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ABSTRACT

The procedure described for evaluating foreign language programs is based on the interaction of teaching and supervisory personnel, materials (administrative guides and texts), and students. Discussion includes techniques to formulate instructional objectives in behavioral terms with specific reference to foreign languages, distinguishing between operational objectives and procedural statements. Sample objectives illustrating principles of language instruction are included. Factors based on such learning principles which serve as guides to the activity of the teacher in attaining behavioral objectives are listed. Techniques for gathering evidence based on pupil performance for use in program evaluation through classroom visitation by supervisors are examined. (RL)

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FOREIGN LANGUAGE PROGRAM EVALUATION  
BASED ON A DEFINITION OF OBJECTIVES

I. Purpose and Scope

The purpose of this project is to provide a guideline or model for evaluating a foreign language program regardless of the levels, materials, or approaches involved. Evaluation is essential to determine whether or not a program is successful in achieving the goals for which it was established. This has become increasingly important in view of the public's current demand for evidence to justify tax expenditures for education.

A program consists of teaching and supervisory personnel, the materials (administrative guides and texts), the students, but more important, the interaction of these three elements. The problem of determining how effective this interaction is at any given point in its development will be explored according to criteria decided with the cooperation of the teacher and in the light of factors derived from experiments in the psychology of learning. In certain guides for evaluating the effectiveness of a program, the emphasis is focused primarily on what the teacher does, the techniques he uses, and in connection with a given methodology. This, for example, is reflected in the current efforts in micro-teaching now in progress at Stanford University (Politzer, 1966). At best, any evaluation or judgment passed by supervisory personnel on visiting a foreign language classroom frequently resolves itself into a discussion of how the supervisor himself might have handled a specific problem or technique and from a purely personal, subjective point of view. A non-subjective point of view would have such characteristics as derive from observable and measurable data which could be agreed upon and substantiated by the supervisor and the classroom teacher. Such data can be gathered during a class session when objectives for each lesson are determined in advance and are stated in terms of terminal student behavior. The objective, rather than the achievement of the objective, then becomes the focal point for discussing classroom practice and ultimately--to the extent that achievement is reached--for determining the value of a given program. An excellent example of the application of this perspective at the elementary school level is the Behavioral Outcomes Project in the schools of Norwalk, Connecticut, which took place in 1966-67. (Gerhard, 1967)

Basically an objective is a statement of instructional goals specifying which behavioral changes in the learner are sought by the teacher. The teacher and supervisor should consider objectives a sine qua non of the foreign language program. Far too many of us consider objectives as long-range goals or outcome, and as such they become impractical for the daily class sessions. Therefore we often tend to pay them mere lip service. The result is that courses of study and guidelines frequently contain checklists and evaluative criteria based on a given set of materials and methodology which do not fit every situation. Consequently such directives become ineffective. Whenever materials are changed, the guides become obsolete. In an attempt to resolve this problem we would like to

propose one way of considering a solution which entails a more precise definition of instructional goals. This will in turn lead to better communication of procedures and outcomes among foreign language personnel so that the results may be assessed in a less subjective manner and one which is not bound to a particular methodology.

In this paper, then, we hope to present first a discussion of how to formulate objectives in behavioral terms with specific reference to foreign languages. We shall distinguish between operational objectives and procedural statements. This will be followed by several examples of objectives pertaining to foreign language. Next, we shall mention certain factors based on learning principles which can serve as guides to the activity of the teacher in attaining the objectives. Finally, we would like to suggest how evidence based on pupil performance can be gathered through classroom visitations by which the supervisor can correlate his observations with the objectives previously agreed upon with the teacher and thereby make the evaluation of the program a cooperative and continuing process. Although we recognize that there are other aspects involved in evaluation, we shall concentrate on behavioral objectives, an area which has received a great deal of attention especially in the last three or four years.

## II. Formulating Objectives

When setting up instructional objectives the teacher must first of all consider the performance level of the students rather than use standards based solely on the teacher's own educational background and experience. The interests and learning ability of the student must be taken into consideration, as well as the amount of instructional time available in which to accomplish the objectives. First, however, let us distinguish between an operational objective and a procedural statement. An operational objective states what change is to take place in the behavior of the learner as the result of instruction. It purports to tell what the learner is able to do at the end of a period of instruction--whether short or long--that he was not able to do at the beginning of instruction. A procedural statement is not really an objective but a declaration of what content the teacher intends to use to bring about this change. It is frequently a statement of teacher activity such as we find in the following examples taken from a recent, commercially published level one teaching guide and which appear at the beginning of each unit.

1. To teach the negative form of verbs learned in previous units
2. To teach the use of cardinal numbers before a noun
3. To teach understanding of questions introduced by combien
4. To introduce concept of the possessive adjectives ma, ta

Therefore, statements such as "to teach the subjective," "to explain the difference between parce que and à cause de," "to give pattern practice on être in the present tense" do not indicate what change is to take place in the learner but rather what the teacher intends to do in order to bring about this change. Objectives which are stated in behavioral terms facilitate evaluation because they specify activity which is observable and measurable. For example: "When given a model sentence orally in French containing a noun modified by a possessive adjective and an oral cue taken from a list of nouns, the student will recite the sentence making the appropriate correlation in 4 out of 5 items." Objectives of this type specify what the learner must demonstrate to show that he has achieved the objective.

Minimally acceptable levels of student performance should also be specified before instruction takes place so that the learner will know in advance what level and type of performance are expected when he is evaluated. Setting minimum standards in advance also helps guide the instructor in determining if the instruction has been successful.

In writing objectives then, Hager (1962:12) suggests the following steps:

First, identify the terminal behavior by name; we can specify the kind of behavior which will be accepted as evidence that the learner has achieved the objective.

Second, try to further define the desired behavior by describing the important conditions under which the behavior will be expected to occur.

Third, specify the criteria of acceptable performance by describing how well the learner must perform to be considered acceptable.

In the following this procedure we can identify three elements of an objective: terminal behavior, condition, and criteria. However, only the first two elements are essential to behaviorally stated objectives. The criterion element as previously noted is highly desirable and indeed becomes necessary when grading scales for pupil performance are being considered. The purpose for writing objectives is to communicate intended educational outcomes. If the objective when written can be given to any competent person who is subsequently able to implement it and achieve the results desired, then the writer has succeeded in communicating.

Terminal behavior should be stated in terms which are open to as few interpretations as possible. For example, expressions such as to write, to recite, to read aloud, to identify, to solve, to construct, to say, to list, to compare, and to move are all externalized actions and can therefore be observed and measured. On the other hand, activities such as to know, to understand, to appreciate, to enjoy, to believe, to comprehend, to listen, to read, to hear, take place internally and are therefore observable only when they become externalized. (Krathwohl, 1964: 101-175)

The second element, the condition, helps to further define the type of behavior sought by stipulating the situation or stimulus under which the learner is required to perform. The condition can vary depending upon the the level of specificity and scope of the terminal behavior sought. For instance we might pose the condition: Given any oral declarative statement in the present tense and the introducer, il faut que, the student will recite the transformation using the subjunctive form of the verb. This involves working with only one type of stimulus, il faut que, but at a broader level we might wish the condition to extend to any introducer which requires the use of the subjunctive. On a still broader scope, and once the subjunctive form has been practiced, the pupil's knowledge of usage can be tested by random cueing with various introducers some of which require the subjunctive and others of which require the indicative. This last objective, it should be noted, presupposes knowledge on the part of the learner of the conditions governing the choice of mood when such introducers are used. It is necessary and helpful for the teacher to make sure that these pre-conditions of learning are met. (Gagne, 1965:25)

The third characteristic of a clearly stated objective is the criterion which can be stated by the use of some of the following terms: a minimum period of time for performance, a minimum number of successful items, percentage, or a minimum acceptable deviation from some standard. Although the level of performance such as "eight out of ten correct answers will be acceptable for passing", is one criterion for measuring the success of a pupil in a given task, the more

fundamental question of "correctness" requires a different set of measures. These measures must be spelled out when terms such as "acceptable", "appropriate", "proper," and "adequate" are used in formulating the objective.

### III. Examples of Behavioral Objectives

Useful objectives must state what the learner will be able to do when he has successfully completed a learning experience. Because the tasks of learning are dependent upon the acquisition of prior capabilities, we must consider objectives in terms of immediate as well as long range goals. Both types may be specified. In a foreign language program we are concerned basically with the skills of sound discrimination, listening comprehension, sound production in context, correlation of sounds with graphic symbols, comprehension of graphic symbols in context, and reproducing graphic symbols in context when given the sounds they represent. These activities are frequently lumped together under the headings of listening, speaking, reading, and writing; but a little reflection will reveal the desirability for greater precision in specifying the behavior sought, particularly when we wish to test for the acquisition of the skills involved. Consequently, our objectives must be directed toward specific skills. The long range objective may express the goal of a week's work, or it may aim at expected attainment at the close of the unit, the semester, or the completed foreign language level. For example, a semester goal may be: "Students will correctly manipulate the forms of any -ar verb in the present tense." The skill of manipulation could involve oral or written activities, and the subject stimulus might be given orally or in written form. Therefore, all of the prerequisite skills which the student must acquire before he is able to manipulate any -ar verb must be analyzed, identified and specified in short-range behavioral objectives. Long-range goals are termed general objectives, whereas short-range immediate goals are referred to as specific objectives.

Upon analyzing the general objective stated above, we find that the student must be able to manipulate particular -ar verbs before he can be expected to generalize his skill to any -ar verb. Therefore, we might formulate the following objective for attainment over a shorter period of time: "Given a subject pronoun orally, the student will recite the appropriate forms of the verbs hablar, tomar, and llamar. Correct responses to 9 or the 12 cues will be passing, and 85% of the class will pass." Here we see the elements that are contained in a behavioral objective. First, a condition or situation is expressed in terms of the stimulus "given a subject pronoun orally." Next, the behavior or action, describing what the learner will do to demonstrate his skill, is stated: "the student will manipulate correctly the forms of the verbs hablar, tomar, and llamar." The final portion of the objective, although not a required element in the statement, is the criterion, or what will be the acceptable minimal level of achievement or performance for passing." An additional criterion "and 85% of the class will pass" states what percentage of the group is expected to achieve the minimal acceptable behavior in order to consider that the objective has been accomplished.

Since we are interested in performance of certain skills, the following examples will pertain to those foreign language skills commonly developed at the beginning levels.

Sound discrimination. After hearing a series of word pairs, one of which contains a fricative d, the student will circle on his answer sheet the letter A or B to indicate perception of the fricative d; twenty-one out of twenty-five items will be considered passing.

Aural comprehension. Given a picture and an oral statement in German, the student marks ja or nein to indicate whether or not the statement fits the picture. Twelve out of 15 items should be answered correctly for a passing grade.

Pronunciation and intonation. Given a key word orally in Spanish, the student will say the complete basic sentence from the dialogue with acceptable pronunciation and intonation. Acceptable means unambiguous to a native speaker as judged by the teacher.

Reading comprehension. Given a paper containing the basic dialogue sentences and twelve numbered drawings, the student will match sentences with the drawings and will be successful if he correctly matches 9 of the 12 tested items.

Writing. When given the first word of a sentence indicated within a 30-second pause which will follow each cue. Acceptable performance will be the completion of 8 of the 10 sentences with an average of only one error for each sentence.

Reading and writing. Given twenty printed sentences in French with a new word to be substituted in each, the pupil rewrites them with the correct grammatical correlation. Fourteen correct correlations will be considered passing.

Communication. (Ability to elicit and/or give information in response to an oral or visual stimulus.) Given any question selected from the basic dialogue sentences of units 1 through 6, the student will respond with information appropriate to his personal experience. Thus a student will:

- a. Respond to a greeting, give his name, introduce a friend, talk of his family composition and ages, tell where he lives, and tell of his general activities at given times of day. Out of a total of 18 questions (three per unit) the student should respond appropriately to 14 for minimal level achievement.
- b. When cued by an instruction either oral or written, in Spanish or English, or by a drawing, initiate communication in greetings, ask names, ask about a friend, his identity or state of health, ask about family compositions and ages, ask where another person (either second or third) lives, ask about daily routine with reference to time of day. Out of a total of 18 items (three per unit) the student should respond appropriately to 14 for minimal achievement.

#### IV. Providing Learning Opportunities

Once the objectives for the course are decided, the teacher must set about planning strategies or activities for enabling the students to achieve the predetermined skills. Ideally, preassessment of the ability of the class should precede formal instruction in order to find out whether members of the class already possess the skills specified in the objective. In foreign language classes, particularly at the outset of the first year, students generally appear with no previous experience; therefore preassessment may be done by aptitude tests. In later classes, diagnostic or achievement tests can be given for this purpose. The next step after preassessment is to select the learning opportunities or activities whereby the students will work toward developing the desired skills. The culmination of this phase is usually in the form of a test to discover whether the objectives have been met. Should the test reveal that the criteria have not been reached, then the objectives and strategies are subject to revision and reapplication. However, we frequently find that instruction fails when it is not guided by certain principles or factors of learning.

Learning activities should be based upon the following five learning principles as suggested by Popham (1965:15-20): appropriate practice, individual differentiation, perceived purpose, graduated sequence, and knowledge of results. These principles are derived from current theories of the psychology of learning which were brought to light through research on programmed instruction. Following is a brief explanation of each principle with an example which shows its application.

**1. Appropriate practice**

The student must be given the opportunity to practice the type of behavior specified in the objective. Practice should be as close as possible to the objective in order for behavioral changes to be accomplished.

Example: Mr. Alvarez takes his Spanish class to the lab three times a week to give them pattern drill practice on material already introduced in class. The pattern drill will subsequently be used as the basis for an oral quiz.

**2. Individual differentiation**

Instruction should be geared to the interests, abilities, or achievement of individual students, thus taking into consideration the student's learning potential as revealed by guidance records. Successful teaching can be accomplished to the degree that this principle is used.

Example: Mr. Heinz gives a preassessment test during the first week of school to a class of Level II German students and finds that they have a wide range of achievement. He decides to divide them into three groups--fast, average, and slow--in order to provide for individual differences. However, he gives each group a German name and is careful not to make any references as to their grouping. He bases assignments and class work on the capabilities of each group. He also makes a practice of calling on the brighter students first to give the slower students an opportunity to hear the correct response before calling on them.

**3. Perceived purpose**

If students can be led to see the value of studying a foreign language, their chances of learning and continued pursuit of the subject are greatly improved. The teacher should strive to find effective ways of communicating such values to the students.

Example: Miss La France majored in French and after graduating from college became an airline hostess with Pan American Airways on the New York to Paris run. She later became a teacher. She frequently tells her classes of experiences she had where her knowledge of French was vital for communication on the job. She also tells them of other career possibilities where the study of a foreign language is essential or at least an asset.

**4. Graduated sequence**

The learning sequence should always proceed from the simple to the complex, the known to the unknown, the experienced to the nonexperienced, thus requiring a gradual increase of effort on the part of the student. The pace of increase should be consistent with the learner's ability. Teaching units should be paced with fast and slow, passive and active, and steady and intermittent activities to maintain the interest of the student.

Example: In presenting dialogue sentences, backward buildup is an example of graduated sequence, proceeding from a small element to the whole sentence.

## 5. Knowledge of results

The teacher should let the student know as soon as possible whether he is right or wrong regardless of the type of test given.

Example: The Russian teacher has given a multiple choice test to check reading comprehension of the day's assignments. He asks the students to check their own work in class and goes over the correct responses with them.

It should be noted that the above stated principles or factors are by no means the only ones which may guide the teacher's activity. Others will be mentioned in the section on evaluation.

## V. Evaluation

The next question to be taken up concerns the measures and means to be used in determining whether or not the objectives have been reached, and ultimately whether or not the program has been successful. In other words, we must consider the problem of evaluation; how do we judge whether the interaction among teacher, student, and materials has been productive and successful? In our classroom visits, what do we look for in this interaction which will enable us to conclude that a program is viable or not? We shall try to discuss some ways in which these questions may be answered.

Evaluation occurs with the full knowledge of the teacher as to the criteria by which we judge the effectiveness of a program, since they are for the most part explicitly stated in the objectives themselves. The objectives have previously been agreed upon by both the supervisor and the teacher. Defining objectives, whether long or short-range, facilitates communication about instruction; and objectives stated behaviorally provide the kind of test the student will be required to perform in order to show that he has acquired a skill. The teacher evaluates his students in several ways, some of which will now be considered.

In foreign language classes we generally find three types of measurement procedures which the teacher uses for gathering evidence about the effectiveness of an instructional strategy, that is, whether or not a given skill was acquired by the student as a result of class instruction. One type is a pencil-paper objective test, usually graded by a key. This is the most common, perhaps, especially in the beginning stages of language learning which deal with skills of cognition (Bloom, 1956). Examples of such tests for the skills other than speaking are abundant in many of those tests which accompany the current new-key materials. In addition, the excellent volume by Rebecca Vallette (1967) incorporates recent findings from the psychology of learning and testing.

A second means for determining the acceptability of pupil responses is a type of check list of criteria for pupil performances. Such performance involves the activity itself rather than a tangible product. For example, the objective may require the use of certain gestures common to the culture of the target language. A check list would contain notations regarding the types of gestures and their manner of execution. A test of oral reading may involve a check list of allophonic variations which depend upon vowel-consonant environments.

For the later stages of language learning particularly, a third type of check list can be used for evaluating the product of the learner. This is particularly useful for essays and composition whether oral or written.



In evaluating an entire program, however, the supervisor is interested not only in how well the students perform on tests, but also in the nature and quality of the teacher activity. Of course, in high achievement classes we recognize that problems of instruction generally are kept to a minimum; but in classes of average to low achievement, we are interested in analyzing the activities of the teacher in order to raise the achievement level. The learning principles mentioned in Part IV of this paper can serve as some of the criteria factors to describe the teacher's instructional procedures at all levels. Each of the following factors is listed with examples of kinds of evidence that might be given to substantiate its use. Note that although the factor may refer to a teaching activity, the evidence for its effectiveness is drawn from pupil performance.

<u>Factor</u>	<u>Evidence that Factor is Used</u>
A. <u>Appropriate practice</u>	Number of opportunities students have to <ol style="list-style-type: none"> <li>1) practice writing before a dictation test</li> <li>2) recite individual dialog lines before being tested</li> <li>3) practice the same kind of responses that will be required when tested</li> </ol>
B. <u>Reinforcement (reward)</u>	Frequency with which students are encouraged or complimented by the teacher when they respond well orally (Note: there is some evidence to indicate that intermittent praise is of more value than constant praise.) Number and kinds of comments written on returned papers to encourage students Any indications that the teacher has secured information concerning what sort of a teacher-response individual students consider to be a reward.
C. <u>Individualization</u>	Frequency with which stronger students are called on to initiate individual oral recitation of new concepts before weaker students are asked to recite with a longer opportunity to listen Frequency with which stronger students are called on to recite dialog sentences before weaker students are called on Evidence of continued reseating of students to provide maximum learning opportunities for weakest students; they may be placed in front of strong students or placed where teacher can call on them more frequently, or placed where they can hear and see best, etc.
D. <u>Continuity and re-entry</u>	Number of consecutive days that a new concept is drilled before skipping a day

- Number of appropriate re-entries of concepts throughout the entire semester so that students handle the concept best at the end of the semester
- Number of re-entries of a new concept during the first hour that it is presented with appropriate "rest" periods between each re-entry  
(Each of these kinds of evidence is available from the lesson plans.)
- E. Graduated sequence**
- Number of lessons that provide such sequential presentations as from the simple to the complex, the concrete to the abstract, the known to the unknown, the experienced to the non-experienced, repetition to manipulation to communication
- F. Knowledge of correctness of response**
- Frequency with which a confirmation of a student response to oral drills is provided
- Frequency with which teacher provides an immediate check for students on a problem-by-problem basis during written work in class
- Number of homework assignments given with provisions for students to check the correctness of their responses immediately
- G. Correction**
- Consistency with which students who either make errors or are unable to respond in oral recitation are given opportunity to perform correctly after hearing a correct response
- Consistency with which teacher provides opportunity to practice correct responses to counteract negative learning due to incorrect responses

It is realized that the above factors do not represent an exhaustive list, nor are the types of evidence intended to be limited to those listed. The factors are based on current theories on the psychology of learning, and the evidence is observable and measureable in any foreign language classroom.

The steps involved in the type of cooperative evaluation we suggest, whether with one teacher or a group of teachers, can be summarized as follows:

1. Agreement on the general content of the course to be covered in a specified length of time. Examples:
  - a. Situational: greetings, names, Units I-VI.
  - b. Grammatical points: être, avoir; ser, estar, haber; sein, haben; declarative and interrogative forms.

2. Agreement on the outline of content in the sequence in which it is to be taught. This is frequently determined by the course of study and the text.

3. Agreement on objectives specified in terms of pupil behavior. These are tentative and subject to revision as the situation may dictate, but an initial commitment is proposed to show what pupils must accomplish so that the teacher may be rated accordingly.

4. Agreement on the principles governing the types of evidence collected to describe instructional procedures. The principles already suggested, that is, appropriate practice, perceived purpose, individual differentiation, graduated sequence, and immediate knowledge of results are intended to direct attention to factual--as opposed to inferential--observation in the classroom. Any principle or theoretical framework can be used if it enables the teacher to change specific aspects of instruction in order to improve pupil performance.

We have tried to present a different approach to the problem of assessing a foreign language program by specifying the consequences sought from instruction. This involved an identification of the changes to take place in the learner's behavior, the conditions under which the learner is expected to demonstrate his competence, and the lowest limits of acceptable performance on the part of the learner. Next the instructional act itself involved a consideration of the actual observable activities occurring in the classroom. Then followed a summary of the kinds of evidence available to show the degree to which the desired results were obtained in terms of learner performance and learner product. Finally, we provided a list of experimental variables which may be used in establishing hypotheses for the improvement of instruction. That is to say, if the objectives are not achieved, we can analyze the factors listed above to determine whether a change in the evidence will bring about a corresponding positive change in the performance of the learner. Such analysis serves to point up the dynamic quality of this type of evaluative process. The objectives are not rigid, inflexible rules and tools. They are subject to revision should the hypotheses about instructional procedures derived from pupil performance warrant such a change.

#### BIBLIOGRAPHY

Anderson, Richard C. and David P. Ausubel, ed. READINGS IN THE PSYCHOLOGY OF COGNITION, New York: Holt, Rinehart and Winston, Inc. 1965. 690pp. Part Two is especially pertinent for language teachers who may wish to acquaint themselves with significant research on meaningful verbal learning and language.

Ausubel, David P. THE PSYCHOLOGY OF MEANINGFUL VERBAL LEARNING. New York: Grune and Stratton. 1963. 255 pp. In this reference work for specialists and research workers in educational psychology, a strong case is made for a deductive rather than an inductive approach to teaching verbal tasks.

Biddle, Bruce J. and William J. Ellenz, ed. CONTEMPORARY RESEARCH ON TEACHER EFFECTIVENESS. New York: Holt, Rinehart and Winston, Inc. 1964. 342pp. Nine papers presented by current researchers on such factors of teacher effectiveness as personality and behavior, interaction, analysis of role, and communication in the classroom. The supervisor will find techniques for evaluating specific types of teaching in the above terms.

- Bloom, Benjamin S. ed. **TAXONOMY OF EDUCATIONAL OBJECTIVES: HANDBOOK I: COGNITIVE DOMAIN.** New York: David McKay Co. 1956. 207pp.  
This is an attempt to devise a means for permitting greater precision of communication with respect to educational objectives. It lists and explains the types of behavior having to do with thinking, knowing, and problem solving. Useful summaries are given in Popham and Krathwohl, but the original text contains many examples of test items which may be used for objectives appropriate to each category in the taxonomy.
- Briggs, Thomas H. and Joseph Justman. **IMPROVING INSTRUCTION THROUGH SUPERVISION.** New York: Macmillan 1952. 523pp.  
A standard text, it stresses the need for cooperative planning of objectives between the teacher and the supervisor (pp271, 279, 280, 281)
- Gagné, Robert M. **THE CONDITIONS OF LEARNING.** New York, Holt, Rinehart and Winston, Inc. 1965. 308pp.  
Discusses eight types of performance change (learning): signal, stimulus-response, chaining, verbal association, multiple-discrimination, concept, principle, and problem solving. Then shows implications for content of instruction, the motivation and control of learning and transfer, and decisions in education. Quite readable and applicable to problems of foreign language teaching.
- Gerhard, Muriel, et al. "Behavioral Outcomes: What the Child is able to do--and does--as a result of the teaching-learning experience." **GRADE TEACHER,** April, 1967. pp. 92-110.  
A series of articles which report the actual classroom experiences of a group of elementary school teachers from Norwalk, Connecticut, who used a new teaching method: Behavioral Outcomes.
- Krathwohl, David R., Benjamin S. Bloom, and Bertram B. Masia. **TAXONOMY OF EDUCATIONAL OBJECTIVES: HANDBOOK II, AFFECTIVE DOMAIN.** New York: David McKay Co. 1964. 196pp.  
A companion volume to that of Bloom, this classifies objectives which emphasize a feeling tone, an emotion, or a degree of acceptance or rejection. Such objectives are usually expressed as interests, attitudes, appreciations, values, and emotional sets of biases.
- Lucio, William H. and John D. McNeil. **SUPERVISION: A SYNTHESIS OF THOUGHT AND ACTION.** New York: McGraw-Hill. 1962. 282pp.  
One of the first texts to advocate supervision by objectives.
- Mager, Robert. **PREPARING INSTRUCTIONAL OBJECTIVES.** San Francisco: Fearon Press. 1962. 62pp.
- McNeil, John D. "Antidote to a School Scandal" **EDUCATIONAL FORUM,** November 1966, Vol. XXXI, No. 1, pp. 69-77.  
A proposal for supervision by objectives.
- Politzer, Robert L. **PRACTICE-CENTERED TRAINING: FRENCH.** Syllabus, Dept. of Education, Stanford University, California. 1966. pp. v, 232.  
Parts I and II contain discussions on applied linguistics and language practice. Part III lists performance criteria for the foreign language teacher, and Part IV contains micro-teaching lessons. Emphasis is on teacher performance. There is little, if any, discussion in terms of pupil behavior.

Popham, W. James. **THE TEACHER-EMPIRICIST.** Los Angeles: Aegeus Press. 1965. 76pp.

An excellent rationale and guide to developing an inquiring perspective on instruction, curriculum, and evaluation. Intended as a practical resource tool for education students prior to student teaching.

Shulman, Lee S. and Evan R. Keislar, ed. **LEARNING BY DISCOVERY: A CRITICAL APPRAISAL,** Chicago: Rand McNally & Co. 1966. 224pp.

Original papers and discussions of current assertions about the value of discovery methods in education. Participants include David Hawkins, Robert Glaser, M.C. Wittrock, Lee J. Cronbach, Jerome S. Bruner, Robert B. Davis, Robert M. Gagne, Jerome Kagan, H.H. Kendler, Lloyd N. Morrisett, and the editors.

Tyler, Ralph W. **BASIC PRINCIPLES OF CURRICULUM AND INSTRUCTION.** Chicago: University of Chicago. 1950. 85pp.

The originator of the currently accepted rationale on curriculum development and organization, although it is meeting with sporadic opposition.