

Making Medical Education Open Learning : A strategy

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1. Introduction :

Health for all by the year 2000 is an official goal of our National Health Policy. While we have the National Education Policy of 1986, we do not yet have a National Health Education Policy, although various expert committee reports (the recent one in 1987 by Prof. Bajaj and others) in this direction are available from the Ministry of Health & Family Welfare. Suggestions to create Health Sciences Commission parallel to UGC and University of Health Sciences are being mentioned. Yet, the "fever" to implement the recommendations are not in sight from the concerned authorities. In the light of the above scenario, we discuss how the Open Learning System of education can contribute towards achieving the National Goal-Health For All by 2001.

2. The need for changes in Health/Medical Education :

We quote below what is being said on the above by others in the area :

1. Much of what you are called upon to learn in medical school is concerned with training : for example learning how to recognize and treat a disease. Training is concerned with learning to carry out tasks which are already known and understood, or learning how to solve a puzzle, where the rules are established and the answer predicted.

Education on the other hand is concerned with a preparation for tasks which have not yet been invented, or with problems for which there may be a number of different sorts of solution.

Since your professional life times are going to be characterized by accelerating changes in biotechnology, in the environment and in society, the aim of medical school must be to prepare you for this uncertain future.

Training will not do it. Education will.

..... Medical education is continuous and lifelong process, and we are all engaged in a perpetual quest for excellence

2. There is still an over-emphasis on the instillation and test of recall of factual knowledge in most medical schools

3. According to one dean, medical students are : "understretched but overwhelmed by the necessity to absorb a mass of fact.

4. With-in medical schools "learning too often takes precedence over reasoning".

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5. In short there is a need to instruct less and educate more in order to equip our future doctors with the ability to cope with the many changes which they will inevitably encounter during their professional careers.

6. Strange that this (diagnosis) art and science has not attracted innumerable the orists to make it more tangible. Thousands are studying membrane transfer, yet few strive to make a Science of diagnosis and finally we note the often quote in medical texts ..

Give me fish and I eat for a day.
Teach me to fish and I eat for lifetime.
—Old Oriental saying.

While the above are what we notice the demand in the west, the situation in our country is by no means better.

This author attended the recently conducted seminar on Medical Education organised by Indian Medical Association. Even the novice could easily note the crisis in this field. Given below are some of the glaring deficiencies in the manner the medical education is being imported currently in medical colleges across the country.

i) There is no uniformity both in content and quality of topics taught at the undergraduate level. The students are less exposed to topics of national health programmes and training in Primary Health Centre (PHC) environment.

ii) Nearly 70% of the new graduate go in for post graduate education. In this process they pay less attention to training during clinical/internship period and concentrating on topics relevant to examinations only. Hardly (10%) questions in examinations focus on problems related to PHC or GP environment.

iii) Much of this rush for post graduation is because students feel uncomfortable with their knowledge and skills acquired during the undergraduate period, to face the public in competition with doctors coming from other systems of medicine viz. Homeopathy/Unni/Siddha.

iv) There is a need to have uniform educational material which focuses only on "most common diseases" that patients come to see the doctor at a PHC centre or as a GP. i.e. around 100 topics forms nearly 70 to 80% of cases.

v) There is a need to change the pattern of training from Hospital setting to

PHC set up. Inclusion of video materials to present cases and for further study of examples.

vi) There is a need to make MBBS to bring-out "Basic doctor" and have option for training as PHC doctors and GPs under Continuing Medical Education.

vii) The need to generate proportionate man power of Allied Health Care workers was also emphasized. The need to have uniform standards of training and promotional opportunities for such trained persons were noted.

The only remedy/therapy to this problem—"mess-in medical and allied health worker education" is to make it *Open*.

Open University System presents an ideal platform to provide this much needed change in medical education from mass of data recall approach to an analytical mind/approach to solve the problem.

3. *Open University system :*

Open University System shatters the myth that higher academic knowledge can be acquired only by enrolling as day-scholars in Premier Institutes and the motto being ;

Open University :

.....
Operation flood knowledge for the thirsty !

.....
*independent of their age (no upper limit),
 location and economic status !*

3.2 U.K, Open University courses :

Before we outline our line of action it may be of interest to know about the courses offered by UK Open University (9). Given below is a list of them.

- 1 A Systematic approach to nursing care : An introduction.
 (code ; P-553S, Study time : 100 hrs. Background : Some)
2. Caring for children and young people.
 (Code : P-653S, Study time : 85 hrs. Background : None)
3. Coronary heart disease ; Reducing risk.
 (Code ; P-575S, Study time : 40 hrs. Background ; None)

4. Drug use and misuse.
(Code : P-576S, Study time : 40 hrs, Background : None)
5. Mental Health problems in old age.
(Code : P-578X, Study time : 18 hrs, Background : None)
6. Health and disease.
(Code : U-206, Study time : 42 hrs, Background ; None)

3.3 University of Dundee CME programmes :

The Centre for Medical Education, Ninewells Hospital & Medical School, Dundee, Scotland offers distance learning programmes in :

- (1) Diploma in Medical Education, a course for medical and para-medical teachers.
- (2) CASE : A booklet with a series of case history to the participating GPs.
- (3) Trends in the Management of Fissure Caries-for General Dental Practitioners.

Since there exists a well managed and accountable public health care system in U K and other westren countries, the type and content of such courses are invariably different when we wish to consider them for the health-care scenario in India.

4. Action Plan in Indian Health-Care Scenario :

We have proposed an approach more suited to our needs in this area. We mention only the titles below, for the details are available from the original recent publication

- 4.1. Developing a Certificate course in General Self-Health Care Education for all adults.
- 4.2. Developing a Certificate course for medical Laboratory Assistantship.
- 4.3. Developing a Certificate Course in Small-Hospital/Nursing-Home Administration.
- 4.4. Developing a Certificate course on Drug Information/Sale or Medical Representatives and Chemists.
- 4.5. Certificate course in Med-| Bio- informatics targeted to practicing Physicians, Students in Medical|Biological-background to increase their awareness on the use of large DATA BASES like MEDLAR, GENE Sequences, etc.

- 4.6. *Developing Graduate Medical Degree course for Scientists and Engineers so as to improve the "content" of medical education with contributions from interdisciplinary specialists.*
- 4.7. *Certificate course in Computers in Clinics, Hospitals, Patient-Care & Management.*
- 4.8. *Encourage students/programmes in Molecular Medicine.*
- 4.9. *Updates in Medicine: Certificate courses for practicing physicians, in collaboration with Medical Council of India and other Premier Institutes like AIIMS/PGIMER/JIPMER, etc.*
- 4.10. *Certificate course in Pharmacology Nursing.*

None of the above programmes (barring 9 & 10) are taught, in any of Medical Schools today in India. Open University has the tremendous potential to fill-in the vacuum. We must act to-day and persevere from now on!

While some of the activities (like 3,5,7) may be encroached by the use of certain terminology into activities of other schools, as the primary content of the materials fall within the realm of the Health Licence programme, the faculties of other schools can contribute to the course materials. The philosophy presented here is to highlight the multifaceted nature of Health Science and *not to repeat* the mistakes present in the conventional education system today.

5. *Integrated Modular Self-Learning Packages :*

In order to provide enough, but not over-burdening, information to the undergraduates it is necessary to understand and learn treatment to only around 100 types of diseases/cases. This modest curriculum will enable them to meet day-to-day cases that one encounters in General Practice or Primary-Health Centre environment. Again a drawback of current curriculum is segregation of teaching subjects into pre-clinical, para-clinical and clinical, which often derails the objective of cohesive understanding of the cases and leads to repetition of many topics during the five and half years learning period. The only remedy to this situation is to learn the cases in integrated manner wherein all information viz Biochemistry, pathology, anatomy, pharmacology and epidemiology, are interlinked. Given below (Scheme 1) is a flow chart recommending to meet this integration. Needless to mention here is that preparation (or better distillation) of content is quite challenging and demands team efforts. However, in Open University system of preparation of study materials are indeed done by an expert group and hence it is feasible to implement the strategy presented here.

We have discussed elsewhere the utility of computers in medical education, research and practice. However, we wish to stress here the need to have a common, and minimal configuration of the computer both hardware and operating system under which the modules prepared should be executable. We recommend that the programmes should be able to run on PC/XTs with DOS environment and a low-cost compilers like BASIC, FORTRAN, Turbo Prolog etc. Efforts should be made so as to cover one disease/case per floppy.

6. PHCs and District Hospitals as Study Centres :

The only way to effectively meet the objective of generating man power to look after the Primary Health Care Centres, District Hospitals is to have practical training conducted in this environment only. I.e. not in the current way of training in urban area teaching hospitals, but shift them to rural sphere. As an Open University student need not come out of his/her place of residence/work to study, this emphasis of having study centres for counselling and training at PHC/DHs should be welcome feature for the student as well. Such a step will also bring out the much desired objective of improving the health care of the masses.

7. Study Centre Library : Standardisation of

In general, Medical and Allied Health Science books are much costlier than other professional books. Even paperback editions are costly. In order to maintain a rich library, it is essential to have a variety of standard books, such as those listed/ recommended for a mini-library.

8. Conclusion :

We have outlined the trauma and the associated therapy to the Mess in Medical/ Allied Health worker education. While break-throughs in science occur due to efforts of individuals, launching of new courses by a university depends on authorities, who in turn generally constitute an expert committee for review. The recommendations of such a committee in turn depends on its members to realise the potential the Open Learning System offers and their willingness to accept improvements to meet the real challenges facing Education To-day. Since experts are, in general very seniors atleast by one to three generations, their perception to current needs may vary and this in turn naturally leads to belated implementations. These steps, however, should not detract the scientists or educationists from their responsibility to constantly search and propose improvements in imparting education. In this context the quote of Joseph Henry, the 19th Century American Physicist, is very relevant, viz "The seeds

of great discoveries are constantly floating around us, but they only take root in minds well prepared to receive them". The basic mandate of the Open University system is to provide education i. e. prepare such minds, hitherto unreached.

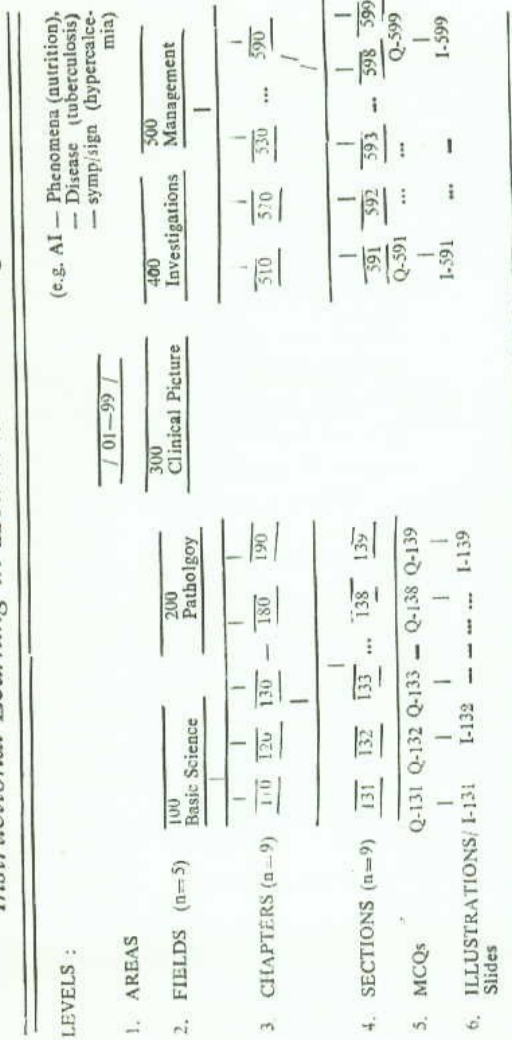
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Flow Chart for Computer Assisted Intergated Modular Self-Instructional Learning in Health Science Programmes.



Note : one-screen view area = one section,
 9 Sections = one chapter,
 9 chapters = one field, and
 5 field = one area. i. e. 9 sections) × 9 (chapters) × 5 (fields) = 405 sections for each area.
 i. e. 405 sections = one area.
 It is recommended to hold one area per floppy, with flexibility to move across & vertical from any section to any section within a given area/floppy.