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AUTHOR Tauber, Robert T.
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ABSTRACT

Teachers should refer to theoretical models in their professional decision making. Such models must be complete enough to reflect the current theories, yet they must be simple enough to be useful to classroom teachers. These models, whether they emphasize learning theories, curriculum theories, or instructional theories, should tie together into a workable design the bits and pieces of those theories. This manuscript assumes teachers will be familiar with instructional objectives, modes of instruction, and most means of feedback. What this manuscript does is to introduce another means of feedback, the cassette tape, and then goes on to establish a model practitioners can use to make congruent selections. (Author)

A Congruency Model of Instructional Objectives, Modes of Instruction, and Means of Feedback

BIOGRAPHICAL NOTE

I am an assistant professor of education at The Behrend College of The Pennsylvania State University. I have been a teacher at the secondary level, a vocational guidance counselor, a teacher of adult education, and a supervisor of student teachers. I have a Ph.D. in secondary education with an emphasis in curriculum and instruction. At present I teach foundations of education, educational psychology and supervise students in curriculum and supervision programs conducted in area elementary and secondary schools.

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As professional decisionmakers, instructors must select appropriate instructional objectives for their students. They must then select the instructional delivery modes that are congruent with the instructional objectives. Likewise, as professional decisionmakers, instructors should take the same care in selecting the means by which the students will receive feedback of their progress toward the objectives.

According to Bloom (1956), instructional objectives can be divided into various levels and then into a hierarchy. These levels are: knowledge, comprehension, application, analysis, synthesis, and evaluation.[1] Broudy, Smith, and Burnett (1965) have divided instructional objectives into four levels. These are: associative, replicative, interpretative, and applicative.[2] Still another attempt to classify instructional objectives has been done by Romey. According to Romey (1968), instructional objectives can be classified into various levels according to the verbs that are included within each objective. These levels are: Type 0, Type 1, Type 2, and Type 3 objectives.[3]

Upon selecting their instructional objectives, instructors must decide what instructional delivery modes will be most

congruent. One attempt to define various modes of instruction and their relationship to instructional objectives has been done by Ribble and Schultz (1970). Their modes include: open exploration, lecture, recitation, guided discovery, and inquiry.[4] This categorization of their modes is reflective of the terminology used to describe the methodology of today's modern curricula.

The terminology might be different, but there is little disagreement that the process of instruction and the end product of learning are enhanced when congruency between instructional objectives and instructional modes is considered. In order to complete the congruency model, feedback to the learner must also be considered. If there is any commonality among today's learning theories it is on the importance of learners receiving feedback. DiVesta and Thompson most clearly state this position by claiming, "Without some form of feedback pupils do not learn."[5] Unfortunately, the means for delivering this feedback have not received the deserved attention instructional objectives and instructional modes have.

After the actual teaching has taken place, the instructor must not only provide feedback, but must select the feedback means that is most congruent with the instructional objectives and modes of instruction used. The three means of feedback that are most commonly available to the teacher are: numerical-letter-symbolic grades, written comments (marginalia),

and teacher-student conferences. The author would add cassette tape feedback as a fourth means of feedback, filling the gap between written comments and teacher-student conferences.

As an example of a cassette tape feedback means, instructors would record their evaluation on a cassette tape of student's laboratory exercise in science, a composition in English, a term paper in history, or a project in economics. The cassette tape evaluation, along with the student's submitted work would be returned to the student. The student's submitted work would have marginal words or numbers written on it to which references could be made from the cassette tape. The student would take the cassette tape to a playback station to listen to the instructor's evaluation. Playback stations could range from those available in the most complete university learning resource center to the student's inexpensive personal cassette tape recorder. One 60-minute tape could cumulatively record and store a term's worth of evaluations for a given student. Table I, "Continuum of Characteristics for Means of Feedback," displays cassette tape feedback characteristics in relation to other, more commonly used, means of feedback.

Assuming that objectives can be classified and placed in hierarchies of difficulty (i.e., Bloom's Taxonomy), and assuming that it is possible to then select modes of instruction

Table I

Continuum of Characteristics for Means of Feedback

Numerical, letter, and symbolic grades	Written comments	Cassette tapes	Teacher student conference
symbols	writing symbols	talking writing symbols	seeing talking writing symbols
Impersonal			Personal
Little direction for channeling student's future study efforts			Much direction for channeling student's future study efforts
Provides a clerical type, objective cumulative record		Provides a professional subjective cumulative record	
Requires little time to assign, record, and combine with other similar feedback			Requires much time to assign, record, and combine with other similar feedback
Few scheduling problems			Many scheduling problems
Provides one means to offer agreement, reinforcement, and empathy			Provides many means to offer agreement, reinforcement, and empathy

and means of feedback that are congruent with these objectives, then several examples of the "instructional objective-instructional mode-means of feedback" sequence would be as follows. Table II, "A Congruency Model of Instructional Objectives, Modes of Instruction, and Means of Feedback," displays both the more accepted relationship between instructional objectives and instructional modes, and the author's position on the relationship of means of feedback to these two.

As a student attempts to operate at the knowledge and comprehension levels of Bloom's Taxonomy (replicative level of Broudy, Smith, and Burnett and the Type 0 level of Romey), the instructor should select lecture as the congruent instructional mode. With such levels of learning and such a mode of instruction, the use of numbers, letters, or symbolic grades would be a congruent, meaning effective and efficient, means of providing feedback to the student.

As the student attempts to operate at the application level of Bloom's Taxonomy (the upper end of replicative and lower end of interpretative levels of Broudy, Smith, and Burnett and the Type 1 level of Romey), a different mode of instruction is needed. Recitation and the beginnings of guided discovery would be congruent modes. With such levels of objectives and modes of instruction, marginal notes and written comments would be congruent means of providing feedback to students.

Table II

A Congruency Model of Instructional Objectives, Modes of Instruction, and Means of Feedback

	INSTRUCTIONAL OBJECTIVES		INSTRUCTIONAL MODES	MEANS OF FEEDBACK
B. Bloom	H. Broudy, B. Smith and J. Burnett	W. Romey	R. Ribble and C. Schultz	
knowledge comprehension	replicative	Type 0	lecture	number, letter, and symbolic grades
application		Type 1	recitation	marginal notes and written comments
analysis synthesis	interpretative	Type 2	guided discovery	cassette tape evaluation
evaluation	applicative	Type 3	inquiry, open exploration	teacher-student conference

When the student attempts to operate at the highest level of learning, evaluation on Bloom's Taxonomy (applicative level of Broudy, Smith, and Burnett and the Type 3 level of Romey), inquiry would be the congruent mode of instruction. With such high level objectives, where there is often no "correct" answer, the teacher-student conference provides the student with the opportunity to immediately react to a teacher's comments and criticisms. Here, two-way communication is necessary.

For the analysis and synthesis levels of Bloom's Taxonomy (the interpretative level of Broudy, Smith, and Burnett and the Type 2 level of Romey), guided discovery would be the congruent mode of instruction. With reference to Table I and Table II the author feels that a cassette tape evaluation would be a congruent and appropriate means of providing feedback to a student.

The analysis and synthesis level objectives of Bloom, the interpretative and beginnings of the applicative level objectives of Broudy, Smith, and Burnett, and the Type 2 and beginnings of Type 3 objectives of Romey are the types of objectives that reflect much of what is being sought in today's college classrooms.

Beyond the most basic introductory courses that perhaps by necessity must stress the knowledge and, at best, comprehension levels, much effort in college classrooms is placed

upon having students apply, analyze and/or synthesize course content. The author has purposely excluded the evaluation level. The term evaluation is too often used in a ger .ic sense to describe objectives that by their behaviors are actually analyze and synthesize.

The Congruency Model allows the professional decision-maker to now select appropriate modes of instruction and means of feedback once the instructional objectives have been chosen. Although any of the means of feedback could be used for any of the instructional objectives, some, as Table II displays, are more efficient and effective -- congruent. A teacher-student conference could be used to relay a student's success on a test requiring him to recall all the elements in the third row of the periodic chart. This means would be inefficient and perhaps no more effective than returning his corrected paper with the errors marked in red. On the other extreme, a student's semester long e rt to write a term paper could be evaluated and returned with just an 'A' or 'B' along with some marginalia on it. This means of feedback would be efficient but ineffective in channeling the student's future efforts. Such a term paper, if calling upon the student to analyze and synthesize should receive the cassette tape feedback from the instructor with the door being left open for teacher-student conferences following this or any other form of feedback.

In the Congruency Model, the cassette tape feedback is meant to fill what the author sees as a void in feedback means between written comments and teacher-student conferences. All means of feedback have their place. None is meant to supplant any others. It is the instructor's responsibility to choose objectives, instructional modes, and means of feedback. The author hopes this Congruency Model will serve as a basis to help the instructor meet that responsibility.

ENDNOTES

1. Benjamin Bloom, The Taxonomy of Educational Objectives, Handbook I: Cognitive Domain (New York: David McKay Company, Inc., 1956).

2. Harry S. Broudy, B. Othaniel Smith, and Joseph R. Burnett, Democracy and Excellence in American Secondary Education (Chicago: Rand McNally and Company, 1965).

3. William D. Romey, Inquiry Techniques for Teaching Science (New York: Prentice-Hall, 1968).

4. Robert B. Ribble and Charles Schultz, "A Language for the Assessment of Congruence between Operationally Stated Objectives and Instructional Implementation," University Park, Pennsylvania: Department of Education, The Pennsylvania State University, Revised 1970 (mimeographed).

5. Francis F. DiVesta and George G. Thompson, Educational Psychology (New York: Appleton, Century, Crofts, 1970), 170.