DOCUMENT RESUME

ED 066 825 88 EA 004 552

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TITLE Behavioral Objectives and the Supervisor. An Occasional Paper.
INSTITUTION Ohio State Dept. of Education, Columbus.
SPONS AGENCY Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.
REPORT NO JMC-162
PUB DATE 11 Nov 71
NOTE 17p.; Paper presented at Supervision of Instruction Symposium 1: Performance Objectives and the Supervisor (November 11, 1971)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Administrator Role; *Behavioral Objectives; Cognitive Objectives; Course Objectives; *Supervisors; Supervisory Activities; *Supervisory Methods; Teacher Administrator Relationship; *Teacher Role; Teacher Supervision
IDENTIFIERS Elementary Secondary Education Act Title III; ESEA Title III

ABSTRACT

The supervisor facilitates the students' attainment of the instructional objective by (1) diagnosing the curriculum (in particular the behavioral objectives) and the teachers, (2) prescribing steps to remedy areas of concern with respect to the curriculum and the teachers, and (3) enabling changes in the curriculum to occur while at the same time enabling the teachers to acquire those new competencies they need in order to enable the students to succeed. When behavioral objectives are established for the students in the classroom, those objectives become the supervisor's instructional objectives. (Author)

Behavioral Objectives

and the Supervisor

by

J. Marvin Cook

Presented at

Supervision of Instruction
Symposium 1:

Performance Objectives and the Supervisor
November 11, 1971

Cuyahoga County Instructional Supervision Study
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The work presented or herein reported was performed pursuant to a grant from the Ohio Department of Education, ESEA Title III Office. However, the opinions expressed herein do not necessarily reflect the position or policy of the Ohio Department of Education, and no official endorsement by the Ohio Department of Education should be inferred.

BEHAVIORAL OBJECTIVES

AND

THE SUPERVISOR

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An Occasional Paper

No. JMC-162

UNIVERSITY OF MARYLAND BALTIMORE COUNTY

Baltimore, Maryland

BEHAVIORAL OBJECTIVES AND THE SUPERVISOR

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One of our primary reasons for being in the field of education--whether we are teachers, supervisors, or administrators--is for the intellectual growth of our students. Although at times our energies appear to be focused in directions (new buildings, budgets, meetings, etc.) that seem only indirectly related to this concern, ultimately all of our activities find their justification in the increased achievement of students.

It is my position that we in the field of education must affirm in a dynamic fashion the supervisor as one who--with all the rest of us--finds his motivation for many of his activities in the successful achievement by the students of clearly stated instructional goals.

The supervisor is not involved in this effort alone--the classroom teacher, the university professor of education, the principal, the specialists, the superintendent, the board of education--all find their justification for their vocation in the successful achievement of instructional goals by students. In recent years there has been an increased effort to clarify those goals--those instructional objectives--by the use of behavioral objectives. The switch to behavioral objectives--and it is a necessary one if we hope to see change in the performance of our students--is being made to clarify to the classroom teacher what type of competence and what level of competence represents successful achievement by the student.

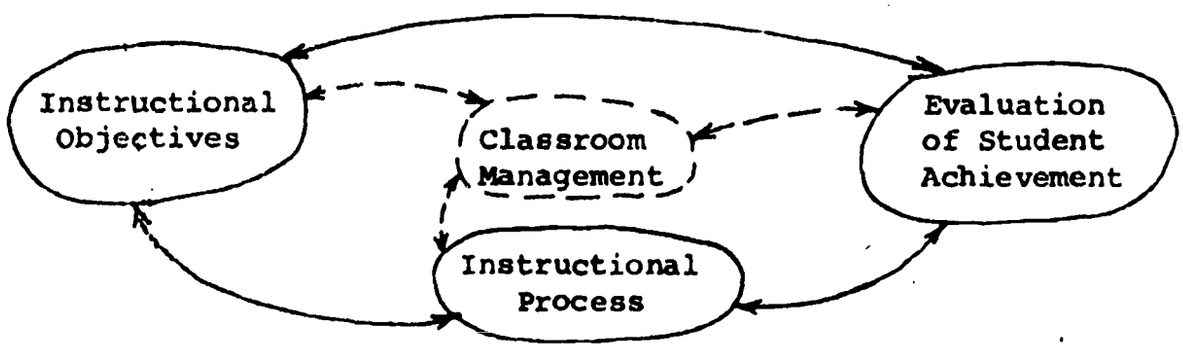
However, although behavioral objectives are a tremendous asset to most educational efforts, just stating objectives clearly will not enable each child to achieve. We must do more within the classroom, if we wish to express our concern for each student's achievement.

Classroom Instructional System

Behavioral objectives must not be allowed to exist in isolation from the other components of a classroom instructional system. If we wish to operationalize our desire to humanize our teaching to the extent that individual achievement by every student is a reality, then we must assume that the activities of the classroom support those objectives that have been identified as instructional goals. A model of the instructional system which I have found most useful consists of four components:

1) instructional objectives (behavioral objectives);
2) evaluation of student achievement (tests, lab reports, etc.);
3) instructional process (teaching strategy); and
4) classroom management.

These four components of a classroom instructional system can be shown as in Figure 1. The arrows indicate that there must be congruence between all four components.



Model of a Classroom Instructional System

Figure 1

The tests must measure how well the instructional objectives of the class unit were attained by the students. In order to do this, the tests must measure the same type of performance called for in the instructional objectives. An example will illustrate the point being made here. Suppose the instructional objectives included the following objective:

Instructional Objective:

Given a system of two relations of the type in Set A; the student will be able to construct a graph of its solution set and name the solution set in terms of the union or intersection of points, line segments, rays, half-lines, angles, or triangles.

The following test items would exhibit PERFORMANCE AGREEMENT with such an objective. It should be noted that Set A referred to in the objective would include such statements of relations as

$$\{(x,y) \quad y \geq | x + a |, x \text{ real}\} .$$

Test Directions:

Given the following systems of two relations, construct a graph of the solution set of each system and name the solution set in terms of the union or intersection of points, line segments, rays, half-lines, angles, or triangles:

Test Item No. 1

$$\begin{cases} \{(x,y) \quad y = | x + 4 |, x \text{ real}\} \\ \{(x,y) \quad y \leq | x - 4, x \text{ real}\} \end{cases}$$

Test Item No. 2

$$\begin{cases} \{(x,y) \quad y \geq | x - 4 |, x \text{ real}\} \\ \{(x,y) \quad y \leq 5, x \text{ real}\} \end{cases}$$

Note that the given conditions specified in the instructional objective were met in the test items and the required performance in the test items agreed with the instructional objective.

Similarly, the instructional process must have PERFORMANCE AGREEMENT with the instructional objectives. That is, THE INSTRUCTIONAL PROCESS MUST BE DESIGNED TO ENABLE THE STUDENTS TO ACQUIRE (AT LEAST) THE COMPETENCIES SPECIFIED IN THE INSTRUCTIONAL OBJECTIVES. In like manner, the tests and the instructional process must have performance agreement. THE INSTRUCTIONAL PROCESS MUST BE DESIGNED TO ENABLE THE STUDENT TO ACQUIRE THE TYPE OF COMPETENCIES THAT THE STUDENT WILL BE TESTED UPON. In the test items above the students were required to construct and name solution sets of a particular type. In order for performance agreement to exist between the instructional process and the tests, the instructional process must include the teaching of both the constructing AND the naming of solution sets of this type. To teach one competency without the other and then to test on both would not reflect performance agreement. Also, the test must, in turn, measure the type of competencies which were taught.

The following operational definitions are appropriate for the model of the instructional system shown in Figure 1:

Definition A.

Instructional Objectives: Statements of what the students will be able to do as a result of our teaching. A usefully stated instructional objective is one that helps us to see where we are heading and tells us how to know when we have arrived. Ideally, it will identify what a student would be doing when demonstrating his achievement of the instructional objective, suggest conditions under which the desired performance is to be exhibited, and suggest the minimal level of performance that the teacher will accept as evidence the learner has reached the objective.

> Example No. 1: At the end of the instructional process, each student will be able to construct a five-page essay in which he discusses any four factors that may have been influential in causing riots in Washington, D.C. in 1968. The discussion

of each factor will include: 1) naming the factor, 2) the rationale for the selection of the factor, and 3) the factor's influence on the riots. The essay is to be written in class within thirty minutes without the aid of any text material.

Example No. 2: At the end of the instructional process, each chemistry student will be able to construct the solution to a "limiting reagent mole problem" given the balanced equation for the reaction, a list of molecular weights and a slide rule. The answer must be correct, show the proper units and significant figures, and be completed within twenty minutes.

Definition B.

Instructional Process: The teaching strategy (both planned and implemented) which is designed by the teacher to enable his students to attain the instructional objectives of the class.

Definition C.

Process Objectives: Statements of what the teacher or the student will be doing DURING the instructional process. A teacher process objective is one which states what the teacher intends to do personally during the instructional process.

Example of Teacher Process Objective: At the beginning of the fifth week of the year, the teacher will demonstrate the procedure for determining the unknown elements in a given chemical solution.

A student process objective is one which states what the student will be doing during the instructional process.

Examples of Student Process Objectives:

1. During the fifth and sixth weeks of the course, the student will practice determining unknown elements in chemical solutions by determining the unknown elements contained in at least four different chemical solutions.
2. During the semester, the student will lead a discussion in class with a small group of peer students on the manner in which several art forms are used today to influence public opinion.

Definition D.

Classroom Management Objectives: Those objectives of a management nature which facilitate the accomplishment of the other three components of the classroom instructional system.

Examples of Classroom Management Objectives:

1. Materials and equipment required for the instructional process will be available in the classroom when needed 95% of the time.
2. The materials, which were named in the instructional objectives as part of the planned testing conditions, will be available and in the classroom at least one hour before each test is administered.
3. Sufficient time will be made available during each day for each child to mark his progress on the spelling chart.

A clear distinction must be made by the teacher, the students, and the supervisor between instructional objectives and process objectives. The effectiveness of our teaching is measured by how well the students have learned what we intended to teach. That is, a measure of our effectiveness as teachers moves beyond the description of the teaching decisions and strategies we use during the instructional process to an appraisal of the outcome of our teaching--an appraisal of the learning by students of those instructional objectives we initially said we were teaching toward. The instructional process is certainly of value in itself, but its reason for existence lies in facilitating the achievement of the instructional objectives by the students. Differentiating between the components of the instructional system enables a teacher to properly plan for the achievement of each student in her class. The teacher who sees her role as FACILITATOR, that is, one who is a diagnostician, a prescriber, and an enabler for each of her student's educational growth, finds decision making becomes more

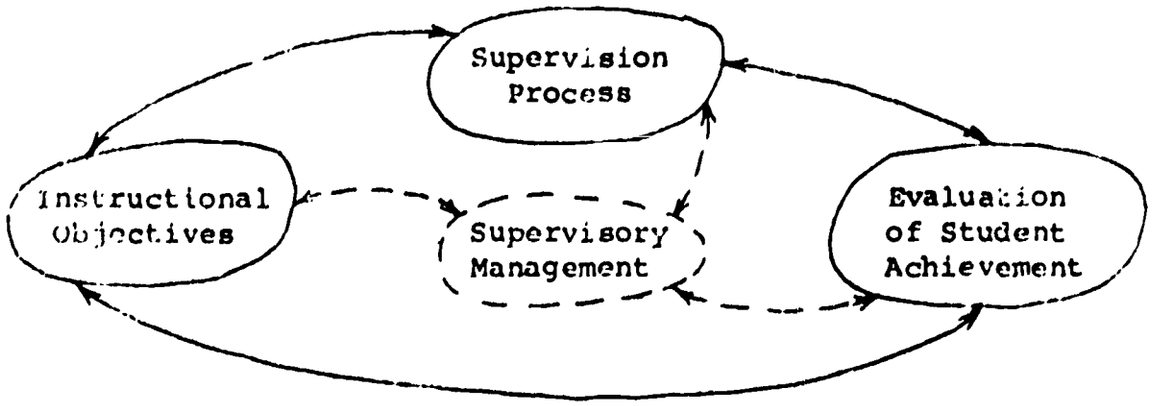
rational and more humanly responsible when the decisions are being made within the perspective of a classroom instructional system that is characterized by performance agreement between its components. Being accountable as teachers includes being accountable to oneself and to the child for increasing his competence level in respect to specific instructional objectives. The emphasis should not be merely upon accountability, however. The emphasis should be more upon the child achieving. To assure such achievement by the child, it is proper that we, as teachers, should be accountable at the point of each component of our instructional system. In like manner, if we fail to be facilitators at the point of assuring performance agreement between each component of our instructional system, we can not expect the students to reflect the level of achievement we desire.

Concern for a student is a necessary but not sufficient condition for helping a student to achieve. Systematically planning for the student's achievement is one effective way to express our concern.

Role of the Supervisor

What then is the role of the supervisor in respect to behavioral objectives? The author believes the following model of a supervisor's role speaks to this question. This model consists of four components:

1. Instructional objectives (behavioral objectives)
2. Evaluation of student achievement (tests, lab reports, etc.)
3. Supervision process (as a facilitator of learning)
4. Supervisory management.



Model of a Supervisory Instructional System

Figure 2

The arrows indicate that there must be performance agreement between all four components of the Supervisory Instructional System. Of more significance, however, is that the focus of the system is upon the students' achievement of the instructional objectives. When the instructional objectives have been established for the students, the supervisor's role is to enable the students to achieve those objectives. Whereas the teacher works directly with the students, the supervisor works with the students through the teacher and the curriculum. Therefore the supervisor's efforts are ultimately focused upon the successful achievement by the students. The effectiveness of a supervisor is measured by the increased achievement level of the students.

Perhaps operational definitions of two of the components will be appropriate at this point in this paper:

Definition E.

Supervision Process: The supervision strategy (both planned and implemented) which is designed by the supervisor to enable his teachers to in turn enable their students to attain the instructional objectives.

Example of Supervision Process Objective: During three Fall in-service sessions, the supervisor will conduct a workshop on classroom diagnostic and prescription procedures.

Definition F.

Supervisory Management: Those acts of an administrative nature which facilitate the accomplishment of the other three components of the supervisory instructional system.

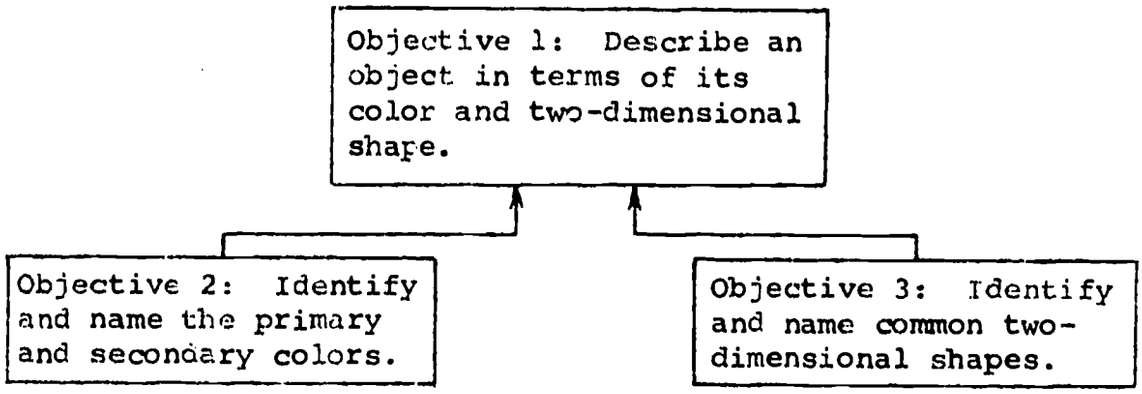
Example of Supervisory Management Objective: Personnel and facilities required for the Fall in-service workshops will be made available when needed.

Within the perspective of the Supervisory Instructional System, the supervisor now becomes in a dynamic way a FACILITATOR of the learning process for each individual student in the school district. Whereas the teacher is a FACILITATOR who works directly with the individual students, the supervisor is a FACILITATOR who works through the teachers and the curriculum. As a FACILITATOR, the supervisor is a DIANOSTICIAN, a PRESCRIBER, and an ENABLER. He diagnoses the curriculum, the classroom teachers, and any other factors affecting the students' achievement. Today it is often assumed that if a curriculum is stated in terms of behavioral objectives, then it is a good curriculum. This is just not so. You may have a very clearly stated objective but it may not be a "worthwhile objective." I believe someone (and perhaps the supervisor might well be one of those assuming this responsibility) should be diagnosing the curricula in our schools and asking: "Are the objectives worthwhile? Are these objectives really worth the time and energy that is expended in enabling the students to attain them? Are the instructional objectives identified for a set of students the objectives that are appropriate for those students? Are the objectives too complex or are they too simple?"

Dr. Henry Walbesser of the University of Maryland has found that most curricula currently based upon behavioral objectives can be classified into a category of simple objectives. Most do not require much more from the students than that they be able to name and identify concepts and state rules. As a diagnostician of curricula, the supervisor should assure that the curriculum objectives are quality objectives which are both clearly stated and worthwhile.

Other questions that the supervisor, as a diagnostician, might be asking as she diagnoses a curriculum include: "Does the curriculum enable the child to progress? Are there voids in the curriculum? Are there missing steps in the sequence of objectives? Also, does the curriculum consist of just a list of objectives or have they been sequenced into a performance hierarchy?"

Supervisors would be providing a much needed service if they would take the next step with behavioral objectives and sequence the objectives of curriculum units into performance hierarchies. Beginning with a terminal objective of an instructional unit stated in terms of the performance the students are expected to be able to exhibit at the completion of the unit, a performance hierarchy is developed by analyzing this final capability into subordinate skills in an order such that lower-level skills enable the higher-order ones to be learned. The completed set of ordered cumulative skills form a hierarchy. An example of a hierarchy consisting of one terminal objective and two enabling objectives is shown in Figure 3.

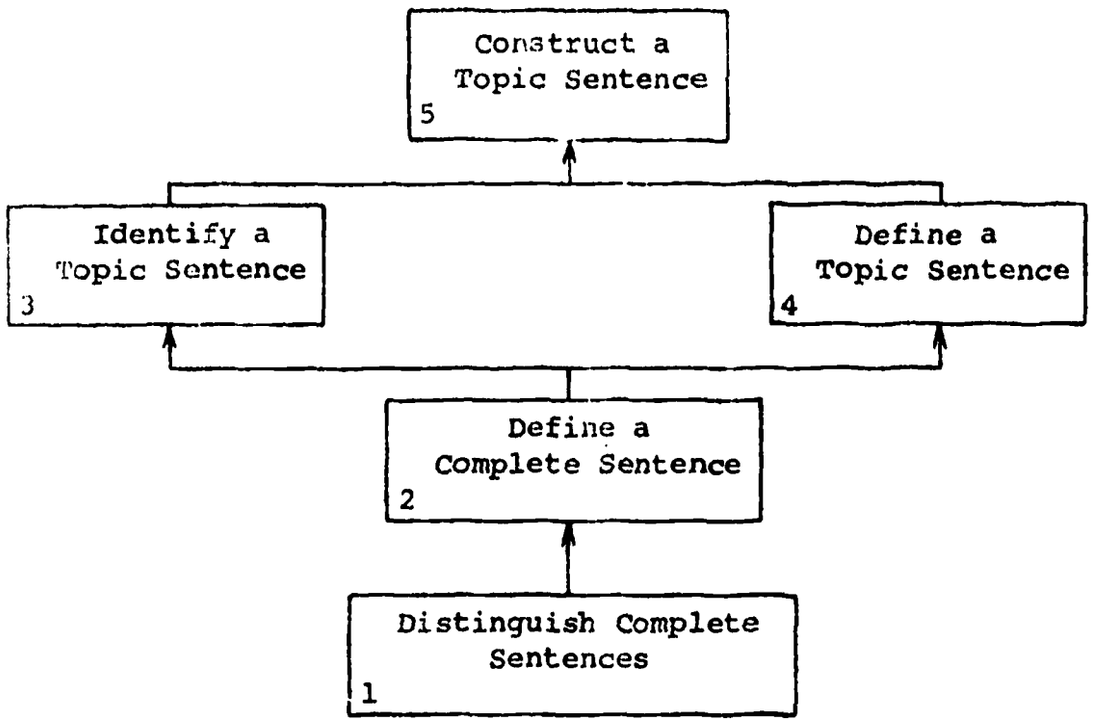


A Performance Hierarchy in Geometry

Figure 3

By first attaining the competencies described in Objectives 2 and 3, the student can then be taught the competence stated in Objective 1.

Suppose the terminal objective for an instructional unit was that the students will be able to construct a topic sentence. The subordinate skills and their ordered relationship are determined by successively asking the following question about first the terminal objective and then about each of the identified enabling objectives: "What would the student have to already know before he could be taught the new competence?" In the hierarchy shown in Figure 4 four enabling objectives (subordinate competencies) were identified.

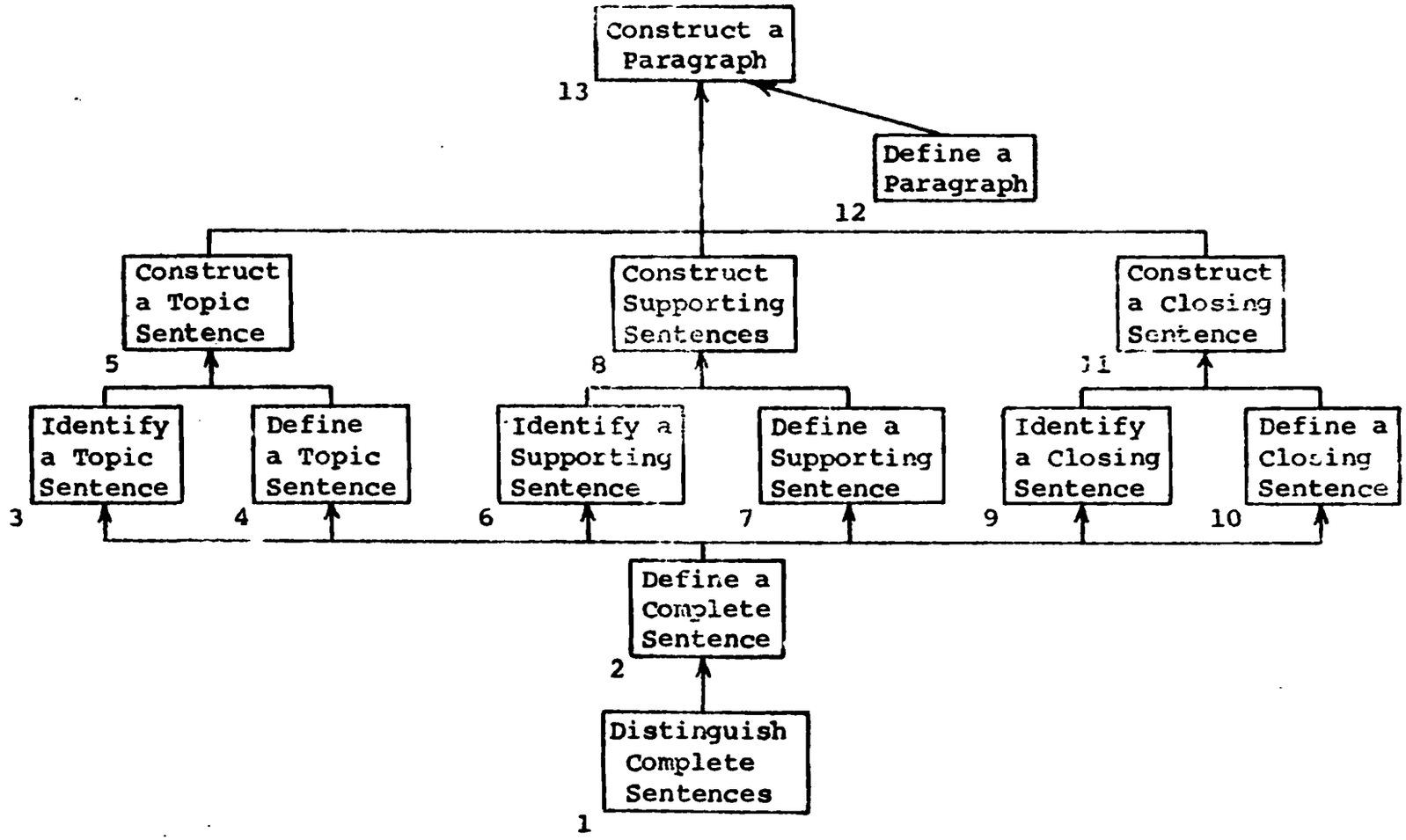


Performance Hierarchy for Topic Sentence

Figure 4

An analysis of objective No. 5 revealed the set of subordinate competencies shown in Figure 4, some in common and some not in common, ranging down to a simple competence for which it was assumed the pupils would have the necessary prerequisite skills.

The terminal objective of one unit often might be one of the enabling objectives of a larger instructional unit with a more complex terminal objective. An example of such a situation is illustrated in Figure 5. The terminal objective for this unit is shown as objective No. 13. An analysis of this task resulted in the learning hierarchy shown. Note that the terminal objective of the learning hierarchy in Figure 4 is one of the subordinate objectives for the performance hierarchy in Figure 5.



Performance Hierarchy for Paragraphs*

Figure 5

*This hierarchy was designed by Warren Hubbard, English teacher and ES-'70 staff member, Baltimore City Public Schools, Baltimore, Maryland.

In addition to diagnosing the curriculum, the supervisor as a diagnostician diagnoses the teacher and determines the teaching competencies she has as compared to those she needs to facilitate the students to attain the instructional objectives. The supervisor would be seeking to obtain answers to questions similar to the following: "Does there exist performance agreement between the components of the teacher's classroom instructional system? Does the teacher exhibit the competence to manage a classroom with behavioral objectives and performance hierarchies? Can the teacher effectively teach the drop-out who drops in?"

When the supervisor has obtained answers to such questions about the teacher and in like manner answers to questions about the curriculum, then the supervisor assumes the role of a PRESCRIBER both at the point of the curriculum and at the point of the teacher.

The supervisor may prescribe the steps to assure that the instructional objectives are quality objectives. Decisions may be made about how the objectives of the curriculum will be sequenced into performance hierarchies. Perhaps summer workshops will be required to construct such hierarchies for the various parts of the curriculum. Perhaps the supervisors will identify and prescribe new materials that may be purchased which are based upon performance hierarchies.

For the teacher, the supervisor may prescribe specific training sessions. If the diagnosis noted that the teacher had the competencies required to enable the students to achieve, but not the necessary equipment, then the supervisor might prescribe that such support equipment be made available. In all cases, for both the curricula and the teachers, the prescription is based upon an earlier diagnosis.

As an ENABLER, the supervisor enables the prescribed changes in the curriculum to occur. Workshops will be conducted for the construction of curriculum using performance hierarchies or the purchase of new curriculum will be expedited based upon the prescriptions made earlier by the supervisor. Similarly, the supervisor provides for the multi-faceted, multi-sensory instruction (in-service workshops, etc.) that enables the teachers to attain those new teaching competencies identified by the diagnosis and named in the prescription as necessary to assure that the students achieve the instructional objectives of the school.

Conclusion

What is the role of the Supervisor? He facilitates the students' attainment of the instructional objective by:

Diagnosing the curriculum (in particular the behavioral objectives) and the teachers;

Prescribing steps to remedy areas of concern with respect to the curriculum and the teachers; and

Enabling changes in the curriculum to occur while at the same time enabling the teachers to acquire those new competencies they need IN ORDER TO ENABLE THE STUDENTS TO SUCCEED.

What is the relation of Behavioral Objectives to the Supervisor? When Behavioral Objectives are established for the students in the classroom, those objectives become the SUPERVISOR'S instructional objectives!