

# An Alternative For Task Analysis In The Affective Domain

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*The help of Marcia M. Smith in the work upon which this paper is based is gratefully acknowledged.*

## Abstract

Application of commonly-used task analysis procedures to the affective domain leads to difficulties with instructional design, specification of intermediate objectives, and completeness of analysis. Analysis of objectives in six domains is presented as an alternative. Basing analysis on cue sensitivity, without directly specifying stimulus conditions, can serve as a useful technique in domains other than the cognitive.

Of the three domains of learning commonly employed by instructional developers to map their objectives, the affective domain is perhaps the least well understood. In many development projects enormous effort is expended on task analysis and the specification of objectives for cognitive and psychomotor learning, but analysis in the affective domain is left to a few hopeful statements that "the student will value the concept of . . ." or that he or she "will spontaneously seek further information on . . ."

This approach to the affective domain typically focuses on feelings about stimulus objects or concepts presented in the cognitive and psychomotor domains. While we would all like students to have good feelings about what they learn, many tasks demand a more complete affective analysis. Objectives which focus directly on the stimulus conditions and desired responses (the most familiar form of the behavioral objective) are particularly difficult in the affective do-

main. There are at least three main reasons for this.

First, instructional design from such objectives is difficult. The values and attitudes which underlie an objectives list are acquired slowly, as a cumulative result of a number of elements in the environment—not all of which are within the control of the instructional designer. The precise correspondence of objectives, instructional episodes and outcome measures which marks good instructional design in the cognitive and psychomotor domains usually is not practical in the affective domain.

An example may illustrate the point: to an experienced instructional developer, a high-level cognitive objective (in the terms of Bloom's *Taxonomy*) readily suggests the parameters for design of a learning environment which will lead most learners to mastery of the objectives. The same is not true for a high-level affective objective such as, "faith in the power of reason and in methods of experiment and discussion" (Kratwohl, Bloom and Masia, 1964, p. 182).

A second major difficulty is that specification of intermediate objectives for affect is frequently difficult. As Wight (1971) points out, the need for practical objectives calling for realistic conditions, observable behaviors and feasible performance criteria frequently leads even the most conscientious developer to lose track of the affective goal in a sea of only marginally relevant detailed objectives. Suppose, for example, that the general instructional goal is, "The medical student shall show respect for the dignity of the patient;" what Krathwohl, et al., (1964) might call a Generalized Set. Then it becomes necessary to (1) determine the behaviors which indicate respect of the patient and (2) write a series of objectives which specify how, under each combination of patient characteristics and circumstance, the student is to behave. The problem is that within rea-

listic limits, it is virtually impossible to write a sufficient number of detailed objectives to ensure that the student will reliably generalize to the broad range of novel situations he or she will have to deal with in the real world. There are too many patient characteristics, too many situational factors and too many ways of demonstrating respect for any practical set of conventional behavioral objectives to adequately map the general goal.<sup>1</sup> Each of the series of objectives would have to be of the sort:

Given a female patient, in her late thirties, who is well-dressed, college educated, in no immediate distress, and who is being interviewed by the student for the first time, seated in an outpatient clinic office, during normal office hours, where there is adequate privacy, . . . , the student seats him/herself so that his/her eyes are on the same level as the patient's, within a criterion of  $\pm 1$  foot, and . . .

However many intermediate objectives of this sort one writes, the analysis inevitably has an air of triviality; the general goal defies analysis in this way<sup>2</sup>.

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<sup>1</sup>In the particular example chosen, one common way around this problem has been to group patients into "types:" seductive, dying, angry, etc. and then to provide rules for behaving with each type. This is only a partial solution, however, since students will still have difficulty generalizing to patients that do not fit neatly into whatever classification scheme is employed.

<sup>2</sup>In some styles of objective writing (e.g., Gronlund, 1970), such extreme detail in specification is left implicit. Even there, however, the principle is the same: the objective must specify the link between each stimulus condition and the corresponding response.

A third difficulty with task analysis in the affective domain is that the domain itself is incomplete. "Affect" is usually equated with "feelings" or "emotions." While these factors are unquestionably important, they do not constitute (when taken together with the cognitive and psychomotor domains) a complete mapping of learning outcomes. Foshay (1975) has identified six domains, summarized in the first two columns of Table 1. While the familiar cognitive, psychomotor and affective domains may be identified among them, Foshay calls for consideration of types of learning not easily described within the more familiar three-part framework. *Social learning* is identified as a separate category because all learning environments (even the autotutorial) teach lessons about social structures. These lessons concern relationships with others and moral and ethical principles. Thus, while the student learns about geometry, he or she also learns about teacher and student role expectations, the moral and ethical principles of the classroom environment, and so on. The lessons of this domain are difficult to specify in strictly cognitive, psychomotor and affective terms; most commonly, they are not specified at all. The *aesthetic* domain is included because the learner responses mentioned (formal, technical, sensuous and expressive) are qualitatively different from those of the cognitive and affective domains. Attention here focuses on the learner's ability to judge his own experience of an object or situation, rather than on the qualities of the external stimulus itself. The *spiritual* domain refers at one end to the sense of astonishment over the phenomena of the world and of man; at the other end of its continuum might be the kind of transcendental response found in intense experiences of all kind: meditation, love—even combat.

Specification of objectives within these domains is a process more complex than that to which developers are accustomed. Clearly, the emphasis given to analysis in each domain would vary according to the goals of instruction. It would be ludicrous, under most circumstances, to analyze the spiritual implications of mastering the manipulation of a cash register. It might not be irrelevant, however, to structure an introductory computer course so that students who feel that the computer is a threat to their humanity can identify and evaluate their beliefs. Similarly, a goal such as "show-

ing respect for the patient" probably necessitates analysis in all six domains.

### An Alternate Method of Analysis

Techniques for task analysis in domains other than cognitive (intellectual) and psychomotor (physical) are not well developed. As explained above, analysis of expert performance into the familiar stimulus condition + response + performance criterion format (Mager, 1962) seems impractical, if not misleading. When defining competencies in domains other than cognitive and psychomotor, it is hard to write objectives which specify performance in terms of specific stimulus conditions; except in simple cases, the complexities of the situation will defeat even the most exhaustive analysis.

It may be that the basic problem is with the way in which stimulus conditions are specified. In cases where it is impractical or misleading to describe observable stimuli, the developer may be able to leave students to identify stimulus patterns on their own, without detailed instruction.

Empirical work done in counseling psychology seems to suggest the effectiveness of this mode of analysis. Working from different perspectives, three authors (Carkhuff, 1969; Kagan, 1978; Smith, 1973) have devised empirically validated ways of examining, analyzing and designing instruction in different areas of human relations. Each has developed techniques for identifying observable cues to feelings and emotions. In any given situation, the specific cues are unique; in spite of this, it has proven possible to teach students to identify the cues reliably, and to respond to them in prescribed ways. In effect, the task analysis has focused on cue sensitivity and general prescriptions for responding to the interpreted cues. The complex recognition of stimulus patterns involved in cue interpretation usually is not described in detail, and instruction is by means of positive and negative exemplars. In spite of this, the skills appear to generalize reliably to novel situations where the specific cues and responses are completely different.

This approach is more process-oriented than is traditional task analysis. An objective constructed according to this technique would not focus directly on the stimulus characteristics and the appropriate response. Instead, the objective would be phrased in terms of sensi-

tivity to cues and processes by which an appropriate response to these cues can be formulated. Little or no attempt would be made to identify specific stimuli (or patterns of stimuli) which call for specific responses. Instead, students would be called upon to identify (and perhaps to label) the patterns themselves. They would then formulate their responses and be taught how to judge the quality of their decision-making. Again, the experience in counseling psychology cited above suggest that this can be done most efficiently by use of examples and nonexamples; the underlying concepts do not appear to be amenable to full verbal definition—though they may be verbally labeled.

### Applications to Instructional Development

The modes of analysis presented here provide a way for the instructional developer to analyze and design instruction for certain complex tasks. In addition to identifying the cognitive and psychomotor components of tasks, it may be appropriate to identify emotional, social, aesthetic or spiritual components as well. Where objectives for these domains would be cumbersome or misleading if written in the conventional way, they may instead be written in terms of cue sensitivity and appropriate types of response. For example, if the goal is for students to "show tolerance of others' religious beliefs," than it might be appropriate to write objectives such as:

The student shall identify the similarities and differences between beliefs of a practicing Catholic and a practicing Jew, presented in short first-person statements. (Cognitive)

The student shall formulate and label novel examples of conversational responses which a devout Moslem would probably find religiously offensive or agreeable. (Social)

The student shall spontaneously respond to a sacred object from a religion other than his/her own by identifying some characteristics of the response provoked by the object in those who practice that religion. (Aesthetic)

The student shall identify and describe his feelings toward one who believes in a faith other than his/her own. (Emotional)

The student shall (1) formulate his/her own posture for meditation, (2) evaluate the appropriateness of the position in terms of its "feel," and (3) evaluate its

implications in terms of the relationship of mind and body, within any system of belief of his/her choosing. (Physical, Spiritual)

Except for the cognitive objective, each of the above calls for the student to increase his or her sensitivity to particular types of cues. However, the precise nature of the cues is left unspecified, because to do so would be too complex a task, or because the cues themselves are not verbally describable (though they may be verbally labeled). Each objective also includes information about the way in which the response to the cues is to be formulated. In general, instruction formulated for these objectives would probably include many positive and negative exemplars, with modeling and prompting where feasible. It is likely that verbal definitions of the underlying concepts would be of limited utility.

Additional examples of objectives formulated in this way are presented in column three of Table 1.

#### Conclusion

The alternatives offered here are not intended to lead to the conclusion that all task analyses are inadequate unless per-

formed in the six domains presented, and by the method discussed. As argued by Davies (1973), a task analysis must include a variety of techniques chosen because of their appropriateness to the problem. It is hoped, however, that these techniques will prove of value when the developer is not satisfied by the results of a more conventional analysis.

There are many unanswered questions. For example, it has yet to be determined how the social, emotional, aesthetic and spiritual domains might be organized; it may well be that hierarchies are not appropriate. In addition, evaluation of objectives in these domains obviously requires techniques unfamiliar to most developers. Finally, experience with the analyses described here is too limited, at this point, to assess their efficiency or effectiveness in comparison to established techniques.

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Table 1: Domains of Learning (After Foshay, 1975)

Note: The sample objectives are drawn from a variety of "levels" within each domain, and thus are not of comparable complexity.

DOMAIN	DEFINITION	SAMPLE OBJECTIVE
The Intellectual	Similar to Bloom's Cognitive Domain.	Given data on the growth pattern of a city, the student shall formulate an original hypothesis explaining that pattern and judge the explanatory power of his hypothesis.
The Emotional	Feelings, emotions and emotional development.	When reviewing a videotape of a role-playing situation, the student shall identify the internal cues which permitted him to judge his emotional state at various times during the experience.
The Social	Development of social organization; moral development.	When confronted with a moral dilemma involving a simulated or real patient, the student shall (1) identify the nature of the dilemma in the vocabulary of this course and (2) identify the need for involvement of others in the decision.
The Physical	Psychomotor skills; development of physical self-concept.	On the basis of internal cues (e.g., "feel"), the student shall evaluate a novel dance step of his/her own invention.
The Aesthetic	Formal, technical, sensuous and expressive response to an object of contemplation.	When presented with a novel sculpture, the student shall identify and express his/her own response to the sculpture, and evaluate the nature of the response using the concepts of this course.
The Spiritual	Relating to the search for ultimate meaning.	The student shall identify and interpret cues in his/her patient's behavior which communicate the patient's sense of the meaningfulness of life.