DOCUMENT RESUME

ED 269 868 EA 018 466

AUTHOR Anderson, Lorin W.
TITLE Research on Teaching and Educational Effectiveness.
INSTITUTION National Association of Secondary School Principals, Reston, Va.
PUB DATE Apr 86
NOTE 8p.
AVAILABLE FROM Publication Sales, National Association of Secondary School Principals, 1904 Association Drive, Reston, VA 22091 ($1.00 prepaid; quantity discounts).
PUB TYPE Information Analyses (070) -- Collected Works - Serials (022)
JOURNAL CIT Curriculum Report; v15 n4 Apr 1986

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Classroom Techniques; Educational Strategies; Elementary Secondary Education; Research Utilization; *Task Analysis; Teacher Behavior; *Teacher Effectiveness; Teacher Evaluation; *Teacher Role; Teaching Methods; Teaching Skills; Teaching Styles

ABSTRACT

This report focuses on current attempts by researchers to examine teacher effectiveness through the "task hypothesis," which asserts that effective teachers accomplish a large and diverse set of tasks--or discrete, goal-oriented units of work--in their classroom. After an introductory critique of past efforts to assess teacher "traits" or "behaviors," the report defines task analysis, suggesting that it is better able to examine the appropriateness of teacher behavior in context than past attempts at categorizing and evaluating teacher behaviors or qualities. Eight major teacher tasks are then described, along with current research findings about their importance: (1) planning instruction; (2) assessing students; (3) clarifying behavioral rules and routines; (4) organizing the classroom; (5) creating a learning set; (6) teaching to objectives; (7) providing for student practice; and (8) maintaining student involvement in learning and disciplining inappropriate behavior. Finally, four examples are provided of school districts that are putting the research on effective teaching into practice. Selected references are included. (TE)

nassp

Curriculum Report

Vol. 15 No. 4 April 1986 (ISSN 0547-4205)

Research on Teaching and Educational Effectiveness

nassp
Curriculum Report
Vol. 15 No. 4 April 1986
ISSN 0547-4205

Research on Teaching and Educational Effectiveness

The search for effectiveness in teaching has a long history. Many early attempts sought to identify a set of characteristics, character traits, or traits that differentiated good from poor teachers. A variety of factors such as satisfaction with teaching, authoritarian personality structure, and psychological adjustment were examined in a wide variety of studies. A review of these studies by Getzels and Jackson (1963) failed to lend support to what may be termed the "trait hypothesis." Getzels and Jackson wrote that ". . . very little is known for certain . . . about the relation between teacher personality and teacher effectiveness. The regrettable fact is that many of the studies so far have not produced significant results. Many others have produced only pedestrian findings."

Bloom (1972) hastened the move away from the "trait hypothesis" to what might be termed the "behavior hypothesis." In Bloom's words, "it is not what teachers *like* but what they *do* in interacting with their students in the classroom that determines what students learn and how they feel about the learning and themselves." Most of the searches for good teachers conducted in the 1970s included observations of classroom teaching behaviors. Studies were designed to identify those teaching behaviors that were associated with increases in student achievement in regular classroom settings. Once identified, these behaviors were combined into "principles of teaching," "teaching practices," or "behavioral profiles."

Despite the success of many of these research efforts, criticisms of the "behavior hypothesis" began to mount. Much to their credit, many of the criticisms came from the researchers themselves. Brophy and Evertson (1978) suggested the need to consider the *context* within which teaching behaviors take place. Similar criticisms were implicit in the writings of a cadre of social psychologists who asserted that the nature of the classroom setting not only *did*, but *should* influence the ways teachers behave. Quite clearly, teaching in a machine shop and in a reading circle require very different teacher behaviors.

A second set of criticisms focused on the *intent* and *perceived meaning* of the behaviors. Brophy (1981) suggested, for example, that the same behavior could achieve different ends. Even such a rather simple behavior as teacher use of praise can function as a reward (a well-deserved comment of "excellent report"), a punishment ("damning with faint praise"), or a terse dismissal ("Good work! Now, get back to your seat."). To complicate matters further, different behaviors can achieve the same or similar ends. Teachers can "encourage" students to keep working on an assignment by helping them to see its relevance, telling them they will have less homework or that they will receive a candy bar if they continue working hard, or threatening them with their very lives.

Combined, these criticisms emphasize two major problems with the "behavior hypothesis."

1. Many behaviors derive their meanings from the context in which they are embedded. One must pay attention to the *appropriateness* of various teacher behaviors, not simply their presence (or absence), frequency, or duration.
2. Most of the things teachers do in their classrooms are *done for some purpose*. Teachers have some goal or desired outcome in mind when they do what they do. Bloom's criticism for the "trait hypothesis" can be expanded to a criticism of the "behavior hypothesis." It is neither what teachers *like* (personality) nor what they *do* (competence) that determines their effectiveness; rather, it is what they *accomplish* (or fail to accomplish) that makes them effective.

The current view of good teachers can be called the "task hypothesis." In essence, the "task hypothesis" asserts that "good," "excellent," or "effective" teachers can accomplish a large and diverse sets of *tasks* in their classrooms. A task can be defined as a "discrete organized unit of work with a definite beginning and end, performed by an individual to accomplish the goals of a job" (Gael, 1983).

But why are "tasks" important in our search for good teachers? And what are the primary tasks teachers must accomplish in order to be termed good?

The Importance of Teacher Tasks

We tend to forget, especially in the wake of commission and conference reports calling for school reform, that teaching is a job. For teachers, schools and classrooms are workplaces (Dreeben, 1973). To perform their jobs well, teachers must accomplish a series of tasks. In many ways, tasks define the job of teaching.

The concept of "task" allows us to address the two primary criticisms of "behavior hypothesis." First, tasks allow us to understand *why* teachers do *what* they do. Or in

Brophy's (1981) and Rosenshine's (1983) terms, what *functions* are being served by their behaviors. Are teachers asking questions to raise important issues for their students, to gain the attention of particular students, or to ascertain whether the students remember what they were taught yesterday or before the weekend?

Second, certain tasks must be accomplished at certain times. Students must understand clearly the rules and routines governing their behavior in the classroom. If the task of clarifying these behavioral rules and routines is not completed during the first two or three weeks of the school year, teachers will have to work harder during the year to establish and maintain order. Similarly, teachers tend to assess students formally only after they believe they have accomplished the tasks of teaching to objectives and providing for student practice. Consequently, most teachers use pretests infrequently.

Tasks enable us to examine more precisely the *appropriateness* of teacher behaviors by focusing on the *sequence* of teacher tasks during years, terms, weeks, or days of instruction. In fact, the inappropriateness of tasks is far easier to judge than the inappropriateness of individual behaviors.

The completion of a particular task has an immediate payoff for a teacher. When a teacher has finished clarifying behavioral rules and routines, for example, the result is an increase in student understanding of and adherence to those rules and routines. When a teacher finishes assessing students, he or she gains an understanding of the current level of knowledge, skill, and/or motivation of the students. This new understanding can be used to make a variety of important decisions. Should I group students for instruction? Should I move on to the next topic? Should I assign this student a failing grade? Each task is linked to a specific, identifiable payoff. Interestingly, student achievement is not one of the payoffs of these individual tasks. Only when an interrelated set of individual teacher tasks is completed is student achievement affected substantially.

Major Teacher Tasks

The results of several studies support the importance of *eight primary teacher tasks*, those that teachers work to accomplish in their classrooms and learning areas. Equally important tasks that are not classroom-related, such as establishing and maintaining positive school-community relationships or serving as mentors for less experienced teachers, are excluded from the subsequent discussion.

Task 1. Planning Instruction

Instructional planning helps teachers achieve several purposes:

- To become *aware* of the important content and/or objectives, appropriate methods of assessing how well students have learned the content or mastered the objectives, and relevant instructional materials and teaching methods.
- To ensure the *availability* of needed instructional support materials (e.g., supplementary readings, audiovisual aids, computer software), assignments, and tests.
- To *estimate the amount of time* to be allocated to various topics, objectives, book chapters, or activities (e.g., laboratory experiments).
- To *align* curriculum content and objectives, tests and assessments, and instructional methods and strategies. Teachers are able to direct their teaching toward what they expect their students to learn and assess student learning accordingly.
- To *align* the content and objectives of individual lessons or units with larger course goals. Students are able to see the relationship between isolated facts and the major concepts and generalizations that "define" the subject matter being studied.
- To *design or establish* instructional and managerial rules and routines.

Instructional planning occurs at a variety of levels. Not all teachers plan at all levels. Some plan at the course level and the daily level. Others plan at the weekly level only, relegating the course-level planning to a textbook and the daily planning to "whatever happens."

Novice and experienced teachers plan in very different ways. Novice teachers tend to prepare extremely detailed plans and follow them exactly. When their plans do not conform with reality, new teachers become confused about what to do. Experienced teachers, on the other hand, prepare rather sketchy plans that guide, but do not determine what happens in the classroom. If the plans "break down," teachers make "seat of the pants" decisions and improvise.

Finally, teachers differ in their overall approach to planning (Clark and Yinger, 1979). Some are comprehensive planners who develop frameworks that guide their teaching based on their *predictions* of how things will (or will not) "work" in the classroom. Others are incremental planners, working in small steps, using day-to-day information to plan further action.

Good teachers may differ in the way in which they plan and the form of their plans, but they all tend to accomplish the instructional planning task.

Task 2. Assessing Students

Teachers assess their students to gain an understanding of the level of their knowledge, skill, attitudes, or values. Airasian (1984) has identified three types of assessments frequently made by teachers: "Sizing up" assessments help them gain a general knowledge of students, individually and collectively, at the beginning of the school year or term. Instructional assessments show teachers how their students have benefited (or are likely to benefit) from instruction as planned and delivered. Instructional assessment may include asking questions in class, giving students assignments, or administering teacher-made tests. Formal assessments are those required by law or by state or district mandate. Results from statewide minimum competency tests or nationally-normed achievement tests would be classified under the rubric of "formal assessment."

Teachers can use assessment information to make various instructional decisions:

- To decide when to move students to new content or objectives.
- To assign grades to students or to decide which students should move to the next grade level and which should be retained.

- To make decisions about appropriate content and objectives for students. Such assessments focus on the extent to which students possess the necessary cognitive prerequisites for learning particular content or objectives.
- To determine which students (or subgroups of students) need extra assistance, which will require additional effort on the part of the teacher, and arrangements for those students who do not need such assistance.

In any event, the form of the assessment is not as important as the information it provides.

Task 3. Clarifying Behavioral Rules and Routines

Clarifying behavioral rules and routines results in appropriate student behavior in the classroom. Students do not misbehave and react almost automatically when confronted with typical situations such as passing out papers, bidding for turns to talk in class, etc.

Rules and routines are so closely related that they are often confused. Simply stated, rules are statements of what is *not* permitted; they are *sanctions* or constraints on students' behavior in the classroom. Routines, on the other hand, are shared patterns of appropriate behavior. Routines provide acceptable and efficient ways of doing things that are done regularly in the classroom. While rules define inappropriate behavior, routines maintain the flow of activity in the classroom.

Several research studies have revealed at least three important characteristics of rules and routines that have become known and are widely accepted.

- Rules should be few in number and consistently enforceable.
- Important routines should be established early in the school year or as the situation arises.
- Rules and routines must be reinforced and maintained throughout the school year if they are to continue to be effective.

Task 4. Organizing the Classroom

Appropriate classroom organization can lead to two related payoffs.

1. The vast majority of classroom time is spent on instruction and learning.
2. The instructional format (e g., lecture, recitation, media work, seatwork) and grouping arrangements (e.g., whole class, small groups, individualized) are supportive of the overall course aims and the level of student sophistication. The likelihood of students actually learning what they are expected to learn is enhanced.

"Within class" instructional grouping is a case in point. Individual differences in achievement among secondary school students are several times larger than the differences among primary school students. These differences even in so-called homogeneous secondary classrooms are likely to be *larger* than those in heterogeneous (or "non-grouped") primary school classrooms. Some within-class flexible grouping can solve the problem.

As expected, "within-class" instructional grouping creates several problems for the classroom teacher—problems that demand good classroom management. Fortunately, recent reseach suggests some solutions. Teachers must:

- Make clear assignments to those groups with whom they do not directly interact.
- Create in these groups what Kounin and Sherman (1979) refer to as "holding power"—students tend to remain on-task even though the teacher is physically and psychologically removed from the group.
- Be aware of what Barr (1984) terms the "size of the remainder"—the number of students *not* in the group with which the teacher is interacting. In general, the larger the size of the remainder, the more difficult the classroom management problems.
- Consider the feasibility and desirability of what has been termed "cooperative learning" (Johnson, Maruyama, Johnson, Nelson, and Skon, 1981) or "team assisted learning" (Slavin and Karweit, 1981). In cooperative or team assisted learning, a group of students work together to achieve a common task or goal.

Task 5. Creating a Learning Set

This task is known by several names, but "creating a learning set" (Hunter, 1983) is most descriptive. Creating a set results in students who are ready to learn. Readiness here implies that students have both the cognitive and affective prerequisites for learning.

1. Students are aware of the specific content and/or objectives they are to learn.
2. The association of the new content and/or objectives with past, present, or future learning is clear.
3. Students are emotionally ready to learn. They have a true desire to learn or can be coerced into the effort needed to learn.

The task of creating a learning set is especially important for teachers faced with unprepared or reluctant learners. Recent research has shown that teachers can create a set by 1) providing students with the necessary cognitive prerequisites just prior to their teaching of new content and/or objectives, 2) clearly communicating their expectations about what students are to learn and how they are to demonstrate that learning, and 3) making use of incentives, reinforcement, and other principles of behavioral psychology.

Task 6. Teaching to Objectives

When this task is accomplished, students learn precisely what they were expected to learn. Teachers who teach to objectives have some instructional purpose in mind when they tell students what they tell them, show students what they show them, or assign the materials they assign them.

Such teachers do not assign *Macbeth* simply because all students should read this classic; rather, they assign it because they hope that the students will learn about the development of plot or the moral struggle of the characters.

Teaching to objectives includes both initial teaching and reteaching as necessary. In fact, the importance of reteaching is crystallized within the task of teaching to objectives.

Direct teaching and clarity of expression are the principal techniques of teaching to objectives. Direct teaching occurs when the teacher is actively involved in transmitting clearly defined knowledge or skills to the students. Clarity of presentation implies that teacher transmission of knowledge or skills is made in such a way that the vast majority of students understand it and learn from it.

Rosenshine (1983) offers several empirically-derived suggestions for helping teachers teach to objectives. Teachers should:

1. Model or demonstrate the desired learning for their students (when appropriate).
2. Organize and present the information logically.
3. Focus on one major point at a time.
4. Give detailed and redundant explanations for different points.
5. Use many, varied, and specific examples to illustrate the major points.
6. Check for student understanding before moving from one major point to another, asking probing questions when appropriate and necessary.
7. Stay with the major points until all or almost all students understand them.

Task 7. Providing for Student Practice

Practice has two immediate payoffs. Students remember things more quickly and do them faster, and they remember what they've learned for longer periods of time. Practice exercises and activities also serve an assessment function. Teachers find out how well students benefited from the initial teaching and which students may need additional instruction.

Two types of practice have been identified by researchers. *Guided practice* occurs under the supervision of the teacher, aide, tutor, or classmate, is typically of short duration, and is intended to help students succeed. *Independent practice* take place away from the direct supervision of the teacher, aide, tutor, or classmates. Homework is a prime example of independent practice. The relationship between the two types of practice is quite clear: students should be helped to achieve a reasonable success rate in guided practice before they are permitted to practice on their own.

Rosenshine (1983) again makes several research-based recommendations for the improvement of guided practice.

1. Students should experience a high rate of success.
2. "Prompts" should be used as necessary to lead students to correct answers.
3. Students should be asked to explain their answers (e.g., "how did you arrive at that answer?").
4. Errors should be corrected as they occur and not be allowed to accumulate.
5. If common errors are made by a fairly large number of students, reteaching may be necessary.

Rosenshine also offers three suggestions about independent practice: directions for independent practice should be clear and concise; students' understanding of the directions should be checked before they are allowed to proceed; and to the extent possible, teachers should actively monitor practice and provide guidance as needed.

Task 8. Maintaining Student Involvement in Learning/ Disciplining Inappropriate Behavior

Although it may appear that two separate elements are combined to form the eighth teacher task, they are in fact two sides of the same coin. The primary task is that of maintaining student involvement in learning—keeping students engaged in learning or "on-task." The secondary task, disciplining inappropriate behavior, becomes increasingly important when students are *not* involved in learning. Students put forth the mental effort to learn well what they are expected to learn.

Anderson (1981, 1984) has identified a series of instructional factors that are associated with higher levels of student engaged time, or time-on-task. Students tend to be more involved in learning and spend more of their time on-task when:

- The assigned tasks are of appropriate difficulty
- The assigned tasks are interesting or enjoyable
- Performance on the assigned tasks is frequently monitored and assessed
- The mechanical details of classroom behavior are reduced to a minimum
- The physical conditions under which learning occurs are conducive to learning
- Teachers maintain the flow of activity in the classroom
- Student curiosity is aroused
- Clear expectations are communicated to students
- New learning is related to previous learning
- Attention is focused on the relevant, important aspects of the instructional materials and activities
- Feedback is provided on the adequacy or excellence of student task performance
- Task-oriented behavior is reinforced.

Exempli Gratia

Several school districts are currently involved in putting the research on effective teaching into practice.

NORWALK-LA MIRADA UNIFIED SCHOOL DISTRICT, 12820 S. Pioneer Blvd., Norwalk, Calif. 90650. *Contact*: Betty Coogan, Assistant Superintendent for Educational Support Services. Telephone (213) 868-0431.

A program of inservice training derived from Madeline Hunter's clinical theory of instruction has been successfully introduced to administrators and teachers of the Norwalk-LaMirada district. The program helps teachers develop knowledge and skills related to planning instruction, creating a learning set, teaching to objectives, assessing students, and maintaining student involvement in learning.

The principal's role is critical in the clinical theory of instruction. Principals are responsible for follow-up to teacher inservice training that is provided at each site. Follow-up consists primarily of conducting periodic observations, meeting with the teachers after the observations, and offering suggestions and strategies for improvement. Since the role of the principal is so central, they receive inservice training before it is offered to classroom teachers. Furthermore, the work of the principals is monitored and their skills enhanced with annual site visits from district personnel.

Surveys of actual and observed classroom practices are currently being distributed to teachers and principals. These surveys will help to evaluate the effect of the inservice program on the classroom behavior of teachers. In addition, a coaching program has been initiated; selected teachers work with a designated coach to upgrade their knowledge and skills.

TUPELO MUNICIPAL SEPARATE SCHOOL DISTRICT, P.O. Box 557, Tupelo, Miss. 38802. *Contact:* Julian Prince, Superintendent. Telephone (601) 841-8850.

A single fundamental belief underlies the approach to staff development and teacher evaluation in the Tupelo district. Teaching and learning do not occur in isolation, so the entire program must support classroom teaching and learning. Expectations for effective classroom teaching are clearly stated in the *Professional Standards Scale (PSS)* used to observe and evaluate teaching performance. The PSS focuses the observer/evaluator's attention on a comprehensive set of teacher tasks: planning instruction (both long-term and short-term), assessing students, creating a learning set, teaching to objectives, providing opportunities for student practice, maintaining student involvement in learning, and clarifying behavioral rules and procedures.

The approximately 290 teachers in the district are divided into three equal-size groups for staff development. Each teacher in each group moves through a three-year evaluation/staff development program. During the first year, the emphasis is on effectiveness materials developed by Jane Stallings of Peabody College in Nashville. During the second year, teachers engage in "peer mediated formative staff development." Teachers meet periodically in quality control circles to raise questions about instructional improvement and discuss action-oriented answers. During the third and final year, teachers develop an understanding of the research on effective teaching and the basic principles and practices of Madeline Hunter's mastery teaching.

A clear set of instructional management objectives has been established to support principals in conducting formative and summative teacher evaluations.

PASCO COUNTY SCHOOLS, 7227 U.S. Highway 41, Land O'Lakes, Fla. 33539. *Contact:* Jennifer G. Smith, Director of Staff Development and Communications. Telephone (813) 996-3600.

The Pasco County Schools have committed funds for the comprehensive training of administrators and teachers in the key concepts and skills of teaching effectiveness. Performance Learning Systems, Inc., of Emerson, New Jersey, began the training during the summer of 1984 with approximately 100 district-level and building-level administrators. These administrators were helped to develop skills in verbal and nonverbal communication, non-confrontational problem solving, instructional planning, and "coaching" teachers.

Ninety teachers began training in 1985 in three interrelated Performance Learning Systems programs: Teaching Effectiveness and Classroom Handling (TEACH), Professional Refinements in Developing Effectiveness (PRIDE), and Teaching Through Learning Channels. These programs focus on the teacher tasks of planning instruction, organizing instruction, teaching to objectives, clarifying behavioral rules and procedures, and maintaining student involvement in learning. Each of these 90 teachers, in turn, is responsible for training 6 other classroom teachers at his or her school during the next two years.

NEW BRUNSWICK SCHOOL DISTRICT, 24 Bayard St., New Brunswick, N.J. 08901. *Contact*: Penelope Lattimer, Assistant Superintendent for Curriculum and Instruction. Telephone (201) 745-5300.

The primary inservice program of the new Brunswick School District, Achievement Directed Leadership (ADL) was developed at Research for Better Schools in Philadelphia, Pa. ADL helps administrators, supervisors, and teachers work together to improve critical classroom conditions: use of time, the enhancement of prior learning, the degree to which the content covered is fairly extensive and is reflected in formal tests (e.g., unit tests, standardized tests), and the level of students' success on assigned work.

Principals conduct periodic teacher observations and hold post-observation conferences, and the superintendent meets with principals to discuss school level data. The ADL program was initially implemented during the 1981-1982 academic year. Student achievement gains registered during the past several years have generally convinced both administrators and teachers of the effectiveness of the program.

Selected References

Airasian, P.W. *Classroom Assessment and Educational Improvement.* Portland, Oreg.: Northwest Regional Educational Laboratory, 1984.

Anderson, L.W. "Instruction and Time-on-Task: A Review." *Journal of Curriculum Studies* 13(1981):289-303.

———. "Attention, Tasks, and Time." In *Time and School Learning: Theory, Research, and Practice*, edited by L. W. Anderson. London: Croom Helm Publishers, 1984.

Barr, R. Personal communication, 1984.

Bloom, B. S. "Innocence in Education." *School Review* 80(1972):332-352.

Brophy, J. "Teacher Praise: A Functional Analysis." *Review of Educational Research* 51(1981):5-32.

Brophy, J., and Evertson, C. "Context Variables in Teaching." *Educational Psychologist* 12(1978):310-316.

Clark, C., and Yinger, R. "Teachers' Thinking." In *Research on Teaching*, edited by P. Peterson and H. Walberg. Berkeley, Calif.: McCutchan Publishing Corporation, 1979.

Dreeben, R. "The School as a Workplace." In *Second Handbook of Research on Teaching*, edited by R. Travers. Chicago: Rand McNally, 1973.

Gael, S. *Job Analysis: A Guide to Assessing Work Activities*. San Francisco: Jossey-Bass Publishers, 1983.

Getzels, J. W., and Jackson, P. W. "The Teacher's Personality and Characteristics." In *Handbook of Research on Teaching*, edited by N. L. Gage. Chicago: Rand McNally 1963.

Hunter, M. *Mastery Teaching*. El Segundo, Calif.: TIP Publications, 1983.

Johnson, D.; Maruyama, G.; Johnson, R ; Nelson, D.; and Skon, L. "Effects of Cooperative, Competitive, and Individualistic Goal Structures on Achievement: A Meta-Analysis." *Psychological Bulletin* 89(1981):47-62.

Kounin, J. S., and Sherman, L. W. "School Environments as Behavior Settings." *Theory into Practice* 18(1979):145-149.

Rosenshine, B. "Teaching Functions in Instructional Programs." *The Elementary School Journal* 83(1983):335-351.

Slavin, R. E., and Karweit, N. "Cognitive and Affective Outcomes of an Intensive Student Team Learning Experience." *Journal of Experimental Education* 50(1981):29-35.

KUDOS

This *Curriculum Report* was prepared by Lorin W. Anderson, associate professor of education at the University of South Carolina, Columbia.

Curriculum Report is a bi-monthly publication of the National Association of Secondary School Principals, 1904 Association Dr., Reston, Va. 22091. Annual subscription rate of $4 included in the dues of NASSP. Individual copies, $1; 2-10 copies, 85¢ each; 11-99 copies, 75¢ each; 100 or more, 60¢ each. *Payment must accompany orders of $15 or less.*