slowly developing hardening of cerebral arteries as a result of smoking for many years.

**LEGS.** Sometimes the arteries supplying blood to the legs are also hardened and narrowed making walking painful. We call it **INTERMITTENT CLAUDICATION**. Another painful obstructive disease of the arteries and veins of legs in adult males, called **BUERGER's disease**, is also due to smoking. Both the diseases can cause complete obstruction of blood flow to the legs causing gangrene of the legs that often necessitates amputation of the gangrenous leg and may even lead to premature death.

**HYPERTENSION.** Smoking cigarette raises blood pressure acutely that is harmful because **HIGH BLOOD PRESSURE** is a major cause of Coronary Heart Disease and CVAs and the two major risk factors together i.e. smoking and high blood pressure, will increase four times the chances of developing both. Smoking in hypertensive patients increases the risk of developing **MALIGNANT HYPERTENSION**, a condition that rapidly leads to severe headache, paralysis, loss of consciousness and failure of kidneys, heart and vision, terminating life in about one or two years.

**PIPE AND CIGAR.** It has been reported that the risk of dying from heart disease, lung cancer and chronic lung disease is halved with pipe and cigar as compared with cigarette smoking but is still higher by 68 per cent than in nonsmokers. This is believed to be due to overall lesser inhalation and consumption of tobacco by the pipe and cigar smokers.

## **ALIMENTARY SYSTEM**

Cancers of the lips, tongue, mouth, oesophagus (food

pipe), pancreas, and large intestine are several times more common in smokers than in nonsmokers. Each one of them is capable of making life not worth living for months or years. Smoking is also a risk factor for cancer of the stomach that is one of the most lethal cancers.

Chronic ulcers of the stomach, lower end of oesophagus and first part of small intestine (Duodenum), called Peptic Ulcers, are 2 to 3 times more common in smokers. Furthermore they fail to heal spontaneously or with the strongest available treatment if smoking is continued. Chronic Peptic Ulcers can lead to strictures in alimentary tract, blocking the passage of food and causing persistent vomiting. Bleeding or rupture of ulcers may prove fatal.

## **GENITO-URINARY SYSTEM**

Cancers of the kidneys, ureters, urinary bladder, prostate and cervix have also been reported to be more common in smokers that inflict the same fate on smokers as does any other cancer.

## **BONES**

Recent evidence reveals that reduction in total mass of bones called OSTEOPOROSSES can also result from smoking. This condition that is more common in the elderly with history of smoking makes the bones more porous and fragile. As a result fractures of the neck of femur bone, wrist bones and bones of the spine occur with slight trauma or fall and are 2 to 4 times more common in smokers than in nonsmokers. The most dangerous among them is the fracture of the neck of femur especially in old age that seldom heals, making such smokers permanently bedridden and dependant on others, till death supervenes due to many complications of a totally incapacitated life.

## **JOINTS**

Rheumatoid Arthritis is a very common painful, deforming and crippling disease of joints mostly affecting adult population. It has been reported that it is 2.4 times

more common in cigarette smokers. In those smokers who also have additional inherited genetic tendency it is 7.5 to 15.7 times more common than non-smokers while nonsmokers with genetic predisposition are affected only 2.8 times more commonly than those without the incriminating genes.

### **MISCELLANEOUS EFFECTS**

Apart from these serious effects, smoking can contribute to dental decay and impairment of taste and smell thus depriving you of enjoying the delicious varieties of food and drinks and the refreshing fragrance of scents, flowers and plants which are the most valued gifts of nature. The staining of fingers and teeth and the foul stink coming from the mouth and partially burnt and stained clothes of smokers make them unacceptable in social circles. The fowl smell, ashes and butts of cigarettes make the place of smokers dirty and annoying to visitors

Some studies have recently confirmed that smoking may contribute to causation of leukemia, disturbed sleep, ear infections, cataract, allergic conjunctivitis (sore eyes), increase in facial wrinkles, increase of protein in urine of diabetic and reduced response to radiation treatment in head and neck cancer. In the USA smokers have four times as many accidents as in non-smokers. Burning cigarettes thrown or inadvertently dropped on dried plants, papers, clothes, bedding or carpets by smokers are a well known cause of many a devastating fire all over the world. It has been observed that a smoker's reflexes are impaired for 20 minutes after each cigarette which is a serious and indeed a dangerous handicap for any one driving, working on machines, appearing in examinations or interviews, and performing any critical job. It is well known that tobacco-smoking can damage the optic nerves that carry the sight, causing blindness called Tobacco Amblyopia.

While analyzing American data, Professor Townsend of the UK, wrote, "one in every two or three smokers dies prematurely because of smoking and on average loses about

10-15 years of life and often 20, 30 or 40 years. Half these deaths are in middle age, with an average loss of 25 years of life. It has been the major epidemic of the 20th century and greatly outstrips all other causes of premature death." According to him smoking is responsible for a third of all deaths in middle age in the UK. According to World Health Organization, tobacco kills somebody somewhere every 13 seconds on the average. WHO has estimated that one billion people will die from tobacco in 21st century, about 150 million in the first two decades with developing countries accounting for 70 per cent of deaths. Of the 300 million Chinese male currently alive between the ages of 0 and 29, 100 million i.e. one third will eventually be killed by tobacco. Recently the World Health Assembly of WHO, in which 192 countries participated, unanimously adopted the Framework Convention on Tobacco Control (FCTC), committing themselves to fighting the devastating consequences of tobacco consumption and exposure through an international treaty against smoking that included a ban on tobacco advertisements. This is aimed at breaking a habit that kills 4.9 million people per year and if not controlled will kill more than 10 million per year by year 2020.

Now, who would like to smoke after reading the above account? Obviously the one who is a fatalist or lacks understanding and is bent upon adopting a torturing way of killing himself and does not mind to be looked down upon and shunned by society. Such fatalism is misguided because God has given us the power to choose between the right and wrong but God does not give any one the right to kill himself. The state and the society are also obliged not to allow any body to commit suicide. Smokers are responsible for this act of first murder, a responsibility that they share with the tobacco industry and all those who produce, promote, transport, export, import and sell tobacco in any form.

### **SMOKING AS THE CAUSE OF SECOND MURDER**

Tobacco smoke contains such harmful substances as Nicotine, Tar, Carbon Monoxide, Aromatic Hydrocarbons,



Nitrosamine, Hydrazine, Vinyl Chloride, Nitrous Dioxide, Acrolein, Benzpyrene, Cadmium, Ammonia, Acetone, Formaldehyde including more than 43 cancer-causing chemicals out of the 4000 substances isolated from tobacco smoke. These are shared by the 80 percent nonsmokers in company of the 20 percent smokers. Such nonsmokers are called **PASSIVE SMOKERS** or **INVOLUNTARY SMOKERS** or **FORCED SMOKERS** or **SECOND HAND SMOKERS** because they inhale the smoke emitted by the burning cigarette of another person as side stream smoke, as well as that exhaled by the smoker called main stream smoke. As a result, a passive smoker inhales five times the amount of carbon monoxide that an average smoker inhales. One of the well known cancer-causing gas in tobacco smoke is Benzpyrene. It has been shown in one American study that the level of Benzpyrene in a small private office with one smoker was 760 Nanogram, which is one hundred times more than the median concentration level in open air of American cities (7 Nanogram). It has been established that people remaining in company of smokers are at high risk of developing all the smoking-related diseases to which a smoker is prone and even a short stay of thirty minutes in company of a smoker harms the nonsmoker. It has been recently reported that the risk of lung cancer and coronary heart disease increase by 25 per cent in passive smokers. In the USA 2000 deaths per year in nonsmoking men and women are attributed to passive smoking. It means that every nonsmoker remaining in company of a smoker has a right to claim damages from the smoker for getting any smoking-related disease. The smokers who are inflicting on the passive smokers all the smoking related diseases are in fact guilty of committing a **SECOND MURDER** to which they have absolutely no right. This cannot be allowed in any civilized society. The state and the society must forthwith take necessary steps to ban smoking in all public gatherings, cinemas, waiting areas, institutions, industry, offices, transports and anywhere that exposes a nonsmoker to passive inhalation of smoke. The damage done to the passive smoker must be compensated adequately by the law courts. Someone



has wisely said, "whether you smoke or not may be a private matter, but where you smoke isn't."

### **SMOKING AS THE CAUSE OF THIRD MURDER**

It has been shown that smoking by pregnant ladies delays conception, increases the risk of abortions, fetal deaths and the birth of underweight premature babies who have a very high mortality in the third world countries. It is further known that smoking in pregnancy is a risk factor for neonatal deaths and Sudden Infant Death Syndrome is three times more likely to occur in children of such mothers. Surprisingly, even the long term physical growth and intellectual development of the children of smoking mothers is adversely affected. Again innocent infants and children of smoking parents are more prone to hazards of smoking like any passive smokers specially to respiratory infections that carry a particularly high death rate in infants. Similarly Asthma in children is aggravated and precipitated by passive smoking. Children of smoking parents are more likely to adopt the habit of smoking as they grow up and hence suffer from all the consequences of smoking. This is the **THIRD MURDER**, this time of young babies before and after birth and of innocent children that smokers commit and must be stopped. It is obligatory on the society to defend the health and lives of children by persuading child rearing parents and pregnant ladies to give up smoking.

### **ROLE OF CIGARETTE MANUFACTURERS**

The real culprit behind this mass murder is the cigarette manufacturing tobacco industry that goes all the way to incite children and teenagers, males and females both, to cigarette smoking in order to sell their products. It is immoral and criminal for the media to accept advertisements for promotion of cigarette smoking and for organizers of all public functions and sports activities to accept sponsorships from cigarette manufacturers. Instead the state can extract any amount from this industry through heavy taxation for public welfare projects. In the UK, in 1996, 16.4 billion US\$ (10 billion sterling Pounds) were recovered from tobacco

industry in taxes in one year, according to the Tobacco Manufacturers Association. In the USA, 66.4 billion US\$ are recovered annually in taxes from tobacco industry. Furthermore, the legal profession can wake up to defend the rights of those who have suffered from the ill effects of smoking. In a case in Florida, USA, the jury awarded US\$ 750,000 to Carter Grady, a lung cancer patient, against the Brown and Williamson Tobacco Corporation. There have been two jury verdicts in 1999 in the USA against Philip Morris for a total of 130 million US dollars in punitive damages, subsequently judicially reduced it to 57 million US dollars that were added to the compensatory damages to punish the industry for past wrong doing. These cases should be eye-openers to the judiciary and legal profession all over the world. Today the tobacco industry is facing action in 192 countries of the world. It is hoped that when these cases are decided they will seal the fate of tobacco industry for good.

The states should realize that all the benefits of tobacco industry in terms of profit to the farmers, jobs for the tillers and laborers, profits to the industrialists, recovery of taxes by the states and the profits in the related businesses are more than neutralized by its damaging effects on human race. A study conducted in Egypt in 1981-82 showed the total loss to the Egyptians from cigarette smoking in one year was 1.3 billion US Dollars against the economic benefits from cigarette industry of 764 million US Dollars. It has been reported that the annual global loss to smokers from losing wages and getting treatment for tobacco related diseases amounts to 200 billion US dollars. In any case the economic benefits to the state and people, however large they may be, cannot justify the production of killers for the human race. Which owner of cigarette industry will allow his children to die from cigarette smoking in return for the profit from his or her industry or which democratic state will allow its people to suffer and face miserable death from cigarette smoking in exchange for the economic gains from cigarette industry?

## **WHY DO CHILDREN AND TEENAGERS START SMOKING?**

The vast majority of smokers begin smoking in childhood and teen age because:

1. They are impressed by their elders and seniors who smoke and they wish to emulate them.
2. At times they are influenced by famous personalities whom they see smoking in great style in life as well as in pictures, on television and in films.
3. They are caught in the fantasy of advertisements which glamorize smoking, mostly in posters, bill boards, news papers, television and in movie films.
4. They regard smoking as an "It thing" and they would love to be "with it" and not be left out.
5. Where smoking is forbidden, young people like to indulge in it as a way of challenging authority.
6. Teenagers regard smoking as something that displays the arrival of physical and sexual maturity.
7. Many boys smoke to display their male chauvinism.
8. Most children and teenagers are unaware of the harmful effects of smoking or they are too immature or ignorant to appreciate their significance.
9. Most young people are ignorant of the fact that smoking is an addiction and they will not be able to give it up easily later on even if they wished to do so.
10. in case of young girls, they adopt it due to rivalry with boys and as a symbol of emancipation from male dominance.

## **WHY DO SMOKERS CONTINUE SMOKING?**

They continue smoking because:

1. Most of the conditions that induced smokers to start smoking persist afterwards.

2. Smoking is an addiction but does not carry the stigma of drug addiction. This makes it easy to carry on.
3. Nicotine in the cigarettes has a stimulating effect on nerves initially and later a soothing and tranquilizing effect that leads to dependence on nicotine containing smoke.
4. Holding cigarette between the lips does provide some sort of psychological satisfaction.
5. Smoking over the time gets strongly associated with other activities like a cup of tea/coffee or meals or after finishing a hard job or before going to toilet or during tackling a difficult problem or exchanging niceties with friends or quelling a state of anxiety or depression or to have an occupation when the smoker is doing nothing or meditating in loneliness. Association with these acts develops into a conditioned reflex as a result of which smokers automatically go for lighting a cigarette at these times as a compulsive habit.
6. Non-availability of cigarette at a time when a smoker normally smokes leads to withdrawal symptoms i.e. uneasiness, irritability, poor concentration, headache, etc. that compel the smoker to go and get a cigarette.
7. Increasing stresses and strains of modern life tend to perpetuate the habit.
8. Ignorance or lack of appreciation of the hazards of smoking reduces the possibility of deciding in favor of giving up. The above factors make it very difficult for smokers to give up smoking once they have started.

## **HOW TO QUIT SMOKING?**

For children and teenagers who have not yet started smoking, it is the responsibility of all parents, school teachers and all other grown ups to ensure the protection of the younger generation from cigarettes not only by imparting

the knowledge of the dangers of smoking but by setting a personal example of remaining nonsmokers or giving up smoking.

For those who smoke, it is high time that a decision is taken to give up smoking. Millions of people in the western countries have given up smoking successfully and permanently, proving that it is possible to quit smoking.

### **LONG TERM BENEFITS OF QUITTING SMOKING**

The first to give up cigarette smoking as a group were thousands of medical doctors in the Great Britain in the fifties and sixties. When the health of these doctors was followed up for more than ten years, it came to light that giving up smoking reduced the death rate from heart disease and cancer in these doctors. Later the same beneficial effects were demonstrated in ex-smokers all over the western countries. Today it is also an established fact that, except for cancer, quitting smoking will not only stop the progression of all smoke-induced diseases but will bring about considerable regression in these diseases. This is a great news for those who intend to give up smoking.

### **EARLY BENEFITS OF QUITTING SMOKING**

According to Health Day News, the Canadian non-profit organization by name of Tobacco Facts has listed the early benefits of quitting smoking as follows;

1. Within eight hours the level of carbon monoxide in the body drops, while oxygen level rises to normal.
2. After two days taste and smell is enhanced and the risk of heart attack recedes.
3. Within 3-4 days, breathing becomes easier, because of increase in lung capacity.
4. After two weeks, no Nicotine is left in the body and blood flow is improved.
5. Within three months, circulation and lung function are improved and physical activity is significantly

easier.

6. Within nine months, coughing, fatigue and shortness of breath are significantly reduced.
7. One year after quitting the risk of coronary heart disease is halved.

The best way to stop smoking is to first think about all the ill effects of smoking on health, the resultant economic loss and the social isolation as well as of the early and late benefits of quitting smoking to convince yourself of the importance of quitting smoking for your health. Once you are convinced, don't wait to make a decision to stop smoking. It is not so difficult to quit smoking. Mark Twain did it numerous times. You do it every night. Millions do it every year all over the world. Once you make a decision to quit smoking, throw away your cigarettes and announce to every one that you have given up smoking for good. In the subsequent two weeks you may suffer from some discomfort at those timings when you used to smoke. It's no big ordeal to handle this situation. Millions do it every year. Be strong. Reject the craving for another cigarette. It may help if you time your quitting of smoking with a change of daily routine such as when going on holidays or starting a new job. It will help even more if two or more friends or colleagues or family members decide to quit smoking together. Divert your attention by having sips of water or put cardamom seeds or a sugar free polo mint or a chewing gum in your mouth when you feel like having a cigarette. For the first two weeks avoid the company of smoking friends. If you still feel uneasy talk to some friends who are ex-smokers or as a last resort you may consult your doctor for help. Once you have overcome the difficulties of the first two weeks, 90 per cent of the battle is over. Keep it up and you will never repent your decision. I suggest that you combine this effort with starting an exercise of moderate intensity or a game in fresh air on empty stomach at least for half an hour daily preferably in company of friends or family members. I assure you that combining cessation of smoking with exercise in a likable company will give you such a

tremendous feeling of well-being that you will never want to go back.

## **ALTERNATIVE METHOD OF QUITTING SMOKING**

If you are a very chronic chain smoker, smoking more than 40 cigarettes a day, you may not succeed by following the above procedure or you may never build up the courage to quit smoking abruptly. If it is so, I suggest an alternative method to follow provided you can make a firm decision to quit and never to go back on the steps taken in the process of giving up smoking. Each step must be taken from a fixed time and date and the interval between every two steps should be thoughtfully decided and announced to all around. Following are the steps to follow as if you are stepping down a ladder :-

Step 1. Stop smoking in presence of elders and seniors if you are not already doing so.

Step 2. After a week, or as you have initially decided, of the first step take another step by stopping smoking in presence of your children.

Step 3. Then stop smoking while driving, cycling and travelling.

Step 4. Then stop smoking in presence of your colleagues at work.

step 5. Then stop smoking in front of your clients whether they are patients or litigants or students or customers, etc.

Step 6. Then stop smoking with or after taking tea, coffee, food or drinks.

Step 7. Then stop purchasing cigarettes.

Step 8. After having taken the above 7 steps your smoking would have reduced to a few borrowed or free cigarettes a day. Perhaps your self-respect will not allow you to continue smoking in this manner for long. Now is the time to make a final decision to quit smoking for good. Go ahead, announce your decision, abide by it and do not look back.



The order of these steps has been arranged from the easiest to the most difficult. You may modify the order of the steps if you wish. Quitting smoking in groups, making solemn promises with each other and sticking to your commitment together will make it easier to stick to your decision of quitting smoking.

You may need to control your intake of food to counteract the excellent appetite that you will have after quitting smoking, although exercise will help considerably to prevent increase in your weight. It is generally advisable to consume just enough calories to maintain a normal body weight, to cut down intake of salt, sugar, fats, bread, rice and meat, to replace animal fats with vegetable oils, to take plenty of vegetables, cereals and fresh fruits, to substitute meat with lean-meat or fish once or twice a week and take generous amount of fluids. Adoption of such a healthy diet, quitting smoking and taking regular moderate exercise in fresh air make an ideal recipe for a long, enjoyable and healthy life. Use of Tobacco is today universally regarded as the commonest preventable cause of human illness and death and therefore no efforts should be spared to eliminate this curse from the face of the earth.

Finally, if you are a Muslim, do not forget that the Holy Prophet (PBUH) said, " All intoxicants are forbidden and what is intoxicating in large quantity, even its minute part is forbidden." Nicotine is certainly intoxicant and lethal in large quantity and it is surely present in more than a minute quantity in tobacco. Therefore the consumption of all substances containing tobacco is forbidden for all Muslims and indeed what is bad for Muslims is bad for all human beings. I believe that religion is not an end by itself but a means to an end and all religions are a means to the same end. The end is the safety and welfare of the entire living creation of God in general and of the human race, being the best of God's creation, in particular, to which the entire administration of God is directed. In this lies the pleasure of the all-benevolent God. Therefore any thing that is harmful to human beings must be given up to get the pleasure of Allah.

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