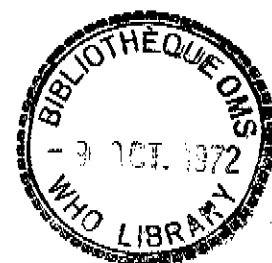




REPORT OF CONSULTATION ON
TEACHER TRAINING FOR HEALTH PERSONNEL

Geneva, 6-10 October 1969.



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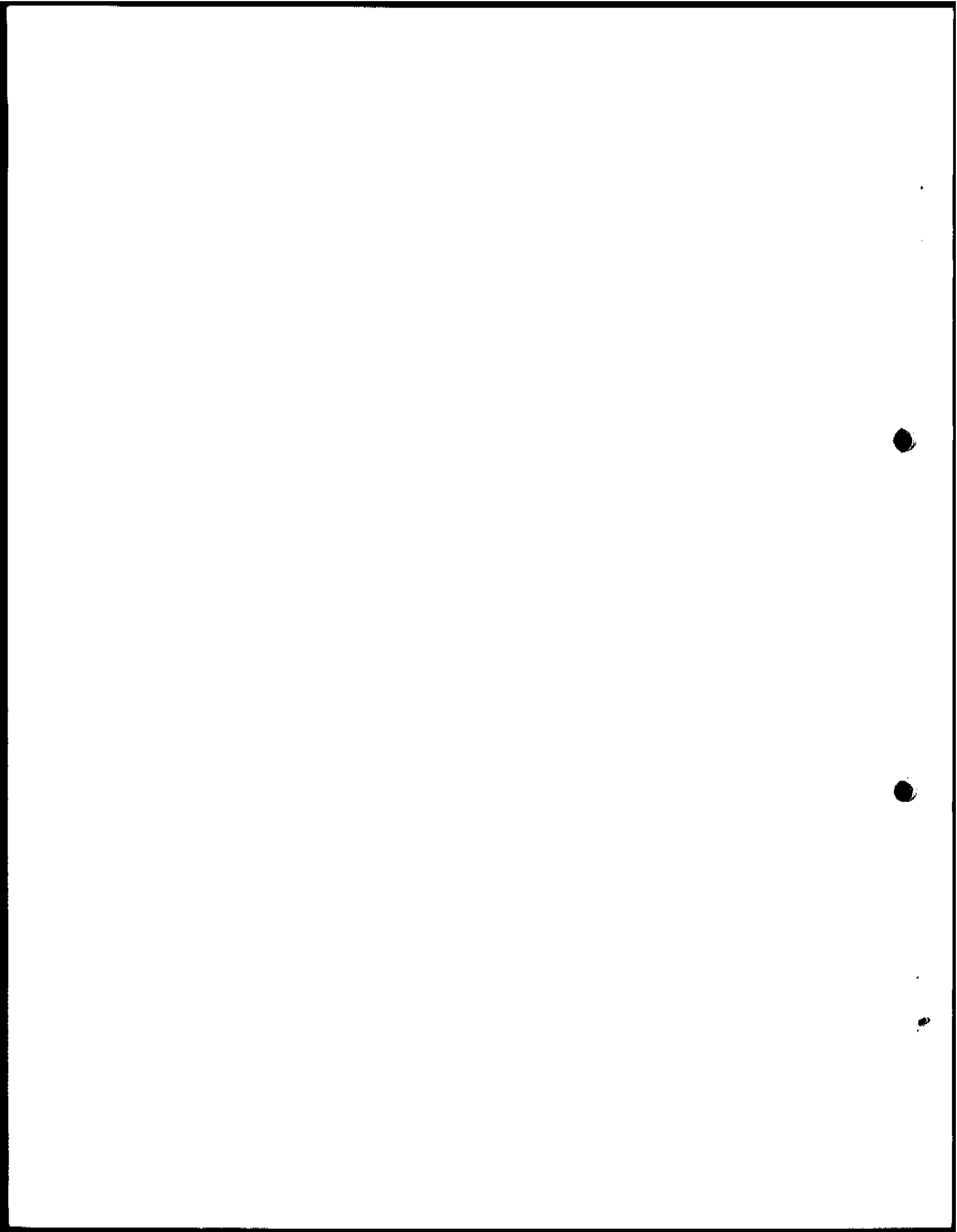
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Opening

A consultation on teacher training for health personnel was held in Geneva from 6 to 10 October 1969. Dr G.E. Miller was elected Chairman, Dr V.N. Butrov, Vice-Chairman and Dr D.A. Messinezy, Rapporteur.

Opening the meeting on behalf of the Director-General, Dr E. Braga, Director of the Division of Education and Training welcomed the members of the Consultation and the representatives of FAO and UNESCO. He stated that the subject had preoccupied WHO for many years and the question now was whether activities should be intensified and, if so, in what sense and in what ways.

In the health manpower area the most obvious problem continues to be the lack of trained personnel - a gap needing to be filled as rapidly as possible. Self-sufficiency in education in medicine and related health sciences, and both the qualitative and quantitative aspects of the production of trained health workers, particularly in the developing countries, continues to receive the highest priority in WHO's programmes of technical assistance.

In implementing these programmes of education and training, WHO is guided by certain basic principles: (1) such programmes are a means for developing national health services, rather than final goals in themselves; (2) the types of health personnel involved and the kinds of education and training programmes that may be required, must be determined by the nature of the local health problems and the corresponding national health plans; the preparation of such personnel should thus be adapted to, and take place in, an environment similar to that in which they are going to work, and not under completely different cultural and ecological conditions; (3) the allocation of responsibilities to the various categories and levels of health workers must be related to the tasks that each will have to perform within the context of the health needs and resources of the country concerned; (4) education in the health sciences requires integrated teaching which means not only bringing together analogous teaching programmes, faculties and facilities, but also making it possible to develop joint multidisciplinary educational systems for health workers of different categories and levels; it also signifies that teaching should be imparted by means of the community health approach, which represents a real departure from the present traditional methods based mostly on individual medical attention.

Dr Braga further stated that in assisting countries to raise the number of health workers in order to bridge the gap between needs and manpower availability, especially in the developing countries, the Organization would direct its special attention to the training of those who teach. Only when national teaching cadres become available will it be possible to design more adequately the predominant educational patterns for the health sciences and for a significant impact to be made on the preparation of health workers.

Research in education for health personnel is becoming an established feature of WHO's work. A Unit, created especially for this purpose at WHO headquarters in 1969, will promote studies on a variety of subjects and disseminate the relevant information to Member countries. An important place will also be given in WHO to the collection of information on the availability and quality of teaching aids now utilized and to the evaluation of their suitability for different levels of

education. The Organization will be prepared not only to advise on the application of such aids, but also to assist in organizing and running courses, seminars and workshops on teaching methodology.

Dr Braga finally drew attention to the title of the Consultation. Its deliberations will bear on teacher training not only for medical schools but also for schools preparing other health professionals and their auxiliaries. The Consultation will deal with the preparation of teachers in the sciences of education, and not in the subject matter of the specific bio-medical disciplines. It is taken for granted that all those selected for teaching are already, or will become, fully competent in their particular discipline.

1. Introduction

It may be well to begin by acknowledging the fact that teacher training for schools of medical and health personnel is not a new problem. The sharp complaints of contemporary students who find their instructors wanting in pedagogic skills may be more direct and may resound more widely than those in earlier times, but they are not different in kind from the cries of students half a century ago. Thoughtful medical faculty members, at least in the period since Billroth, (distinguished Viennese surgeon of Swedish origin 1829-94), have confessed that there is more to the quality of teaching than the teachers' competence in the subject matter - and that something should be done about it. Parenthetically it is interesting to note that in an earlier century Johann Amos Comenius (seventeenth century school reformer in Moravia) voiced a similar concern stating: "I seek a method under which the teacher teaches less and the learner learns more". In medicine, however, in spite of periodic recognition of the problem, it was not until the mid-1950's that a systematic attack upon the question was launched. The Project in Medical Education at the University of Buffalo School of Medicine emerged from the frustrations felt by a group of young faculty members who recognized their own lack of knowledge about teaching. They asked colleagues in the School of Education to join them in identifying the elements of educational science that might contribute to the solution of increasingly perplexing educational problems in medicine.

From this seed has grown a flourishing movement in the United States, one which has led to the creation of nearly a score of educational research and development units in American medical schools during the last decade, a movement whose influence has been felt throughout the world. Comparable efforts have been made in an increasing number of other countries and the recent creation of an international society for medical education research - as well as WHO's interest in this matter - are evidences of widespread concern for continuing scientific study of the educational process in medicine.

The World Health Organization, in its endeavours to assist countries develop their own medical schools and other teaching institutions for the allied health professions, has been turning its attention more and more to the problem of teacher sufficiency, quantitative and qualitative. Already in 1952 the Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel included in its discussions the question of training faculty members, and made specific reference to their formal pedagogic preparation.¹

¹ WHO Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel (1953) Second report Wld Hlth Org. techn. Rep. Ser.

As summarized in two recent WHO publications,^{1,2} the preparation of medical teachers has been the subject of special concern to WHO. More than one-tenth of the 17 390 fellowships WHO awarded during the last decade have gone to teachers. For the most part, however, these efforts have aimed at increasing the teacher's knowledge of subject matter, rather than augmenting his pedagogic ability. WHO has assisted in organizing courses for teachers in new subjects: for instance, three courses on the teaching of human genetics were held in Copenhagen. In the South-East Asia Region, annual study tours for medical educators began in 1957 with teachers of pathology, and continued until 1965 (excluding 1963), covering in turn the teaching of all the basic medical sciences, and paediatrics.

However, not every teacher has an innate capacity to engage his students in active learning; even those who have gained skill in the traditional method of lecturing have usually done so only through a long apprenticeship. The problem of systematic medical teacher preparation in the educational process was discussed by an expert committee in 1965,³ and a strong recommendation was made that activities be initiated to assist in the establishment of centres for the training of medical teachers in educational science.

The improvement of teaching methods was already the subject of a number of meetings. In 1965 alone, an inter-regional conference on medical educators from eighteen countries was held, also a regional meeting was convened in Chile on human relations and medical teaching and courses were organized on the medical teaching methods in Caracas and El Salvador. In the period 1962-1965, a total of 320 teachers from 33 countries of the Americas received training in pedagogy applied to medicine (human relations and medical teaching). A programme in audiovisual aids was started for Latin American countries.

In the South-East Asia Region a series of working conferences were held on teaching methods; a study tour was organized in 1964 to enable deans of medical institutions to visit public health institutes and medical colleges and to discuss the organization of curricula and the application of new teaching methods. The Indian Registry of Pathology received help in producing teaching specimens for distribution to medical schools in the Region. In 1968 in Europe an inter-regional seminar was held on current trends in medical education, teaching methods and teaching aids. In 1969 a four-week seminar on educational science was held for staff of medical schools in South-East Asia, and a workshop on teaching methods

1

The second ten years of the World Health Organization 1958-67, Geneva, WHO, 1968, 78-93

2

The work of WHO 1968. Annual report of the Director-General to the World Health Assembly and to the United Nations, Off. Rec. Wld. Hlth Org. 1969. 172, 67-69

3

WHO Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel (1966). The training and preparation of teachers for medical schools with special regard to the needs of developing countries. Fifteenth report Wld Hlth Org. techn. Rep. Ser., No. 337

received assistance in the Western Pacific.

In 1968 a review was published of examination methods in use in medical schools in different areas and of new developments in examination theory and practice.¹ Consultants on such matters as evaluation techniques, teaching methods and curricula planning were provided to a number of medical and other schools in various regions. In order to ease the problem of procurement of teaching equipment and supplies, a special revolving fund was set up by the Nineteenth World Health Assembly.

The above summary, which is only indicative and by no means comprehensive, shows the range of activities undertaken by WHO during the last decade with a view to improving the teaching in medical and allied schools. It may be of interest to add that not only was emphasis laid since the early years of WHO² on the granting of fellowships to prepare teachers for medical and allied health schools through advanced study in their particular scientific discipline, but that also a type of award was established - the teaching fellowship. Medical schools were invited to accept in their departments, as supernumerary members, these especially selected WHO fellows, to enable them to acquire experience in teaching and in carrying other responsibilities of the teaching staff. However, the main focus has remained on subject matter and not on education process.

2. The need for teacher training

The need for special preparation for teaching is both qualitative and quantitative.

There is a growing awareness among teachers that scientific competence cannot be equated with competence in teaching: this uneasiness is heightened by the increasing vocal expressions of dissatisfaction with their instruction among students throughout the world. In developing countries many teachers are quite young and relatively inexperienced; in most countries teachers are selected chiefly for their research achievements and/or professional competence. In either case it is probably unrealistic to expect that they will know how to employ the most efficient and effective methods of promoting learning through large classes and small groups, laboratory and clinic exercises, audiovisual aids and examinations. The outstanding need is to improve the teaching competence of the average teacher, and not merely to create a group of dazzling performers. But even those teachers who, because of their innate ability and long experience have acquired high esteem as teachers, need to become familiar with new concepts and methods.

In respect of quantitative requirements and limiting the consideration now to the medical profession alone, it has been estimated that 25 to 75 thousand additional teachers would be required for the establishment of the needed 250-750 new

¹ Charvat, J., McGuire, C. and Parsons, V. (1968) A review of the nature and uses of examinations in medical education Wld Hlth Org. Publ. Hlth Pap., 36

² The first ten years of the World Health Organization, Geneva, WHO, 1958

medical schools in the world.¹ Any such estimates can give but a very rough idea of the magnitude, given all the variables about population needs, sharing responsibility with other health professions and with health auxiliaries, replacing teachers lost through retirement and death, increasing demands for physicians and hence for teachers. The new teachers must be prepared, and the existing teachers should be given the opportunity of improving their teaching skill. It seems unrealistic to expect that this can be done through the long drawn-out process of apprenticeship; nor is this consistent with contemporary concepts concerning the training of individuals for professional tasks.

Since the teacher is the critical element in educational programme planning and implementation, the cost of education for the health professions, both in money and man-years, is directly related to the efficiency of their pedagogic performance. For this reason above all others, it is imperative that their competence in educational processes and not in subject matter alone, be of the highest quality. It is unlikely that this will be achieved without paying attention systematically to their preparation for this heavy responsibility.

3. The objectives of teacher training

There are many who consider that a good teacher is born, like a poet. It is foolhardy, however, to rely solely on this natural process to meet the great need for teachers. It has also been said that a good teacher is one who likes teaching and likes students. While this is desirable and certainly important in teaching motivation, it is insufficient qualification for a complex task. The liking must be supplemented and complemented by a body of knowledge about educational processes and a set of specific skills. It is with a view to achieving such general goals as those listed below that teacher training programmes for health professions personnel should be designed.

3.1 General goals

3.1.1 Educational leadership

Competence in the planning process and understanding of its application is the main component of educational leadership: (i) in setting educational objects on the basis of the needs of society, as well as on the basis of the required standards for the profession; (ii) in establishing priorities among a variety of admirable goals; (iii) in determining the most efficient and effective methods of deploying instructional personnel and resources; (iv) in being aware of costs and in paying attention to benefits that might be gained from alternative methods.

Further educational leadership is dependent upon the person's awareness of the potential contributions each health profession can make to the educational programme of the other professions, by his ability to mobilize their interest in joint efforts, and his skill in dealing with problems of interprofessional communication and conflict.

And finally, the ability not only to plan but also to administer and organize educational activities is another component of educational leadership.

¹ WHO Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel (1966) Wld Hlth Org. techn. Rep. Ser., No. 337, p.25

3.1.2 Programme implementation

In this domain the teacher's competence depends on his capacity to define the objectives of educational programmes in terms of required behavioural outcome; to build a rational curriculum on the basis of these objectives; to select from among the rich variety of materials and methods those most suited to the objectives; to identify and employ the evaluation tools that will provide the most reliable and valid evidence of student achievement and programme effectiveness; and to utilize in further programme planning the data deriving from such evaluation.

The teacher's competence includes also the skill to involve his students in planning their educational programme and to arrange their active participation in the teaching-learning process. This requires him to realize that the teacher-student relationship affects the learning process, and to recognize that the aim is to encourage student independence, and not dependence; the teacher should also know how to wean the student from himself as a source of learning and to help the student become a continuing and self-reliant learner.

3.1.3 Special educational expertise

A certain number of teachers will emerge from a training programme with a particular competence in some component of educational science. This may be learning theory and practice, instructional and communication methods, evaluation methodology, human relations, curriculum planning or administration.

3.1.4 Educational research

Finally, even though a teacher may not become a skilled research worker in education, he needs to have a spirit of enquiry about the educational process, that will serve as a model for his students as well as a constant stimulus to his colleagues. However, it is doubtful that most teacher training programmes will achieve the whole range of goals listed above. But even a few of these goals should provide the teacher with some understanding of what is involved in the process of facilitating learning, and should help him gain new attitudes and skills.

These general aims will determine the training programme content and method. The level of proficiency expected as an outcome will depend on the particular circumstances and responsibilities for which participants are being prepared and on the time available for this training.

Programmes could be directed toward three groups of health personnel:

- (a) those who wish to become educational specialists;
- (b) those who will provide educational leadership in a national and local context, and
- (c) those who wish to improve their performance of the everyday tasks of teaching ("educational practitioners").

Lest there be any misunderstanding the Consultation emphasizes the conviction that the essential prerequisite for teaching in any of the health professions is competence in the subject taught. If the teacher does not qualify as an authority, or is not engaged in original research in his field, he should at least be sufficiently proficient in the practice of his discipline to serve as a model for his students.

3.2 Specific objectives

Among the more specific objectives to be achieved the following are cited as illustrations:

(a) the teacher should understand the elements of the main learning theories so that he can apply them to the selection of instructional methods and of learning experiences, in any given teaching situation. If for example development of critical thinking is a specific educational objective, then the physician teacher who understands the rewards-punishments dichotomy among learning principles will reward the student who engages in critical analysis of his (the teacher's) management of a clinical problem, rather than for slavishly copying him.

(b) the teacher should, from his knowledge of the educational process, be able to design specific objectives for a course of instruction, and a curriculum which reflects the society's needs as well as the standards of the profession (including auxiliaries) he is to train.

(c) the teacher should, from his knowledge of different evaluation procedures, be able to test student achievement in any course of instruction he gives and the effectiveness of the teaching. The most frequent methods of testing in health professions education are those which probe a student's ability to recall or reproduce fragments of information. Since the professional task for which he is presumably preparing himself is one of continuous problem solving, teachers must be able to develop and deploy devices that assess this skill. The teacher will recognize that it is fruitless for him to engage in the repetitive task of questioning a student on the signs and symptoms of disease or the indication and contra-indication for a drug, when objective test methods can be employed to do it more efficiently.

(d) the teacher should have sufficient understanding of educational psychology and social anthropology to identify individual and cultural resistances to change. This is important for health education in all societies, but especially those undergoing rapid evolution.

(e) the teacher should be skilled in the use of visual and audiovisual aids and apply them, as appropriate, to the different learning situations - and, if need be, prepare his own simple material.

(f) the teacher should be skilled in methods of communication, both with individual students and with groups of students, in order to promote efficient learning.

(g) the teacher should have an appreciation of the methods of educational research and should know how to use the various techniques of measurement. He should maintain a spirit of enquiry into all aspects of education.

Obviously all these specific objectives are valid for anyone engaged in any teaching. The main and paramount objective of education in the health professions is to improve the health of the population through adequate health services. A teacher in the health professions, including their auxiliaries, should view these desiderata as they apply to this ultimate goal.

4. The content of teacher training

The subject matter for a programme of teacher preparation can for convenience be divided into (1) principles of learning, (2) curriculum construction, (3) teaching methods and instruments, (4) assessment of achievement, and (5) role of research in education. It is to be expected that, at the same time, those exposed to this programme will be strengthened in their motivation as teachers.

4.1 Principles of learning

The study of learning theory is an essential element of teacher training since without an understanding of how learning occurs, a teacher will engage in instruction that is at best successful by chance. At worst it may actually impede student progress. It is not necessary for all teachers to become experts in educational psychology but they should be familiar with such generally accepted - and practically useful - theoretical concepts as:

(a) learning is an individual process, accomplished by individual students, at an individual rate, by individual means. It is not something accomplished by magical transmission from a teacher;

(b) learning is more rapid and more efficient if the learner understands clearly what he is expected to learn;

(c) learning will be optimized when the student perceives that what he is expected to learn has relevance to his general goals;

(d) learning will be facilitated by rapid and complete individual feedback on the extent to which required learning is being accomplished;

(e) learning rarely occurs without motivation, but there are significant differences in the effect of internal and external motivating forces.

4.2 Curriculum construction

4.2.1 It is equally important for teachers to grasp the implications of learning principles for the organization of the curriculum, that is, organization of all those factors which will facilitate achievement of educational objectives, not merely the arrangement of courses and hours. The construction of a curriculum, i.e., the selection and organization of content and methods, includes consideration of such items as:

(a) a philosophy of education, the philosophy of the institution, the social milieu in which the education is to occur, as well as the objectives to be achieved.

(b) the organizing principle or principles around which instruction will be built (e.g., body systems, problem-solving, community issues, subject matter disciplines).

(c) the sequence in which instruction is to be offered (what blocks must precede a given exercise and how does the next build upon that which has already been completed).

- (d) the pacing to be employed and the limits within which individual differences can be accommodated.

The implications of such principles for programme organization and implementation, as well as for teacher activities, are profound. Unless the principles are understood, it is unlikely that they will be employed; to the extent they are neglected, learning will be slowed down, made less efficient and less effective.

4.3 Methods and instruments

A teacher training programme should offer the opportunity for participants to acquire some knowledge and skill in the use of selected teaching methods and instruments. It has already been noted that selection of the instructional method and instrument should be guided by the educational objective to be served, the individual or group to be taught and the situation in which the teaching is to take place. In this choice special attention should also be paid to involving students actively in the learning process. In order to achieve this, teachers must become aware of the strengths and weaknesses of a variety of methods and instruments.

4.3.1 Methods

(a) Lecture: This, perhaps, is the method most frequently employed in health professions education. Yet teachers must still learn that it is neither the most efficient nor the most effective method of imparting knowledge. Acquisition of skill in lecturing may allow the lecturer to enliven a topic, to summarize what is new or otherwise unavailable, to demonstrate his own method of thinking. But he should also learn to use it sparingly in order to maximise its effectiveness.

(b) Group discussion: This has been adopted as an important instructional device in many of the health professions curricula. Unbiased observers, however, are often struck by the frequency with which it resembles a lecture given to a small group. Effective group leadership requires that a teacher acquire very special skills, not the least of which is the ability to listen rather than to talk.

(c) Tutorial: It is often regarded as the ideal toward which educational programmes should strive. However, tutorials frequently become a drill or quiz session, rather than an opportunity for the student to express himself, to explore ideas and to gain guidance (not direction) from a sensitive mentor.

(d) Clinical, laboratory and field teaching: These are commonly used methods in education for the health professions, though frequently employed more to satisfy the teacher's eagerness to show something than to seize the opportunity of letting the students themselves explore and do something.

(e) Research and project teaching: Though costly, these are invaluable methods which allow students to gain experience in problem identification, problem pursuit, data analysis and synthesis.

(f) Testing: Commonly regarded as a means of assessing achievement, testing is perhaps the most powerful instructional device at the teacher's command - and the least frequently, as well as the least skilfully, used.

(g) Team teaching: Health professionals talk increasingly of the team approach to patient care. However, neither team teaching (several disciplines within a profession, several professions within the broad field), nor learning as a team have become of common usage.

(h) Simulation: Although clinical experience, for instance, is prominent in health professions education, the necessity to protect patients often precludes providing students with opportunities to perfect management skills in the real situation. Simulation is an easily available and readily adaptable supplement to reality.

There are many other instructional methods - case study, demonstration, experiment, on-the-job training, to mention a few - to which attention should be directed in a teacher training programme, but for illustrative purposes those noted above will suffice.

4.3.2 Instruments

Among the instructional instruments that deserve consideration in such a training programme one might mention:

(a) Blackboard: Widely available, widely abused;

(b) Visual aids: Such visual aids as slides, charts, models, overhead projector transparencies. Anyone who has watched the aids commonly employed even in educational programmes for the most advanced health professions, must recognize the inescapable fact that teachers need some instruction in their construction and use.

(c) Films: Although standard films have been widely available, they have not been widely utilized. Teachers need some guidance in the use of these and in the newer single concept films and the simple devices that make them so easy to introduce as supplementary or complementary to other instruction as well as to self-instructional materials.

(d) Television: Closed or open circuit programming may be available only to limited numbers. It will, however, become increasingly prominent. The health professions teachers need to learn the most effective means of utilizing both the materials stored on tape and the opportunity for live production and playback.

(e) Literature and library: Although printed materials have long been available, they are often ineffectively employed or even ignored. Teachers should be able to advise their students in the most productive use of these resources.

Among other instruments to which attention should certainly be directed are: radio, audiotapes, programmed instruction and computers.

4.4 Assessment of achievement

Three aspects are worth considering: (i) testing and achievement of individual students; (ii) assessing the accomplishments of teaching staff and

instructional programmes; (iii) appraising performance in the practice of the profession of those who have been trained.

4.4.1 The first of these is the most familiar, but unfortunately teachers seem more likely to use tests in a reflex manner rather than in a thoughtful and analytic fashion. Test methods, it seems, are employed more because they are familiar and easy to use, than because they are appropriate. It is with the respective merits and shortcomings of various examination methods that teachers must become familiar: the essay; the objective test; the oral examination; student self-evaluation; peer evaluation. No single method is sufficient to assess all the objectives of health professions education programmes, consequently teachers must gain understanding of all methods, and acquire sufficient skill in their use to employ one or the other, or more than one, as may be appropriate.¹

It is also important for teachers to have a clear understanding of the difference between formative and summative evaluation. The formative evaluation is essentially diagnostic - to help both students and teachers identify what has been learned and what remains to be learned. The summative evaluation is a terminal assessment of whether the required amount of learning has been achieved. The distinction between the two and their separation are important if a student is to feel free to reveal his ignorance for the purpose of learning (i.e., formative evaluation), rather than attempt to conceal his ignorance lest an adverse judgement be made (i.e., summative evaluation).

4.4.2 Assessing the instructional programme is equally important, if the most effective and economical utilization of teachers and other instructional resources is to be ensured. The results of student examination in assessing the product, provide an indication of programme effectiveness. It is equally useful to examine the educational process in order to determine to what extent sound principles of adult learning are being employed, the skill with which instructional methods are being used or the effect it has upon participants. It can be as simple as: an invitation to students to send in, anonymously, written comments; a more structured questionnaire (Annex 1); or a systematic analysis which employs precise observational rating scales (see para. 6 below).

Such findings may be reviewed by the teacher alone for his own information, or by the faculty of the whole programme - either with or without education specialists. The review may be extended to include such matters as the original motivation of students and the extent to which the teaching was planned to reach the relevant goals; or it may include the identification of community needs which the instruction is designed to serve, and of the major tasks the trained person is to carry out later.

The fact that there is an established system of assessment of teaching in an institution has been found in itself to be an element contributing to improved teaching.

4.4.3 Continuing education of practitioners in the health professions commonly takes the form of "educational therapy" without prior "educational diagnosis", and the therapy itself is rarely followed with sufficient care to know whether it was effective. Assessment of practitioner performance is the means by which

¹ Charvat, J., McGuire, C and Parsons, V. (1968) medical education Wld Hlth Org. Publ. Hlth pap., No. 36.

these missing diagnostic and follow-up elements are inserted into the educational process. It may consist of: analysis of public health statistics for a locality or region; review of patient records to determine how the problems encountered are being handled; tests of the knowledge required to manage these problems with the highest probability of success; observational analysis of the way in which practitioners carry out their daily tasks; or simulation of specific components of these tasks to test specific elements of complex professional skills. Until teachers acquire knowledge in the conduct of such appraisals, skill in devising and utilising appropriate test methods, and attitudes which lead them to use that knowledge and skill, educational evaluation will continue to be incomplete.

4.5 Research in education

Many educational programmes for the health professions appear to be built upon the strong opinions of protagonists. The more vigorous among these are constantly pressing for further curriculum changes. Realistically, however, there is no reason to hope that some novel curriculum structure or new instructional device will transform the present well-worn system of health professions education into a model of efficiency and effectiveness. The major hope lies in the development of teaching faculties who will become increasingly sophisticated in the strategy and tactics of education. But, like their students, teachers are unlikely to learn very much until they feel a need to know.

It is the primary task of education research to provide a steadily mounting body of information about the educational process, as a result of the study of health professions education - not from the elementary school or the rat maze - which will ultimately convince even the sceptics that they cannot afford not to know. It is for this reason that all teachers undergoing training in education should acquire some understanding of the research spirit as well as of its methods.

5. Factors that influence the development of teacher training

There are a number of factors, other than the subject matter preoccupation of most faculty members, which affect the acceptability of training in teaching. There is no need to dwell on such matters as salary, prestige and career security, for they are well-known. But it may be useful to mention several others which might be mobilized to heighten interest in such training.

5.1 Some of these factors are extramural, in the sense that they may originate outside the institution in which the teacher works. The effect on the level of basic and advanced educational programmes of various bodies, including accreditation boards and professional societies, is well-known. It would be a great encouragement to teacher training if such bodies were to include among the criteria for judging the merit of institutions or programmes, some evidence of the faculty having received training in pedagogy.

Other possible extramural influences would be derived from: the setting up of a mechanism for presenting the attractiveness, as well as the substance itself of newer developments in the art and science of teaching; the promotion, through an agency, of co-ordinated studies in education among various institutions; the encouragement, follow-up and support of those who have attended teacher training programmes.

The general idea of more training in educational matters can be promoted through publications on the subject, or the holding of specialized and very short seminars on educational topics of wide appeal - say teaching machines, or examination methods. It is in a way inescapable not to refer, in the course of these presentations, to the underlying fundamentals of education psychology - thus arousing interest for more knowledge. Study tours, meetings and short training programmes in well-known institutions may serve the same purpose of motivating not only younger, but also well established teachers.

4.2 The other group of factors is intramural, pertaining to the teachers' own institution. The pedagogic training of teachers would be stimulated if teaching institutions were to include in the requirements for staff appointment a competence in teaching, assessed by desiderata such as those appearing in chapter 3 of this report.

The institution could promote the raising of teaching effectiveness and efficiency by: encouraging teachers to attend extra-institutional meetings pertaining to the educational sciences - as they encourage attendance at congresses devoted to specific disciplines in basic medical sciences and clinical subjects; encouraging the organization of such meetings within the institution; sending individual teachers for training in the educational sciences. The institution could make the temporary sacrifice of sending a group of teachers, instead of only one, for training in the educational sciences, as training a group of teachers together will ensure mutual support and stimulation for continuity of action - a phenomenon sometimes referred to as the "critical mass" effect.

Continued stimulation can also be fostered by organizing in the institution periodic discussions on material relevant to the education sciences, such as curriculum review, examination techniques, instructional material - with the participation of an education specialist from outside if none is available within the institution, or of any member of the teaching staff having had special training in educational sciences.

The existing teachers, in most cases, are capable of teaching more effectively than they may actually be doing, and most of them know this. But this requires more time, and time may be absorbed by other activities taking precedence for some reason, such as research or service.

A system of rewards within the framework of faculty promotion would encourage staff to gain more proficiency in teaching methodology, through attendance at teacher training centres. The establishment of an education unit within the institution would be of service to all other units in the application of the art and science of education in the teaching of their particular discipline.

4. Assessing the teacher training programme

References to evaluation have already been made when considering the content of the teachers' programme (see para.4.4). The following methods are proposed in addition as being more particularly relevant to the assessment of the programmes themselves.

In outlining the general approach to this problem it would be well to note once more that teacher training is contemplated for the following three levels: (a) the health professional who is to become an "educational specialist"; (b) the one who

serves as an "educational leader" and (c) the "educational practitioner" (or classroom teacher).

At the first level programme effectiveness is shown if the candidate has satisfied the course and research requirements for a graduate degree in education. This academic measure, however, must be supplemented by additional information on the specialist's achievements and efficiency after training. At the other two levels this additional information is the only evidence obtainable.

The goal of training is to increase educational knowledge and skills as well as to influence attitudes about the educational process. It would therefore be desirable to gather data on a participant prior to training, immediately upon completion of that training, and at some later time. In connexion with some of the training objectives outlined in para. 3 above this would require assembling information about performance in the participant's home setting both before and after training.

Methods that might be employed in accumulating such information are illustrated below:

- 5.1 Written tests of knowledge and understanding of the content areas of the training programme.
- 5.2 Peer assessment of change as a teacher after the training, and of change as an educational leader within the institution. The former assessment might be made by means of rating scales or by interview methods, and the latter by interview or the anecdote method.
- 5.3 Student assessment of change in teaching performance, using rating scales with explicit criteria to guide judgement.
- 5.4 Individual assessment of the impact that training has had upon the student and description of behavioural change that has resulted from it.
- 5.5 Review of materials and methodology evolved by a participant following his training: instructional materials, curriculum plans, evaluation instruments, educational research.
- 6.6 Long-term follow-up through documents, questionnaires, interviews, and by bringing together participant groups for a review of their experiences and its outcome.
- 6.7 Visits by training programme staff to see the teacher in situ, particularly in order to document some of his practices in relation to interpersonal and interprofessional communication.

A few sample pages of assessment forms used in a teacher training centre in the USA appear in Annex II.

7. Selection of candidates for teacher training

The facilities available for training teachers for the health professions in education science are limited, and so are the means available to support such a programme. Special attention must therefore be given to the selection of those who

are most likely to benefit and to transfer this benefit more widely, not only to their students, but also to colleagues and their institution.

7.1 It is evident that the achievement of self-sufficiency in continued training efforts within a region or in an institution will require first the development of a cadre of highly qualified "educational specialists" who will provide the basic support for such programmes. The selection of such persons, whose professional competence must make them acceptable both to the health and education professions, is critical for a long-term programme success. The following selection criteria seem to be the minimal ones that should be used:

7.1.1 Sufficient personal interest to seek such training;

7.1.2 Readiness for a career shift from his own health profession to the profession of educator;

7.1.3 The candidate should be sufficiently young to allow for the prospect of an adequate number of years of service;

7.1.4 Demonstrated and documented leadership qualities and personal interest in educational matters;

7.1.5 Commitment of the candidate's institution to utilize and assist him, after his return, in developing teacher training activities.

7.2 The primary aim of teacher training programmes, however, is to improve the teaching competence of classroom teachers, and thus optimize the setting for learning. For those whose responsibilities are mainly teaching and leadership (those who are called above "educational practitioners" and "educational leaders") selection may primarily be based on:

7.2.1 Adequate professional standing (personality, and competence in the candidate's own discipline).

7.2.2 Personal interest for and commitment to the teaching art itself rather than only in respect of research and service.

8. Teaching staff for teacher training

Teaching health professionals learning principles, teaching methods and instruments, appraisal, educational research and the other subjects mentioned in chapter 4 calls for individuals with various professional qualifications in the health and education fields.

Ultimately the teaching staff should include persons with combined basic qualifications (first medicine - or another health profession as appropriate - and second education). Individuals with such a dual qualification are now rare, however, but it is hoped that the means for their training will become more widely available and that an academic climate will be developed that will encourage interested persons to pursue such a career and reward them for doing so.

In the meanwhile, interdisciplinary groups representing the health professions and the educational disciplines must be created in order to staff most of the training programmes. In any such multi-professional effort special attention must

be given to the problem of communication that may impede effective functioning. This implies providing opportunities: (i) for the educator to become familiar with the organization, terminology, attitudes and values of the health professions; and (ii) for the health professional to gain greater familiarity with the concepts and language of education. It may also require from the different groups within the health professions to increase their understanding of one another so that traditional role models do not prevent important contributions from crossing the professional lines.

Finally, it should be noted that both in the beginning and at a later stage when programmes are more fully developed, the contributions of particularly qualified individuals should be sought even though they may not be fully conversant with the teacher training programmes for the whole range of the health professions - for example, experts in psychology, sociology, tests and measurement, group dynamics, or communications.

9. The role of WHO in promoting teacher training for the health professions

The shortage of health personnel which exists in most parts of the world, coupled with the growing needs which accompany the steadily expanding population and its demands for health care, require that the number of education programmes for the health professions be considerably increased. No one denies that more teachers will be needed to man these programmes, but few openly acknowledge the inescapable fact that efficient and economical use of scarce educational resources in terms of personnel, facilities and time, will require teachers who are not only competent in subject matter but also in the educational process.

The problem of teacher training for the health professions is of such magnitude, and of such central importance to the health of the world communities, that a systematic, sequential, world-wide attack must be launched without delay. The World Health Organization is in a unique position to lead this attack and the Consultation urges most strongly that it do so promptly. There is a growing recognition among faculties of schools for the health professions that effective teaching requires educational knowledge and skill which can be acquired through training. Interest in pedagogy has been augmented by certain sporadic local and regional efforts and by WHO statements indicating an intention to provide assistance in this field. If it is not captured now, this interest will soon vanish or be displaced by other interests which can be more readily fulfilled. WHO cannot itself meet all the teacher training needs; it can, however, provide vigorous leadership, sponsor pilot and demonstration programmes, co-ordinate the potential assistance of other groups, and seek financial support of other international agencies and private foundations which also recognize the importance of the problem.

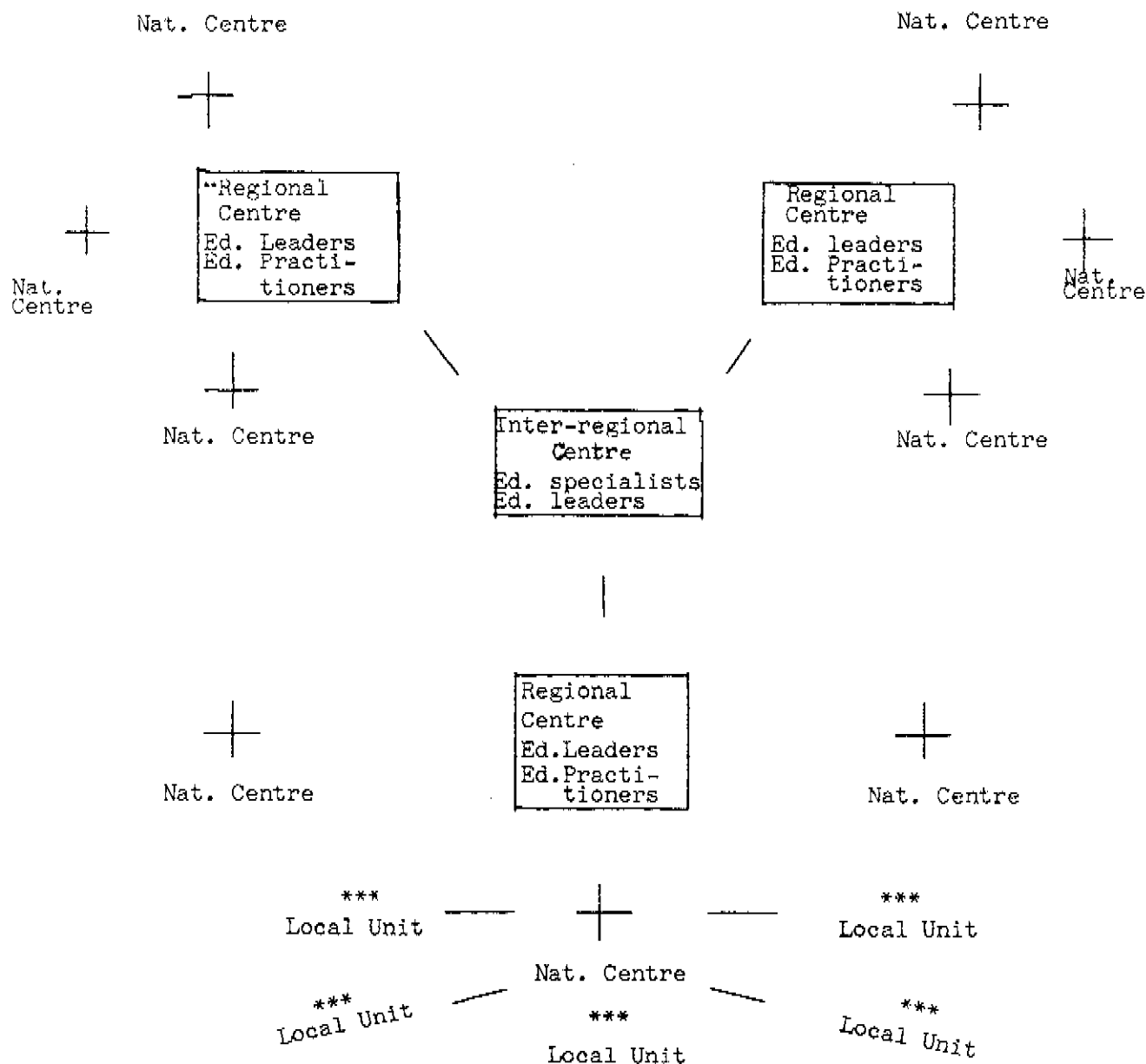
Fulfilment of the long-range goal will certainly require the production of "educational specialists" in the health professions, but the need for introducing educational science into educational programmes is so urgent that interim steps must also be taken. For this reason the Consultation recommends prompt and simultaneous initiation of teacher training programmes of varying degrees of sophistication at inter-regional, regional, national and local levels. More specifically, the recommendation calls for the establishment of:

- (1) inter-regional centre(s) devoted chiefly to the training of "educational specialists" and "educational leaders".

(2) regional centres which initially will offer programmes for "educational leaders" and "educational practitioners" (local teachers), but may ultimately also organize training programmes for "educational specialists".

(3) national centres, whose training mission would be also directed towards "educational leaders" but would be primarily intended to prepare "educational practitioners" (local teachers).

(4) units within institutions whose task would be the training of their staff in educational science, and research in the field of education.



Inter-regional centre(s) (under (1) above) should be established in an institution already identified as having acquired large experience in training teachers for the health professions. Such a centre should satisfy the following criteria:

- (a) a sound record of producing teaching personnel of high quality;
- (b) an enviable reputation, as assessed by highly qualified educators in the health professions;
- (c) a wide scope of educational research and development activities, both in the institution itself and in the immediate academic environment;
- (d) a reputation for leadership in educational work, as well as the willingness, capacity and experience, to accept and train students at advanced levels;
- (e) evidence of strength and continuity of working relationships with other agencies;
- (f) a demonstrated willingness and capacity to serve as an international centre for advanced training in educational science for the health fields;
- (g) an institution of this kind also needs to fulfil certain minimum requirements, such as, employment of key staff on a full-time schedule; use of laboratories equipped for educational work and adequate library facilities; and financial resources which are sufficient for the maintenance, expansion and renewal of all basic equipment;
- (h) the centre should have a nucleus of full-time professional staff specialized in such areas as (i) educational psychology, (ii) educational sociology, (iii) educational management, (iv) curriculum planning, evaluation and methods of measurement, (v) instruction methods and also supporting personnel.

For regional centres (under (2) above), responsible for training "educational leaders" and "educational practitioners", the criteria would be less strict but nevertheless of the same general character. The primary educational personnel of these centres may be part-time, initially, who may even come from other co-operating institutions, however, a minimum of one full-time staff member, preferably a generalist in education, would be required.

For the national training centres (under (3) above), the criteria should be even less exacting as far as the qualifications of the staff are concerned, although not as far as general institutional quality. A minimum requirement, however, should be one full-time staff - preferably a generalist in education. One of the major responsibilities of the national centres should be to promote the development of educational activities and units in local medical schools and other schools for the health professions.

The aim of this proposal is not only to maintain the present interest in teacher training for the health professions, but also to speed up implementation of an adequate programme, for which a development plan urgently requires to be initiated.

In the light of high priority WHO has given to this matter, the Consultation urges that: (i) the scheme outlined above be started not later than in 1970; (ii) it be continued throughout the Second UN Development Decade as a high priority activity; (iii) a continuing advisory group for the overall scheme be appointed.



Fisher, L.A. (1968) Training techniques in medical education - recent developments in international techniques in general.
Indian J. med. Educ., 7, No. 1,2, pp 73.

In a questionnaire designed to assess the teaching, the following were some of the questions asked:

- "1. What to you was the goal, or objective of the session?
 2. Do you believe the goal was appropriate to the group of students?
 3. Was the goal clearly defined by the instructor?
 4. Was the goal achieved in the session?
 5. What attitude does the instructor exhibit most commonly to the students - is he negative? indifferent? or positive?
 6. What attitude does the teacher most commonly produce in the students - hostility? indifference? co-operation?
 7. How many questions were asked by the instructor during the session?
 8. How many questions were asked by the students during the session?"
-
- "9. If this instructor were going to have another session with you what advice would you give him so that he would be better next time?"
-



- 1 -

SAMPLE PAGES FROM ASSESSMENT FORMS WHICH WERE USED IN A TEACHER
TRAINING CENTRE IN THE USA

(Please sign your name here)

(Date)

EDUCATIONAL ACTIVITIES QUESTIONNAIRE

Please specify in the following blank a particular course or programme you have taught or planned. Then, answer all subsequent questions as they apply to that course or program:

(Circle one)

- a. medical students
- b. interns and residents
- c. continuing education for physicians
- d. other, specify:

_____ for:
(Course or Program title)

(Circle one or more)

In this program you had:
teaching responsibilities
administrative responsibilities such as:

- a. planning
- b. recruiting
- c. evaluating
- d. other, specify

1. Did you use sources other than your own judgment to derive a set of objectives for the above course or program? Yes No

a. _____

c. _____

b. _____

d. _____

2. Did you have written statements of objectives for the above course or program?

Yes No

If the answer is yes, list the objectives below:

a. _____

b. _____

c. _____

3. What kinds of learning situations did you select for teaching or planning the above course or program?

a. _____

c. _____

b. _____

d. _____

4. Why did you select these learning situations?

a. _____

c. _____

b. _____

d. _____

5. What kinds of evaluation methods did you use in the above course or program?

a. _____

c. _____

b. _____

d. _____

6. What were your reasons for selecting these evaluation methods?

a. _____

c. _____

b. _____

d. _____

7. Did the above program provide opportunities for students or participants
a. to share in defining objectives? Yes No.

If yes, describe: _____

- b. to share in planning the program? Yes No

If yes, describe: _____

- c. to direct their own study? Yes No

If yes, describe: _____

8. In planning and carrying out instructional procedures, did you attempt to take into account:

- a. individual differences in rate of learning and motivation?

Yes No

If yes, explain how: _____

- b. feedback to the student about his strengths and weaknesses as he proceeded through the course or program?

Yes No

If yes, explain how: _____

- c. feedback to the instructor about the effectiveness of his teaching?

Yes No

If yes, explain how: _____

INVENTORY OF EDUCATIONAL PRACTICES

Instructions for items 17 through 21: After the objectives and the units of instruction have been selected, the instructor decides upon the instructional techniques he wants to use. Different instructional techniques are described below; these techniques are to be matched with learning situations. Record the number corresponding to the instructional technique that you would use at the top of the first column. If there are more techniques that you would use, you may fill in the top box of all three columns with technique numbers. Choose no more than three techniques for each situation.

After instructional techniques have been selected, record the reasons for your choices below each particular instructional technique. A LIST OF REASONS is enclosed; consider the same list with each item to justify your selection of a given instructional technique. Give as many reasons as apply for choosing each technique.

Sample item:

Situation: You are responsible for teaching laboratory skills as part of a second-year course in pathology.

Instructional techniques:

Instructional techniques:

Reasons

Columns

	I	II	III

1. A manual is given to each student listing the basic steps in a laboratory procedure. Students then perform the tasks listed in the manual.
2. Students assist the instructor in performing an autopsy, a dissection, or a laboratory experiment, and they write a report.
3. Students perform an autopsy, dissection, or experiment under the instructor's supervision and write a report
4. During independent study periods, students look at film strips showing photomicrographs of microscopic specimens
5. In the laboratory, students study prepared slides of specimens under their own microscopes; the instructor is available to answer questions.

LIST OF REASONS

This instructional technique is most likely to:

- (a) facilitate the collection of relevant information
 - (b) develop the student's ability to communicate with patients
 - (c) Motivate students to use their initiative
 - (d) motivate students to use paramedical personnel effectively
 - (e) develop the student's ability to apply general principles to specific cases
 - (f) encourage student-teacher interaction
 - (g) provide immediate feedback to students about their accomplishments.
-

GROUP BEHAVIOUR RATING SCALES

Directions for completing this Group Behaviour Rating Scales:

Do not respond to columns 1-6 and 7

In column 8 check the number that best describes your relationship to the person whom you are going to rate. In column 9, check the number that corresponds to the length of your acquaintance with the person.

Starting with column 10 through 58, respond to each item by circling 1 or 2 if the behaviour is never exhibited; circle 3 or 4 if the behaviour is rarely exhibited; circle 5 or 6 if the behaviour is occasionally exhibited; circle 7 or 8 if the behaviour occurs usually and circle 9 or 10 if it occurs always. To make your ratings objective and accurate try to recall specific situations where you had occasion to observe the person interacting with other people as well as with yourself.

Column No.

1 - 6 _____ Code number

7 Group Code Number

1. _____

2. _____

3. _____

Column No.

8. Rater (check the ONE that best describes your relation to the person being rated):

- 1. _____ self
- 2. _____ peer
- 3. _____ supervisor
- 4. _____ supervisee

9. How long have you known this person?

- 1. _____ less than one year
- 2. _____ one to two years
- 3. _____ three to four years
- 4. _____ more than four years

Behaviours: (Opposite each item circle the NUMBER that best applies)

		<u>NEVER</u>		<u>RARELY</u>		<u>OCCASIONALLY</u>		<u>USUALLY</u>		<u>ALWAYS</u>
10.	Evaluates ideas	1	2	3	4	5	6	7	8	9 10
11.	Insists stubbornly	1	2	3	4	5	6	7	8	9 10
12.	Imposes self	1	2	3	4	5	6	7	8	9 10
13.	Blindly follows	1	2	3	4	5	6	7	8	9 10
14.	Responds to others' feelings	1	2	3	4	5	6	7	8	9 10
15.	Restates goal or task	1	2	3	4	5	6	7	8	9 10
16.	Clarifies	1	2	3	4	5	6	7	8	9 10
17.	Asks for suggestions	1	2	3	4	5	6	7	8	9 10
18.	Presents information	1	2	3	4	5	6	7	8	9 10
19.	Arrives Late	1	2	3	4	5	6	7	8	9 10
20.	Asks for clarification	1	2	3	4	5	6	7	8	9 10
21.	Withdraws out of the field	1	2	3	4	5	6	7	8	9 10
22.	Coerces others, threatens	1	2	3	4	5	6	7	8	9 10
23.	Seeks consensus	1	2	3	4	5	6	7	8	9 10
24.	Jokes	1	2	3	4	5	6	7	8	9 10