

Criteria for the evaluation of learning objectives in the education of health personnel

Report of a
WHO Study Group

Technical Report Series
608



World Health Organization, Geneva 1977

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**WHO STUDY GROUP ON CRITERIA FOR THE EVALUATION
OF LEARNING OBJECTIVES
IN THE EDUCATION OF HEALTH PERSONNEL**

Geneva, 30 November – 6 December 1976

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CRITERIA FOR THE EVALUATION OF LEARNING OBJECTIVES IN THE EDUCATION OF HEALTH PERSONNEL

Report of a WHO Study Group

1. INTRODUCTION

A WHO Study Group on Criteria for the Evaluation of Learning Objectives in the Education of Health Personnel met in Geneva from 30 November to 6 December 1976. Opening the meeting on behalf of the Director-General, Dr T. Fülöp, Director, Division of Health Manpower Development, welcomed the participants and explained briefly why a study group on this subject had been convened.

There is a growing concern to improve the efficiency, effectiveness, and, most importantly, the relevance of health manpower education. It is important not to lose sight of the fact that health personnel are, fundamentally, instruments for providing health care. Similarly, the education of health personnel is merely one of the tools available for expanding and improving health care coverage and thereby for improving the health status of the people. Learning objectives, or educational objectives, are likewise only tools—important though they may be—for guiding the educational process towards relevance to the real health needs and demands of the population the graduates are going to serve. Educational objectives are useful mainly to the extent that they promote this kind of relevance.

It is against this background that the Study Group was asked to discuss the uses of learner-oriented educational objectives, to examine the bases for identifying and selecting educational objectives, and to devise guidelines for evaluating such objectives.

2. USES OF EDUCATIONAL OBJECTIVES

The ultimate purpose of educational objectives is to contribute to the maintenance or improvement of the health of the population by facilitating the education of health personnel, by ensuring that educational programmes are relevant to the health needs and demands of

the population that will be served by the graduates, and by providing a basis for the evaluation and supervision of health personnel. More specifically, educational objectives can be used for the following purposes:

- to give direction to educational programmes as a whole or to sequences of learning experiences within programmes
- to communicate to all concerned (politicians, consumers of health services, administrators, teachers, students) the intended results of the educational process
- to facilitate educational planning and decision-making by institutions and groups in institutions, as well as by individual teachers and students
- to improve the evaluation of whole programmes, sequences of learning experiences, teaching, and learning as regards expected results, effectiveness, and efficiency
- to develop further the responsibility of all concerned (both inside and outside the educational system) for the quality of health personnel education
- to encourage acceptance of continuous self-learning and self-assessment by health personnel.

Educational objectives can have an impact on educational programmes or processes to the extent that they are used in as many as possible of the ways stated above. However, the impact will be blunted if the objectives include trivialities and minutiae or concentrate only on easily achievable and expressible elements of behaviour. Educational objectives must be considered as tools and not as ends in themselves.

3. WHAT ARE EDUCATIONAL OBJECTIVES ?

For the purpose of this report an educational objective is taken to mean :

a statement describing the expected results of learning experiences as they manifest themselves in the performance or behaviour of the learner.¹

In this report educational objectives are always assumed to be *learner-oriented*, which is why they are also called *learning objectives*.

Educational objectives may be related to all stages of the educational process and to all dimensions of behaviour and activity. They may also

¹ For full discussion see Annex, pages 23-27.

reflect different levels of generality (or specificity). In this connexion, it is useful to distinguish the following three levels of educational objectives.¹

Institutional objectives

These are statements that describe in general terms the competences a learner is expected to have at the end of an educational programme so as to perform the specified functions or tasks of his or her category of health worker, and in particular to solve problems connected with community health needs.

Intermediate objectives

These express in less general terms the competences a health worker is expected to possess at the end of a certain stage of the educational process in order to perform certain required tasks or to continue his or her education and training.

Specific learning objectives

Also called *specific instructional objectives* or simply *instructional objectives*, these are statements that describe the performance or behaviour of the learner expected to result from a specific unit of teaching and/or learning.

The interrelationship between the sets of institutional, intermediate, and specific learning objectives is of crucial importance: ideally, there should be close correspondence between them. This implies that, between as well as within the different levels, all statements of educational objectives should be consistent with each other and all institutional objectives should be followed by appropriate intermediate and instructional objectives.

4. GENERATING AND EVALUATING EDUCATIONAL OBJECTIVES

Generating educational objectives can be conceived of as a decision-making process involving the identification, written description, and evaluation of the desired results of learning in relation to the tasks to be performed by the health worker concerned. Only if there is a written statement of educational objectives can evaluation of them take place.

¹ For full discussion see Annex, pages 24–27.

There are always three important considerations whenever educational objectives are to be generated or evaluated. One must :

- *select the decision-makers* (teachers, students, administrators, educators, etc.), particularly on the basis of their background, professional affiliation, competence, and interests
- *consider the quality of the information available* on health requirements and needs, available financial support, functioning of health services, educational problems, and the characteristics of students and teachers
- *manage the decision-making process itself*, which calls for giving attention to the time available, the steps to be taken, and the results expected.

In generating educational objectives, a desirable approach is to proceed sequentially from the more general to the more specific. Ideally, this would require the following steps :

- (a) generation of the institutional objectives, followed by
- (b) generation of the intermediate objectives, followed by
- (c) generation of the specific learning objectives.

At each step it is essential for the decision-makers to take into account :

- health needs of the population served by that category of health worker
- health policies and policies for health personnel education
- structure and functions of both the health care system and the educational system
- roles and functions of all categories of health workers within the system
- availability of manpower and resources
- characteristics of health workers, teachers, and students
- level of scientific and technological development in the country
- traditions, culture, and value system of the population.

Decision-makers should not only consider these elements as they are at present but should also give some thought to how they might be expected to evolve over time.

When educational objectives are being evaluated, it is important to consider the *process* by which they were generated as well as the *products* of the generation process (i.e., the objectives themselves).

In so far as the *process* is concerned, to ensure the relevance and consistency of educational objectives at all three levels it is desirable, as stated above, to derive the specific objectives from the intermediate objectives and the latter from the institutional objectives. If this sequence is not followed in the process of generating educational objectives, it may prove very difficult to evaluate their consistency and relevance. If either institutional or intermediate objectives are lacking altogether, an evaluation of consistency becomes frankly impossible.

A further requirement for both intermediate and specific educational objectives is that the sequence of learning experiences to which they refer must be clearly specified. This sequence may be a particular phase or part of the educational programme, a course, or a unit of individual learning. In addition, it is important for objectives at these two levels to be generated and evaluated jointly by teachers and students.

When evaluating the *products*—the objectives themselves—one must ascertain whether they are :

- consistent with the actual learning or work situation of the health worker involved
- relevant to the health problems of the community he or she will serve
- worded in terms of the behaviour or action by which it can be determined whether the learner has achieved the desired results.

Another quality to be sought in statements of objectives is clarity. If an objective includes unclear terms or is worded so generally as to require further interpretation, examples should be provided to clarify its meaning. The examples should refer to observable actions or behaviour that would permit one to draw conclusions about the student's success in achieving the objective (see discussion of this point in the Annex, pages 39–42).

5. INTENTION AND LIMITATIONS OF GUIDELINES

The guidelines proposed in the following section are intended to help teachers and administrators carry out the difficult task of examining their objectives to see whether these meet requirements with respect to (1) the process by which they were developed and (2) the way in which they are stated. Almost all the items are phrased in terms of what

the Study Group considers to be desirable qualities of educational objectives in both these respects. A few questions do refer to negative qualities because it was difficult to phrase them in a positive way.

The items in the guidelines are applicable at one or more of the three levels of educational objectives (institutional, intermediate, and specific). However, the items in Part 1 are particularly important when it comes to institutional and intermediate objectives, while most of the items in Part 2 are applicable only to specific instructional objectives. Although worded in the plural, some items can be applied to either a single objective or a whole set of objectives.

For each item the user can either check one of the answers given (✓) or write in a word, phrase, or sentence. Users of the guidelines are strongly urged to answer each item in writing, whether or not the completed form will be reviewed by others. In a few cases it may not be possible to respond by checking one of the printed answers because (1) the item is not applicable, (2) the user is not able to obtain the necessary information, or (3) the right answer is not among the replies listed. Such a possibility has been provided for by the inclusion under most items of a category designated "Other" as well as a space for "Remarks", in which the user may write "not applicable", "information not available", or an explanation of why he has checked the category "Other".

A few qualifying remarks about the guidelines are in order. The Study Group wishes to emphasize that :

- the guidelines contain criteria for judging how an educational objective was generated and how it is worded but *not* for judging its validity apart from these two considerations
- the guidelines inquire about the specific process by which the objective was decided upon as one clue to its relevance and significance
- as indicated in the guidelines, the generation and evaluation of an educational objective always requires reference to its level of specificity
- an educational objective cannot be evaluated out of context, which is why the guidelines emphasize taking account of the specific health care situation as well as the learning or teaching situation.

While there may be other approaches to the evaluation of educational objectives, the Study Group believes that the application of these guidelines will serve a useful purpose. There is, however, a great need for empirical data to validate the assumptions contained in the guidelines concerning the desirable qualities of objectives. Users of the guidelines are therefore

urged to study the extent to which educational programmes, teaching and testing practices, and student learning are affected by the existence of well stated educational objectives.

6. GUIDELINES FOR EVALUATING EDUCATIONAL OBJECTIVES ¹

Part 1. Most of these items may be applied to all levels of objectives. However, some may not be applicable to intermediate-level objectives and many of them may not be applicable to specific instructional objectives.

1. Are the objectives stated in some written form ?

Remarks :

2. Do the objectives reflect the community's real health needs ? If so, which of the following are reflected ?

- 2.1 Present and future health problems
- 2.2 Present and future functions of this category of health worker
- 2.3 Functions of other health workers
- 2.4 Expectations of health care consumers
- 2.5 Expectations of health care workers
- 2.6 Interrelationship between health needs and other needs of society
- 2.7 Official government health policies
- 2.8 Structure of the existing and future health care system
- 2.9 Available data and research on health care and health manpower
- 2.10 Current health manpower planning
- 2.11 Other (please specify)

Remarks :

¹ These guidelines may also be of value in the *formulation* of educational objectives by indicating the desirable qualities such objectives should have.

3. When the objectives were developed, were the following factors considered ?

- 3.1 Costs to community *versus* community resources
- 3.2 Characteristics of students
- 3.3 Available teaching facilities
- 3.4 Cultural setting of the educational institution
- 3.5 Existing educational system(s) and philosophies
- 3.6 Orientation of political and professional organizations
- 3.7 Other (please specify)

Remarks :

4. Are students informed about the objectives ?

- 4.1 Students were given copies of the objectives
- 4.2 Students have seen them and discussed them (if so, under what circumstances ?)
- 4.3 Students have not seen them (if not, why not ?)
- 4.4 Some of the students have probably seen them (if so, why only " some " of the students ?)

Remarks :

5. Are teachers informed about the objectives ?

- 5.1 Teachers were given copies of the objectives
- 5.2 Teachers have seen them and discussed them (if so, under what circumstances ?)
- 5.3 Teachers have not seen them (if not, why not ?)
- 5.4 Some of the teachers have probably seen them (if so, why only " some " of the teachers ?)

Remarks :

6. Has consideration been given to how the objectives will be used ?

Remarks :

7. Has the existence of the objectives had any impact on the following aspects of the educational programme ?

7.1 Teaching/learning activities (if so, please give examples)

7.2 Evaluation methods (if so, please give examples)

7.3 Other (please specify)

Remarks :

8. As you examine the set of objectives, do you believe that anything will come of their existence ?

8.1 They will be achieved

8.2 They will facilitate student learning

8.3 They will facilitate evaluation

8.4 Other (please specify)

8.5 They may not even be used

Remarks :

9. When the objectives were developed, which of the following persons were involved in either developing or reviewing them ?

9.1 Teachers (if so, please state what disciplines or professions)

9.2 Practitioners (if so, please state what disciplines or professions)

9.3 Process experts (i.e., educational scientists)

9.4 Students

9.5 Administrators (education, health, economy)

9.6 Consumers' representatives

9.7 Others (please specify)

Remarks :