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**EDUCATION AND TRAINING
FOR FAMILY PLANNING IN
HEALTH SERVICES**

**Report of a
WHO Study Group**

WORLD HEALTH ORGANIZATION

GENEVA

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FAMILY PLANNING IN HEALTH SERVICES**

Geneva, 6-10 December 1971

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EDUCATION AND TRAINING FOR FAMILY PLANNING IN HEALTH SERVICES

Report of a WHO Study Group

A WHO Study Group on Education and Training for Family Planning in Health Services met in Geneva from 6 to 10 December 1971. The meeting was opened by Dr H. Mahler, Assistant Director-General, who welcomed the participants on behalf of the Director-General.

1. INTRODUCTION

Over the past years, WHO has convened several groups of experts for the purpose of reviewing knowledge and experience concerning the health aspects of family planning. The present group was primarily concerned with the problems of developing education and training programmes in this field.

Training of health personnel in family planning is considered in this report within the context officially set forth by the Twenty-first World Health Assembly.¹ Within this context, family planning was viewed as a way of thinking and behaving that is freely adopted by individuals to promote individual and family health and, in the broad view, contributes to the overall social development of the community. That every individual should have access to services, knowledge, and understanding of family planning as a basis for making informed, free choices regarding its practice was regarded as a human right. The Group emphasized the need to give special attention to the training of personnel to reach the out-of-school younger members of the population, particularly the unmarried, both male and female.

The group also endorsed the views :

- (a) that family planning is a health measure ;
- (b) that the promotion of family planning is dependent not only on health personnel but also on workers in other disciplines ; and
- (c) that health services in both the public and private sectors have a responsibility to provide leadership in the health aspects of family planning.

¹ *Off. Rec. Wld Hlth Org.*, 1968, **168**, 21 (Resolution WHA21.43).

1.1 Education and training—a single concept

Education and training, for the purposes of this report, refer to a single concept encompassing all those processes necessary to provide health personnel with opportunities to acquire the knowledge, skills, attitudes, and competence necessary for professional or vocational preparation, work orientation, or continuing education. Such processes include the analysis and projection of health manpower training needs; the devising of national or regional training strategies to meet manpower requirements; the development and/or integration of family planning in curricula of universities and professional or vocational schools; the establishment of curricula for programme-related job training courses; and procedures, evaluation, and research relative to the teaching-learning process. The Group stressed that the methods that have been successfully applied to education and training in other health sciences are a readily available resource and should be drawn on by workers in family planning.

1.2 General considerations

It has been repeatedly emphasized by previous WHO expert groups that all health personnel should acquire some understanding of family planning in the course of their preparation. This means that family planning should be taught in schools for health workers at all levels.

At the undergraduate or basic level, human reproduction, family planning, and population dynamics should be made an integral part of the school curriculum. In higher education, one is faced with the problem of having to introduce family planning, at the requisite level, into the already crowded curricula of medical students and allied health professionals. However, it has been observed that this can be accomplished without demanding additional time of the students. The point has also been made that, while the curriculum should naturally take into consideration the tasks for which students are being prepared, a "highly job-oriented"¹ curriculum would be a disadvantage for basic professional preparation.

However, providing for those at the undergraduate level is not enough. Ultimately, opportunities for postgraduate or post-basic training must be made available to the personnel selected to take over the functions of teaching, supervision, administration, communications, evaluation, and research. Parallel or even prior to such efforts, training programmes and facilities must be established to reach the large backlog of individuals whose basic studies did not include family planning. Refresher courses or programmes of continuing education are also needed to provide periodic updating.

¹ *Wld Hlth Org. techn. Rep. Ser.*, 1967, No. 351, p. 7.

When a new activity is initiated, it is not uncommon that personnel are in short supply and cannot be spared from other functions for any length of time. In addition, facilities for providing the necessary training may not be available locally. It may therefore be advisable to send personnel abroad to take short postgraduate training courses and study the programmes of other countries. This is an option that has been chosen in many countries.

The education and training of personnel for a wide range of functions in family planning is a vast undertaking requiring many different approaches as well as the collaboration of various authorities, such as those in health, education, economic planning, and communications. In addition, as the WHO Study Group on Health Education in Health Aspects of Family Planning¹ has pointed out, the "needs and objectives of families in regard to health aspects of family planning will vary from country to country, and between areas within countries. The priorities, needs, objectives, available health manpower, and related resources of countries will also differ. Likewise, there will be variations in the organization of services to meet these needs and objectives and in the methods and activities for bringing the services into contact with the people. These differences will determine the educational tasks to be carried out in connexion with the family planning care aspects of health programmes, particularly in relation to maternal and child health services."

It is clear from the foregoing that many variables need to be considered in developing a training programme in family planning for health personnel. However, some principles do seem to be generally applicable.

A primary step is to determine the total training load, that is, the number of personnel requiring training by category, the functions required of them, and their prior professional or vocational preparation in health and family planning. It is essential that this process be dependent on the more fundamental process of health manpower planning. Traditionally, education for the health occupations has unfortunately tended to be separated from the health planning process,² and, to the extent that teaching institutions are not involved in health planning, education and training can easily become isolated and irrelevant to the country's health needs. Specifically, health manpower planning involves the determination of the types and numbers of manpower available or to be developed for implementing a complex of health programmes or a single programme within the health services, such as family planning. While variations in available manpower and service settings make it inevitable that the category of personnel performing a given task will vary greatly from country to country, there is little variation in the purpose of the task. The decision as to who is qualified to carry out a task does not depend entirely on educational background but

¹ *Wld Hlth Org. techn. Rep. Ser.*, 1971, No. 483, p. 6.

² *Wld Hlth Org. techn. Rep. Ser.*, 1971, No. 481, p. 45, section 8.3.1.

rather on who, under a given set of conditions, is the member of the health team available and best suited to perform it.¹ It has been urged that those concerned with manpower planning should consider the functions and specific tasks to be performed as the most meaningful basis for job analysis. In the context of education and training, the clear definition of job functions is an important tool in the planning of training programmes, for the job specifications serve as the link between the programme objectives and the training objectives.

All health personnel should be given job-oriented training. In planning their curricula, careful attention should be paid to the educational background and previous experience of the trainees. Moreover, in line with what was said above, objectives are best defined in performance or behavioural terms derived from job functions, and the subject matter should be selected to meet these objectives.² Steps involved in the systematic determination of content based on job description have been listed by several groups.³

The supervision of new types of personnel is of key importance in ensuring the quality of services offered. Another general principle is that in a family planning programme all workers, regardless of their background or functions, must be well grounded in the health aspects of the subject.

In conclusion, many different approaches have been devised for the education and training of personnel in the health aspects of family planning. Many aspects of this all-important subject have received considerable attention from previous WHO expert groups. However, there is a need for further investigation of the ways of promoting stronger leadership and collaboration with health programmes by universities and other health training institutions; the planning of strategies for developing or strengthening education and training; the application of principles of evaluation to education and training; and educational research in family planning. These topics are considered in the present report.

2. THE ROLE OF EDUCATIONAL AND TRAINING INSTITUTIONS

The universities have a vital role to play in the development of family planning education. Their leadership can lend prestige and status to the subject of family planning. They are, moreover, in an ideal position to assist other training institutes in organizing and conducting education and training programmes by providing them with consultants and visiting faculty and extending to them library and laboratory facilities.

¹ *Wld Hlth Org. techn. Rep. Ser.*, 1971, No. 476, p. 43, section 4.4.1.

² *Wld Hlth Org. techn. Rep. Ser.*, 1970, No. 456, pp. 18-19.

³ See, for example, *Wld Hlth Org. techn. Rep. Ser.*, 1971, No. 483, pp. 22-26.

University leadership is especially needed for the creation of graduate and postgraduate courses in subjects such as reproductive biology, health and family planning, administration of family planning programmes, health education aspects of family planning and demography. It would also be desirable for universities to take the initiative in organizing seminars and workshops on family planning and population dynamics, teacher preparation, development of more effective teaching methods, and promotion of basic and applied research in education and training for health and family planning.

The patterns of reproductive behaviour and the evaluation of family planning efforts are subjects in which administrators, physicians, behavioural scientists, statisticians, and others need additional training at the university level.

2.1 Incorporation of family planning into professional-level and intermediate-level health education curricula

It is generally agreed that family planning content should be incorporated into the existing curricula for the preparation of health personnel in universities and other training institutions. Unfortunately, curricula are often overcrowded and there may be some reluctance to add new material. This dilemma must be dealt with realistically. One approach is to explore the factors that hinder the addition of new subject matter or facilitate curriculum change.

2.1.1 Defining the role and goals of the institution

Regardless of the degree of formality characterizing the structures or levels of instruction, teaching institutions must develop methods of renovating themselves and their programmes.

Institutions frequently encounter difficulties because of their inability to change or redefine their role. For example, there are many medical schools that have not yet assumed any serious responsibility for teaching their students the concepts, principles, and procedures of family planning at the level required for physicians. The subject is frequently dismissed as either inappropriate for the medical student, since he will be learning more about it later on in his career, or inappropriate for the medical school, since its curriculum is already overloaded with more essential or more difficult subject matter. The basic problem is one of defining the appropriate role for the institution. Yet few institutions have taken the time or effort to define their objectives and establish a list of institutional priorities. The failure to have such statements on record and accessible to all concerned frequently means that the administration and faculty are at the mercy of any governmental office or special-interest group wishing to bring pressure

to bear on the institution. In the absence of any clear statement a multiplicity of goals arises, at least at the operational level, and soon the staff have overextended themselves in trying to meet the expectations of too many people or programme plans. A list of clear goals would reduce the effect of multiple and often conflicting demands by permitting the administration to sift out the appropriate from the inappropriate aims and the possible from the impossible tasks.

Having a list of priorities for the institution would permit senior administrators to determine the best solution to budgetary conflicts, particularly if open to annual review. Preference would have to be given to specific educational tasks over others, since no institution has unlimited time, staff, and facilities.

Such lists of priorities would in particular enable the institution to alter its direction consciously at any time by reaching general agreement on the changes to be made in objectives or priorities. However, the mere existence of such statements does not guarantee the flexibility of direction needed by all institutions to meet sudden or unusual demands. There must be free and open communication among administration, staff, and students concerning the purposes of the institution. With students taking an increasing role in the definition of institutional policies, and staff becoming increasingly vocal in expressing their views of institutional direction, the general voicing of concerns needs to be made a regular part of the activities of the institution. The degree to which all those concerned understand the need for altering goals or methods determines the degree to which educational innovations will be successful.

2.1.2 *Creating a climate for curriculum change*

A far more difficult task is the practical one of developing changes in curricula and of integrating new concepts and subject matter into the courses of study. The responsibility for identifying needed changes in course content frequently belongs to a committee supervising the programme, most often referred to as the curriculum committee. However, even if the committee members understand the need for curriculum changes, they seldom succeed in having the rest of the teaching staff or the administration endorse their recommendations if there has been no prior effort to make the staff and students receptive to change. This can be achieved simply by taking a number of steps to create an atmosphere conducive to the acceptance of needed innovations.

The first step is to develop an understanding of the need for curriculum change among all those concerned with the educational programme. This means that the curriculum committee in particular, and the students, faculty, and administration in general, must be made aware of the reason why new concepts and subject matter should be added. There are several ways

in which this awareness can be developed. For example, a person highly esteemed by both faculty and students can write a position paper outlining the deficiencies of the current programme as he sees them and inviting general reaction to his paper. A common device for encouraging reaction is to invite all interested parties to a general meeting and to solicit their comments on the paper. Alternatively, written reactions to the document can be requested and collected at a central office, such as that of the chairman of the curriculum committee. Another device is to send the position paper to groups clearly identified by the administration as sources of educational policy, asking for formal group reaction to the ideas contained in the paper. Regardless of the means of collection and transmittal of responses, these must be summarized; and a final document incorporating both the ideas of the original position paper and the reactions of interested groups to it is circulated to all interested parties. The curriculum committee, if it clearly adopts the resulting plan, then forwards it to the administrative group responsible for review and implementation.

The second step in creating a climate for curriculum change is the establishment of some agency that can bring about the contemplated change in the course of studies. Again, there are several alternatives open to the curriculum committee. First of all, it may officially proclaim itself the "change agent" in the institution, thereby agreeing to bear the brunt of most of the opposition generated by the contemplated change. Secondly, the committee may arrange for the instructors responsible for the course to assume full responsibility for integrating the new material, requiring them to produce evidence that the objectives of the programme are more efficiently realized by the students after the curriculum change and backing them in their programme revision. Another alternative is to establish an *ad hoc* group responsible for implementing and testing the proposed changes. The makeup of this group would be determined by the curriculum committee and would include representatives of all points of view—both positive and negative—concerning the contemplated programme changes, with the chairman coming from the curriculum committee itself. The task of this group would be to monitor the effects of the curriculum changes in a pilot study and then to report back to the curriculum committee their recommendations as to which changes should be made permanent.

The third step in creating a climate favourable to curriculum revision is to have the institution as a whole clarify the problems that exist with the current curriculum. This is a task in curricular diagnosis and often requires the collection of further data, including information on the performance of graduates of the programme and detailed assessments of their reactions to their own educational experiences. Again, it would be the curriculum committee that would be responsible for working through this particular stage, although this responsibility could be delegated, for example, to a research division.

The fourth step consists in examining alternative plans for the integration of new subject matter if the procedure adopted by the curriculum committee runs into serious difficulty in either actual execution or general acceptance. Educational innovation and renovation are tasks requiring particularly complex administrative skills, and it is by no means unusual for an institution that has not altered its course of studies for some time to react in familiar—and negative—ways to the efforts of those planning the improvement of the school. Much of this reaction is the consequence of undiagnosed pressures and forces on those involved in curriculum revision, and it is a wise curriculum committee that notes all the potential difficulties that lie ahead in its work and develops strategies for solving them.

The fifth stage involves collecting and summarizing data concerning the efficacy of the change once it has been implemented on a trial basis. Faculty members may suggest that the sheer novelty of the change may have produced the results desired and in some cases they may in fact be right. If so, the changes should be incorporated in a more permanent manner and the trial extended over several years. In this way, the intentions of the curriculum committee will have been slowly converted into actual changes involving the incorporation of new concepts and subject matter into the course of studies. No such committee should ever assume that, simply because it has been initially successful in getting faculty members to adopt curriculum changes, it can rest on its laurels and expect the faculty to continue to follow along. There are any number of factors that inhibit institutional change, and a curriculum committee needs to be constantly on guard to neutralize or compensate for these factors as swiftly and as effectively as possible. Once the curriculum change has been established at the instructional level, the formal revision of the programme must be brought to the general faculty for final sanction. If communication channels have been kept open, every faculty member will be aware of the stages through which the committee has worked in order to arrive at the present point, and they should be ready to react favourably. This final and general acceptance of the change in the course of studies provides the platform from which faculty and students will be able to identify the needs for curriculum change that arise as a natural consequence of the current revision. In any educational institution, the cycle thus repeats over and over again, with only the scene of action shifting.

2.2 Attitudinal change

A frequent problem is the need to bring about a change in the attitudes of teachers, supervisors, and students. Attitudes are evidenced by a constant behaviour pattern. If, for instance, an individual consistently rejects the ideas of another person or the arguments presented for discussion, his behaviour obviously points to an underlying negative attitude. An instructor

may unconsciously exhibit negative feelings when teaching a subject in which he or she is personally involved. In some situations teachers have found the topic of human sexuality highly distressing; such individuals should not be placed in the position of having to work with students on what to them is an overtly sensitive topic. Trainees themselves often exhibit positive or negative attitudes towards certain types of subject matter that enhance or impede the learning process.

Attitudes are typically learned by emulating the behaviour of the available role models. For example, a young child often unconsciously assumes the attitudes of his father or mother. A young medical student may be so greatly impressed by the decisiveness and obvious technical skill of a surgeon as to want to go into surgery and indeed may begin to imitate even the motions of the surgeon. While identification is a good mode of learning, it can hamper mature performance. Knowledge is a necessary but not sufficient condition for attitudinal change. There must also be a strong need to which the individual can respond.

2.3 Developing new training resources

Great pressure is often placed on health agencies by governments, professional groups, and others to develop new training programmes or new training institutions where there has been little attempt to make any preliminary analysis of the actual need. Such an analysis is not only desirable but eminently feasible, since there are a number of ways to identify the need for a new training programme or institution.

The first indication may be the evident inability of the potential consumer of family planning services to derive any benefit from those currently being offered. Usually, a study is made of family problems in an area and a programme launched to change these conditions. If on resurveying the area the indices fail to show significant improvement, it is obviously necessary either to modify the existing programme or to improve the performance of the personnel.

Another source of information is the observed performance of trainees of previous programmes. An increasingly common tactic is to bring recent graduates back to the educational institution so as to obtain first-hand information possibly indicating a need for curriculum revision.

A third method of identifying needs for new training institutions is to examine the comments and suggestions, and indeed the actual performance, of instructors in current programmes. If a supervisor or group of fellow teachers determines that the instruction in any existing programme is inappropriate, this strongly suggests that a new training programme with fresh objectives, experience, and evaluation procedures needs to be established.

Often, the very process of analysing the limitations of a training programme leads to a clear identification of the changes required or the need to develop new approaches and strategies to reach new groups or emphasize different objectives. To modify existing training institutions or develop new ones, it is essential to acquire data from which the need for change and the kind of change required may be determined. Thus, evaluation *per se* is a central process in the modification of training institutions, and the Study Group anticipates that people in the field would benefit considerably from WHO-sponsored workshops on the principles and procedures of evaluation as applied to training institutions for health personnel.

3. STRATEGIES FOR PLANNING AND IMPLEMENTING EDUCATION AND TRAINING PROGRAMMES IN FAMILY PLANNING FOR HEALTH PERSONNEL

Prior to developing a national family planning programme, many countries will have passed through a phase of voluntary and private activities ; and there will be some individuals with enough knowledge to enable them to initiate at least some preliminary planning. The crux of the problem is personnel.

Logically, the creation of an education and training programme presupposes the existence of an overall development plan that recognizes the integral role training and education will play in the achievement of a successful action programme. Yet all too often action programmes are initiated before the training programme has begun. Even where this is not the case, there is often too short a time lag between the training and the action programmes to allow a sufficient number of personnel to complete their preparation.

Educational efforts to prepare health personnel for a role in family planning are needed at four levels : international, national, regional, and local.

At the international level, foreign institutions should be used when necessary, primarily to strengthen policy level leadership. The objective is for actual or potential leaders to acquire a broad understanding of population dynamics ; extensive factual knowledge of the health aspects of family planning ; mastery of the principles of programme planning, development, management, and evaluation ; and an understanding of the concept of ecological balance in national development.

National training efforts must aim at developing and strengthening cadres of high-level professionals for educational, clinical, and administrative responsibilities.

At regional, or provincial, levels the goal is to train adequate numbers of personnel with sound basic preparation to meet the requirements of family planning services in both urban and rural settings.

Locally, efforts should be directed to providing field demonstration and training facilities for use within the framework of programme-related training. The education of the consumers of family planning services and especially of community leaders is another important local task.

Before considering the implementation of a new education programme, the potential for using existing educational facilities should of course be thoroughly investigated.

3.1 Stages of planning

The first stage is to educate those responsible for programme development in planning comprehensive training programmes of adequate content and duration. This is a prerequisite for an action programme, and a sufficient time lag must be scheduled to allow students to be trained properly. The planners must also be fully aware that an action programme can only expand as fast as the output of trained personnel, a fact that calls for phased and coordinated expansion of the action programme.

The second stage is the training of teachers, which includes instructing them in the plans for programme development, timetable requirements, and priorities. All too frequently, educators are not involved in the planning process, fully consulted as to training requirements, or apprised of manpower needs.

The third stage is the initiation of training programmes. These should be preceded by pilot courses and field trials, which should be carefully evaluated before a large-scale education and training programme is undertaken.

The fourth stage is the assessment of students' work performance, providing appropriate feedback so that curricula and teaching may be continuously revised and improved. An essential part of this evaluation process is the revision of the initially theoretical work description in the light of actual on-site job analyses.

3.2 Strategies for short-term and long-term objectives

As a result of pressures from various sources, the implementation of an action programme is often given precedence over long-term planning. Such a situation calls for a double strategy involving a pragmatic approach to immediate needs and a more systematic approach to the development of long-term objectives.

Over the short term, health planners, administrators, and those responsible for educational planning should familiarize themselves with well-

established family planning programmes in other countries. Personnel assigned leading roles in teaching and services will need appropriate academic training. Decision-making and implementation will thus be expedited.

The strategy for long-term planning involves the following steps :

- (1) diagnosing wants, needs, and resources ;
- (2) forecasting the demand for and delivery of services ;
- (3) determining priorities ;
- (4) stating objectives ;
- (5) defining functions and essential tasks ;
- (6) determining the type and number of personnel ;
- (7) developing teaching programmes to meet the manpower needs ;
- (8) providing physical facilities for the educational programme ; and
- (9) designing operational research in planning and evaluation.

As a general rule, top priority should be given to providing supplementary courses for previously trained health personnel. Second in priority is the revision of existing basic education programmes so that family planning becomes part of the normal educational process. This is particularly important where curricula are governed by legal statutes.

Where it is necessary to train new categories of family planning workers, consideration must be given to the inclusion of other health-related content in the curriculum in order to insure the integration of family planning within general health services. Although recourse to foreign training facilities may be necessary in the beginning, a fundamental and urgent objective for each country is to develop a self-sufficient and broad educational system. For high-level personnel in particular, some countries may find it more economical to rely on training abroad, preferably within the region. The magnitude of the immediate training task may be reduced by phasing in the services on a geographical basis within the country and gradually introducing selected family planning activities.

4. PROGRAMME-RELATED TRAINING

Programme-related training refers specifically to the training needed to enable personnel to perform effectively the tasks required for the successful achievement of the objectives of an action programme.

The Group was of the opinion that in programme-related training there is a great need for more adequate conceptualization. There is an unfortunate tendency for the training of programme personnel to be planned and implemented in isolation from the community and functions that the

training purports to serve. Those responsible for planning the services and those in charge of training are therefore urged to work together in developing a strategy for programme-related training.

The training of personnel to carry out family planning functions has tended to be limited conceptually to an individual learning model. Attention is usually focused on the important question of whether the trainee is learning what the teacher intends him to. Often, little or no thought is given to the equally important question of whether the subject matter is sufficiently relevant to the work performance that will be required for programme implementation. As a result, what the trainee actually learns does not always help him perform his job better. When the training of personnel is isolated in this way from programme planning and implementation, time, money, and human resources are wasted.

4.1 A systems approach to programme-related training

The purpose of programme-related training is to successfully implement the action programme by enabling the personnel to function effectively. What links the programme objectives to the training goals is the description of the functions that they will need to perform on the job. The process by which such job descriptions are formulated, tested in the field, modified, and refined is a major input into the training system (see Fig. 1).

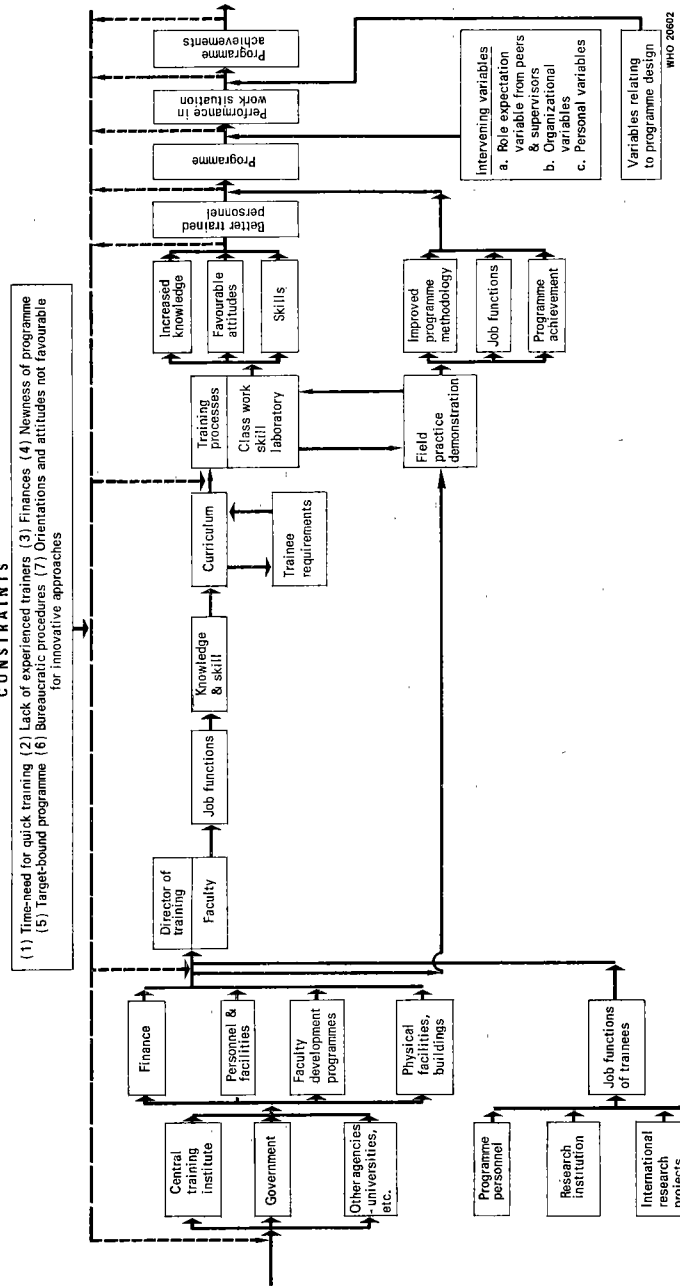
First, the job description is broken down into specific tasks, and the behaviours required for the performance of each task are specified. These become the learning objectives for the training curriculum, from which the educator derives the knowledge, attitudes, and skills the trainee will need to acquire in order to achieve each performance objective. At this stage the crucial element is the educator's skill in identifying the nature and complexity of the learning necessary for each such objective. Success depends on the accuracy of this learning analysis because it will determine the development of the teaching plan and the selection of methods.

A number of classification systems have been devised for the purpose of identifying the nature and complexity of learning required for various performance objectives. The five classes of learning described below have been simplified and adapted from Bloom;¹ each class represents an increasing magnitude of complexity.

(1) *Knowledge* is the simplest class of learning, requiring the student to acquire and recall information, ideas, facts, and terminology. The primary behaviour involved is memorizing and being able to recall information. The lecture method and reading with recall exercises are both effective for this type of learning.

¹ Bloom, B. S., ed. (1956) *Taxonomy of educational objectives, hand book I : cognitive domain*. New York, McKay.

FIG. 1. TRAINING AS A SYSTEM-CONCEPTUAL FRAMEWORK *



* Adapted from Pisharotti, K. A. (1972) *Practical innovative education, training approaches and programmes for existing institutions and centres* (unpublished WHO document).

(2) *Comprehension* is the grasping of meaning by relating the new information to prior knowledge or experience. It requires the student to rephrase information in his own words, to provide examples or analogies, and to interpret the meaning of information. Methods appropriate for this level of learning would include lectures with discussion or programmed instruction requiring comprehension responses.

(3) *Analysis and synthesis* are the processes of organizing or reorganizing material to achieve a particular purpose, such as breaking down a problem into meaningful parts to achieve clarity and examine the relationships between them, or putting parts together to form a meaningful whole not clearly present before. These processes require reasoning, discrimination, concept formation, problem solving, and creative thinking. Suitable methods would include simulation, case study, problem solving, and work projects.

(4) *Application* implies the possession of knowledge and skills and consists of the ability to apply them to new situations or to the solution of a problem. It requires some analysis of the new situation or problem, sufficient comprehension to identify the knowledge and skills appropriate to its solution, and the ability to implement them in a practical way. Clearly, the method of choice here is field practice.

(5) *Evaluation* refers to gauging or appraising the extent to which a goal or desired outcome is being achieved, or judging whether the method selected for reaching a goal is the best one available. It requires the student to apply criteria of success (either internally or externally determined) to the judgement of work and to weigh the values involved in reaching decisions on alternative courses of action. Methods for helping students to achieve competence in evaluation should involve them in such activities as setting priorities, identifying the criteria used in making a choice from among alternative courses of action, giving reasons for conclusions drawn, etc.

These are the essential processes of the training system that aim at preparing the trainee to master a set of job functions. When these processes are completed, the assessment functions of the system can take over to evaluate the effectiveness of training in the context of the needs of the larger health system.

4.2 Field training : a special need of programme-related training

Because programme-related training is performance-oriented rather than subject-oriented, it is essential that the learner be given opportunities to practise the performance objectives under conditions as similar as possible to the job situation. One way of providing such opportunities is to develop a field practice demonstration area.

While the main objective of a field practice demonstration area is to provide field experience—both observation and practice—to the trainees, it serves a variety of other useful functions. Certain assumptions underlying family planning programmes may need confirmation or modification. The educational approach may also need to be modified as the programme develops. A field practice demonstration area helps the training centre faculty to generate new information on programme development and to redefine job functions on the basis of this new knowledge. In addition, it serves as a social laboratory in which the instructors can acquire new skills and further their own professional development.

A field practice demonstration area enables students to relate conceptual knowledge to real and practical problems; to develop work skills in an environment similar to their own work setting; and to test their own competence and gain self-confidence. The area enables instructors to enrich their teaching through close contact with an operating programme, to develop and test new methods and materials, and to apply knowledge from their own disciplines to problems of health and family planning programme development. It also offers advantages to programme administrators, for it can serve as a pilot area in which to test health and family planning delivery systems and other operational procedures.

Of critical importance is the selection of the site for the field practice demonstration area. The following guidelines have been found useful:

- (1) The area should be as close to the training institution as possible.
- (2) Communication facilities should be available so that, as far as possible, all units of the area are accessible throughout the year.
- (3) There should be a full complement of staff, vehicles, and services as in the prevailing pattern of delivery of health and family planning services.
- (4) A psychological climate conducive to productive action should be developed and maintained.
- (5) The area should not serve as the field demonstration area for any other institute or programme.

After the site has been selected, one of the first issues to be resolved by teachers and administrators is the administrative relationship between the training institution and the area selected. One view is that the training centre director should have administrative control over the field practice demonstration area staff so as to ensure effective functioning. While this approach has the advantage that the training faculty is free to develop programmes and utilize them for training, it has its limitations. The family planning programme is only one aspect of the total activity of the health centre. Since administrative control must of course apply to the entire

health programme in the field practice demonstration area and not only to the family planning programmes, this broad responsibility places a heavy burden on the training faculty and may divert their attention from their major function of training. It also necessitates expanding the training faculty so as to take care of the additional work involved. As an alternative to administrative control, technical control over the staff of the demonstration area may be vested in the training director. Within this framework, the director would be free to rearrange working patterns in family planning within the field practice demonstration area, and to develop a model programme in consultation with those concerned. He should also be able to arrange for training in the field practice demonstration area as necessary.

A model programme can only emerge if the activities of the training institution are coordinated with those of both the field practice demonstration area staff and other local institutions. In developing nations, experience has shown that departments such as agriculture, education, and community development have a role to play. The representatives of the people for whom the services are being created must also be involved in the planning and implementation of the programme. To facilitate coordination among the agencies a planning and implementation committee should be formed, consisting of: (1) the director of the training institutions, (2) the officers in charge of health and family planning in the district where the field practice demonstration area is located, (3) the medical officers of the primary health centres, (4) representatives of welfare departments, (5) representatives of the general public, and (6) representatives of local bodies. The director of the training institutions may function as the convener of his committee, calling meetings as needed to facilitate programme development.

Questions are often raised about the extent to which the central training faculty should take on responsibility for developing programmes in the field practice demonstration area in addition to their training load. In a field practice demonstration area with the normal primary health centre staff, the development of a model programme will have to be the shared responsibility of the training faculty and the service staff. The health centre staff will be concerned with day-to-day activities, while the multidisciplinary training faculty should take responsibility for guiding and helping them to develop programmes. Such responsibility may be supportive and consists of assistance in planning, implementing, and evaluating the programmes at various levels. A helpful relationship can be developed if the members of the training faculty agree to perform functions that parallel those of their counterparts on the health centre staff. For example, the physician lecturer might become the counterpart of the medical officer of the health centre, and the health education instructor could parallel the community educator. In this way the training faculty will remain fully familiar with the programmes being carried out in the field practice demonstration area and be in a better position to help their counterparts improve their programme implementa-

tion and problem-solving. Another advantage of such a procedure is that it provides a useful channel of feedback concerning job functions and working methods to those responsible for programme administration and programme development studies.

An early step in the development of the field practice demonstration area is the identification of the training needs of the regular health staff working in the area and the meeting of these needs. Such training may consist of initial orientation, job-oriented training, continuing training on the job, or refresher courses whenever deemed necessary. The initial orientation should include a discussion of the purpose and scope of the field practice demonstration area, the roles and responsibilities of the training centre faculty and demonstration area staff, and coordination measures.

4.3 Team learning and team teaching

Team learning and team teaching were discussed by the Group in terms of their advantages and disadvantages as training methods for the promotion of team work. The concept of team work springs from the philosophy that, in the delivery of family planning education and services, a coordinated input is needed from several different disciplines in order to meet consumer needs adequately. Each member of the health team has his technical and human contributions to make to both consumers and fellow team members.

The purposes of team learning are to enable the members to understand the total responsibility of the team as a group, the roles of each individual team member in carrying out group responsibility, the necessity of role overlap among the members, and the processes needed for working together, both to achieve internal team satisfaction and to provide a high quality of services. In view of these objectives, team learning is likely to be most effective when introduced only after each member has been made thoroughly familiar with his own professional or vocational role and identity.

Team teaching is the process whereby several teachers learn to work as a team to promote learning. Its value lies in the ability of instructors representing several disciplines to help students explore a topic both in depth and from differing points of view. It enhances learning by inquiry and aids in the development of tolerance for differences. Team teaching is a difficult and sophisticated method based on group dynamics. Its successful use depends on whether the teachers involved have had adequate training in group dynamics and also whether, by temperament and personality, they have a broad tolerance for individual differences.

4.4 Staff development

In general, there is inadequate recognition of the fact that staff development is an essential concomitant of institutional change. It is all very well to change the nature of the facilities and resources and the locations of educational programmes, but the crux of the matter is the capability of the teaching staff. This is true regardless of the level of instruction or learning being provided.

The central task in staff development is to define clearly the role of each staff member. The job description must be so accurate as to permit realistic self-appraisal. The ultimate objective is not for the supervisor to constantly observe and report on the activities of every individual staff member but rather for the teacher himself to possess the knowledge, skills, and attitudes that lead to willing, effective, and realistic self-appraisal. These he can only learn through repeated trials of self-evaluation with a supervisor assisting him in delineating his professional strengths and liabilities so that he may capitalize on the former and compensate for the latter.

There is also a pressing need to give more emphasis to the educational role of the supervisor and encourage him to stimulate interest among individual staff members.

4.5 Determination of training strategy

Deciding on the training strategy best suited to a given set of conditions does not consist of choice between simple alternatives. It involves a series of decisions on how to satisfy most efficiently a programme need for trained personnel. Relevant factors include the magnitude of the training load, the resources available or requiring to be developed, the different categories of personnel needed including their present knowledge and skills as well as the standards of performance required by their jobs, the nature of the learning involved, and the pressures of time.

Decisions regarding training strategy are critical because strategy determines the direction, flow, and timing of training inputs. Training strategy answers questions such as: What types of personnel should be trained first—teachers, supervisors, or service providers? How are personnel expected to work together or coordinate their contributions? Should different categories of personnel be trained separately or as functional teams, or some combination of both? In what settings can training best be carried out in order to meet programme needs—in training centres, in programme units such as a district office, in reception centres, or combinations of these or other alternatives?

Not all the training needs of a programme can be met at once. A strategy is therefore needed specifying how the resources are to be deployed and how the training is to be phased according to a schedule.

5. EVALUATION OF EDUCATION AND TRAINING

To evaluate personnel effectiveness in relation to education and training experience, it is essential to define exactly what is meant. Education may be defined as planned change in the behaviour of the student over a given period of time. This definition carries several implications. First, it is the behaviour of the student that is emphasized, since the effectiveness of the programme is reflected in his own behaviour on graduation from the programme and not in the behaviour of the instructors or anyone else. Second, the definition stresses that the programme lasts for a finite period of time—an estimate by the staff offering the programme of the time required by most students to attain the objectives set out in the programme. Third, the words “planned change” indicate that the programme carries a certain direction or thrust that is recognized by both staff and students, and that, unless the student’s behaviour does indeed change during the course of the programme, there is no indication that the experience has been truly educational. Change implies growth, at least if the programme is meant to be educational, and growth can be quantified only by measuring the performance of students on entering and again on leaving the programme as well as at future points in the graduate’s subsequent career.

As the foregoing suggests, there are three logical steps in the development of any educational or training experience. The first step is to establish objectives for the programme, expressed in terms of the desired behaviour the student is expected to develop so that on graduation he can perform his professional or vocational role as effectively as possible. The second step in programme design is to devise learning experiences that will permit the student to attain the objectives of the programme to the degree the faculty consider necessary. The third step is to develop and implement an evaluation programme that measures the extent to which the student has attained the objectives set out at the beginning. If data on the student’s performance at the end of the programme are analysed and interpreted, the staff offering the programme will inevitably be led to reexamine and modify the original objectives in the light of their own and the students’ experiences throughout the course. Thus, each person is assessed on the basis of established criteria, and evaluation of performance is the outcome. It is essential that personnel effectiveness always be evaluated in terms of the well defined tasks that individuals are expected to perform upon their graduation from education and training into full-time professional or vocational work.

The ultimate purpose of the evaluation of personnel effectiveness is to develop an individual whose education and training captures as much of his potential as possible and whose awareness of his own strengths and liabilities is matched by an eagerness to draw on the former and make up

for the latter. In other words, personnel evaluation leads to self-evaluation and self-realization. All educational and training programmes, therefore, should be judged by the degree to which they produce graduates capable of realistic self-appraisal and willing to carry it out periodically.

5.1 Evaluation of effectiveness during training

In establishing an effective curriculum one should begin by drawing up a statement of teaching objectives. The second step is to determine how much knowledge and sophistication the trainee already possesses on entering the training programme. Since each individual's interests and past experiences are unique, no two students begin at the same point of professional effectiveness. Nor can they be expected to attain exactly the same level of achievement on all objectives upon completion of the programme, especially since learning is an individual matter and people tend to progress at different rates.

It should not be forgotten that learning is also determined by personal satisfaction. Trainees need some reward if they are to learn effectively, and one of the greatest rewards that can be provided is feedback on the nature of their performance. After all, most people want to do well, and accurate feedback on how they are progressing helps them improve their work. Thus, the sharing of information and the modification of the original teaching-learning agreement between teachers and students provide reference points for the students' learning.

5.2 Evaluation of effectiveness after training

The process of periodic review of the training programme needs to be reinforced as the student moves into his actual professional or vocational responsibilities. Supervision must continue, but the responsibility for review of the individual's performance should now be shared equally by the graduate himself and his new supervisor. It is at this time in particular that two highly valuable types of information can be collected. The first has to do with assessing how well the learners have achieved the performance objectives of the teaching programme. It answers the question, "Did the trainers succeed in teaching what they intended to teach?" The second kind of evaluation has to do with whether the decisions about what to teach were adequate as judged by the graduate's ability to perform his job functions. This evaluation, carried out after the graduate has become settled into his job for several months, requires him to indicate those aspects of his training programme that he considers beneficial to his present effectiveness and those he considers useless or detrimental.

For programme-related training, it is also important at this time to collect information from the graduate's supervisor about what he is required

to do on his job. Have there been any changes in the job description? A comparison of these with the task analysis and the performance objectives formulated for the training course will reveal any discrepancies that may require attention or change.

Lastly, assessment is needed of the variables in the work climate that facilitate or impede the trainee's implementation of the new skills he has acquired. Research indicates that reinforcement and support from the supervisor and peer group must exist in order for an individual to perform in ways that differ from those he was used to before being trained. The evaluation of such variables is important because failure of a trainee to perform on the job in the manner he was trained may call not for a change in the training course but rather for action to be taken within the system to improve the work climate.

5.3 Evaluation of the job specifications in terms of the operational goals of the programme

The trainee may have learned adequately and be performing his prescribed job functions well, but his effectiveness may nevertheless be poor in terms of the programme goals that the job was designed to meet. If so, then the job description itself needs to be analysed and field-tested so as to pinpoint the changes that may be needed. This may be especially true when the job is a new one, involves a set of new role relations with other health workers, or is intended to stimulate particular kinds of consumer responses or service use patterns.

5.4 Evaluation of the training strategy in terms of successful programme implementation

Evaluation of the training strategy in terms of its capacity to supply skilled manpower at the geographical points in the system and on the time schedule required for successful programme implementation is an administrative process in which the training system is viewed in relation to the larger programmes system it serves. Here, the following kinds of question must be asked: Is the time allotted for the different types of training commensurate with the quality of behavioural change required of the various categories of personnel? Are the quality and quantity of trainers adequate to the task? Are the facilities and supporting services deployed in the most efficient way for accomplishing the training functions? Does the phasing of personnel throughout the training process permit the development of critical mass (i.e., the minimum number of trained personnel required in any one programme unit in order to make an impact on the goals of the programme)?

The impact that training has made on programme effectiveness has rarely been evaluated. This is partly because it is extremely difficult to measure performance effects that can be attributed solely to training apart from other variables, but it is also because of a tendency to assess trainee learning merely during and at the end of training, without pursuing evaluation any farther. By viewing programme-related training as a subsystem of the larger system of health services programmes, one can identify the points of interdependence. These points of interdependence—the relation of training strategies to health programme objectives, the relation of job functions to consumer responsiveness, the relation of curricula to job functions, and the teaching-learning process—then become foci for evaluative analysis.

6. RECOMMENDATIONS

(1) The provision and promotion of family planning care should be regarded as a responsibility to be shared among health personnel and any other types of personnel whose contributions might be required for success.

(2) Education and training in family planning should make use of educational theories and practices that have been tested and found successful in education and training generally.

(3) The teaching of human reproduction, family planning, and population dynamics should be incorporated into all levels and stages of education and training for health personnel.

(4) Where there is a need for new types of personnel to promote family planning in either the clinical or the non-clinical fields, appropriate training programmes should be developed consistent with local requirements.

(5) The administrator of the training programme should be initially involved in the planning of both service and health manpower training needs in order to ensure that the education and training curricula will be directly relevant to service needs.

(6) Adequate and appropriate preparation of personnel involved in family planning services should precede initiation of the action programme.

(7) The training of teachers at all levels for education in family planning and population dynamics should be among the goals having top priority.

(8) Universities should play an early and prominent role in the promotion of education and training programmes. They should emphasize family planning and population dynamics courses and, wherever possible, create departments or units in these fields so that the majority of students can be assured of exposure to these subjects. The different disciplines that have a contribution to make can thus be brought together and enable

human reproduction, family planning, and population dynamics to be presented in a coordinated or integrated manner.

(9) Staff development should be recognized as an essential concomitant of institutional change and progress regardless of the level of instruction or learning.

(10) Well designed research and field studies, based on the results of periodic evaluation of the training programme, should be undertaken by both university and field staff to promote the improvement of curriculum design and the development of more effective teaching and learning methods.

(11) Educational and training institutions should give recognition and emphasis to the need for attitudinal change equal to that given to the technical aspects of family planning.

(12) Family planning literature and training materials should be made available to all those involved in family planning activities, irrespective of their particular discipline.

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