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Principles of Medical Education (Educational Objectives)

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Have you ever experienced that if you have a precise goal in mind, things begin to happen easily and effectively. Take a simple example. You are going on a vacation with the goal of seeing Brindavan Gardens. You would make a definite plan, take a train to Bangalore and then to Mysore. You will not have to ask yourself this question midway: where do I go from here? On the other hand, if you didn't have a goal, you may still have had a vacation but the places you visited would have been all haphazard. Something similar is the case with education.

For teachers and students to work successfully towards achievement of some goals, a clear description or outline of the goals and the step by step accomplishments on the way is necessary. The goals stated with clarity and in **concrete terms** are usually referred to as objectives. Let us describe an educational objective for you.

DEFINITION

An educational objective is a statement describing the expected results of learning as they should manifest themselves in the performance or behavior of the learner. In other words, educational objectives define what the learner should be able to do at the end of the learning course. Therefore, they are also called 'Learning objectives'.

BENEFITS

You may be curious to know the benefits that you can derive by stating objectives. In general, learning objectives help and guide the learner in

the process of learning, thus making your tasks easier. Educational objectives can benefit teachers also, in their self appraisal, in planning the teaching - learning activities and in student evaluation.

The concept of objectives offers a practical approach to the improvement of the teaching learning program. The teachers benefit by having measurable and observable objectives that are useful in planning and implementing learning activities and also in evaluating the pupil's progress. The students benefit by knowing exactly what is expected of them in acquiring knowledge and skills and being fully appraised of the criteria by which their performance will be judged. The institution benefits by defining the basic purpose for its existence. For instance, an institution might state as one of its primary objectives that "at the end of the formal training, the graduate should be academically competent, socially relevant and spiritually alive."

LEVELS

Based on the purpose for which they are being formulated, the objectives, therefore, can be of different levels. The broadest or most comprehensive objective is the statement of an institution's aim or purpose. This is usually the reason for the existence of the institution. We have already given you an example of this.

Once that broad statement has been made, the various components within the institution (departments, divisions, and sections) are in a position to state what they expect to contribute

towards the achievement of institutional objectives. The department of Pediatrics in a Medical College might state that "Learners should be able to apply the knowledge in Pediatrics towards solving common health problems of children."

Within the department teaching program, specific instructional objectives can now be stated, e.g. "The learner should be able to diagnose and manage pneumonia in children."

The relationship between different levels can now be discussed in more details.

INSTITUTIONAL OBJECTIVES

These are the broad, general statements to describe an institution's end product. Such statements should provide directions and limits to the institution's efforts by describing the ultimate role, function and tasks that the graduate must assume to satisfactorily execute the future health work in the community.

You will appreciate that institutional objectives do not specify what is to be learnt or how. However, some inferences to guide the learning activities can be drawn from them.

INTERMEDIATE OBJECTIVES

Since at present, most of the medical education is discipline - based and the teaching learning activities for different subjects are organized by different departments, an intermediate level of statement of purpose for each department or section is also necessary.

INTEGRATION

The intermediate level objectives can be developed by deliberations amongst members of the department. However, it should be remembered that the discipline/department is a part of the whole institution which is responsible for a proper education of the students and the fulfillment of the overall objectives. Therefore it may be good to interact at least with other related disciplines, while discussing the intermediate level objectives as this will endure horizontal and vertical integration to some extent e.g. Pediatrics department also involves Physiology, Anatomy,

Medicine, Pathology, Microbiology and Social and Preventive Medicine.

You will notice that in spite of being little more specific than the institutional objectives, these statements are still directional in nature and are not precise descriptions of what students should be able to perform. Some objectives of a general nature such as development of better communication skills, leadership qualities etc. should also be included in the department level objectives.

SPECIFIC LEARNING OBJECTIVES

These are also called Specific Instructional objectives or simply Instructional Objectives. These are statements that describe the performance or behavior of the learner expected to result from a specific unit of teaching - learning activity.

The specific instructional objectives or learning objectives describe what the student/learner is expected to learn in the three familiar domains, namely knowledge (cognitive, or domain of the mind), practical (psychomotor, or domain of the hands) and attitudes (affective or domain of the heart). We will discuss this in a little more detail shortly.

DOMAINS OF LEARNING

In general, much attention is given to the first two domains. The affective domain which is also equally important, does not attract attention during teaching - learning and also in evaluation. You will appreciate that assessment of attitudes is a very specialized area and deserves more consideration than what is being given today. Development of positive attitudes in some matters such as management of AIDS or leprosy, problems of drug abuse and rational drug use, should be considered very important. Affective domain includes ethical aspects also and although some institutions do consider it important to deal with these matters, how effectively these are being dealt with, needs a critical analysis.

Taxonomies in the field of education provide a classification of various instructional objectives. This constitutes a descriptive system based on

logical principles in accordance with the existing data on education and psychology.

COGNITIVE DOMAIN

It deals with knowledge, comprehension, application, analysis, synthesis and evaluation.

Knowledge in general refers to recall of information as it was learnt. In simplest form, it includes knowing the terminology, specific facts, dates, concerned persons or scientists associated with an area of the subject matter. At a more complex level, it would involve the major sub areas, methods of enquiry, and some of the principles and theories with adequate explanations.

Knowledge component

Comprehension refers to interpretation of information in one's own words or in some other original way. It may also mean extrapolation of the understanding to new but related ideas and their implications.

Application is the use of learned information to solve a problem this may mean, carrying over the knowledge of facts or methods learnt in one specific context to another completely new area.

Analysis deals with identification and appreciation of the subject matter's most elemental ideas and their interrelationships.

Synthesis is creating something new and good, based on some sound criteria.

Evaluation is judging the value of something for a particular purpose. This means making a statement of something's worth based on either one's own criteria or on the well understood and well accepted criteria of another. It is like discussing the clinical or therapeutic status of an individual drug from a group and mentioning the drug of choice with valid reasons.

We may add here that in order to simplify things the last three levels are new collectively taken under a new nomenclature i.e. problem solving.

PSYCHOMOTOR DOMAIN

It deals with imitation, automatism and control.

Imitation refers to the initial activity of a learner after being exposed to an observable action, when the learner attempts to undertake a similar action at the level of his muscular system.

Automatism means performing an act according to instruction and not merely on the basis of observation. The learner begins to differentiate between one set of acts and another and also becomes capable of selecting the required act. It also refers to the skills attained in manipulating selected implements.

Skills component Control indicates the highest level of proficiency, achieved in performing an act or a series of articulated acts. The skillful activity is performed with minimum expenditure of energy, once the level of control is achieved.

AFFECTIVE DOMAIN

It involves the attitudes and communication skill and deals with receiving, responding, valuing, organization and characterization by a value or value complex.

Receiving refers to paying attention, knowing that something exists or something is going on or happening. It also includes an alert watching and active listening.

Attitude component Responding means participation and an active exploration and developing interest in the matter under consideration and may include pursuit of a given activity, person or a thing with a sense of pleasure or satisfaction.

Valuing indicates a consistent behavior showing positive regard for a set of values. This may mean behavior in keeping with advice from others about the right actions. At a deeper level, it involves commitment, expression of a particular point of view, and assuming a responsible role.

Organization includes a state of holding consistent points of view about many aspects of life without contradiction or conflict. It is reflected by a consistent behavior according to a definite set of life principles.

Characterization by a value or Value Complex means showing a strongly detectable and effective pattern of growth or adjustment to life in general. This is the level of internalization. This implies that our perception of a phenomenon has found a place in the scale of values and has affected us long enough to adopt to the value system of other persons too. For example, on the death of a child, our response to the members of the family would show then that we care about their grief and are ready to help them to get over it. This does not mean we have internalized their grief but that we have internalized the attitude that enables us to offer than effective help.

PREPARING OBJECTIVES

Depending on the subject area for learning, the instructional objectives may have to be framed in all the three domains. It may be a good idea to make the task of developing educational objectives a corporate task.

The learning objectives should be encouraged from time to time and all the concerned teachers and students should try to look at them with a constructive critique. Whenever adequate reasons exist, the learning objectives should be changed or modified. You may now like to lay more emphasis on AIDS rather than small pox in your teaching.

ADVANTAGES

We have already pointed out that objectives give a direction to teaching - learning process. In addition, they will help you, as a teacher, to decide appropriate teaching; they will help you, as a teacher, to decide appropriate teaching methodology. If your objective belongs to affective domain, you will have to adopt small group discussion and demonstrations rather than lecture method. They also provide a direction to the evaluation process. In fact, the evaluation should always be based on the instructional objectives. However if you realise during the process of evaluation that some particular aspect seems to be important and worth evaluation but has not been included the instructional objectives, the point should be noted for future. Similarly, you should note that those aspects which are never evaluated would

not attract any student's attention. By now, you would appreciate that the concept of learning by objectives has a great significance for medical education. The learning objectives can focus a strong light on those areas of learning which need greater attention and can also help a learner to decide how deep one needs to go with reference to a particular point. Learning objectives help a teacher in proper planning and execution of the teaching activities in correctly writing appropriate instructional objectives.

Before concluding, let us summarize the advantages of 'learning by objectives' approach. These are:

Disadvantages

- By providing a direction to both teachers as well as the students, objectives help in designing relevant and efficient educational programmes. They assist in selection of appropriate programmes as well as in selection of appropriate teaching learning activities. They force the teacher to think carefully about what is important.
- They help in designing appropriate evaluation tools and provide criteria against which the performance of the student can be measured.
- They help in designing appropriate evaluation tools and provide criteria against which the performance of the student can be measured.
- They provide future professional profile to the learners, thus promoting better integration. They also facilitate the functioning of a self check system, thus avoiding vague and irrelevant learning.
- They provide a facilitating milieu to the learner by providing a point of entry into the learning process and also by providing directions regarding expected learning outcomes.
- They provide a shared means of educational communication between teachers, students, administrators and society.

There may be certain disadvantages also, of relying too much on this approach. Some of the concerns voiced in the literature include:

- They can give a totally wrong direction to learning, if not properly prepared.
- If students are not involved in formulation of learning objectives, they can discourage creativity.
- They may not be actually translated into practice and thus may remain on paper only.

