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ABSTRACT

Following a precis of research findings on the topic of teacher effectiveness, this resource bibliography presents sources that address three major questions about teacher instructional effectiveness: (1) What do effective teachers know? (2) What do effective teachers do? and (3) What attitudes do effective teachers have? Each citation is annotated. (JD)

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# Linking R&D to Practice

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# Teacher Instructional Effectiveness

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## An Annotated Resource List

Since the publication of *A Nation at Risk* and the many reports that have followed, both the educational and the more general community have looked closely at what is happening in our nation's classrooms. This resource list focuses on the instructional effectiveness of the teachers who have the greatest influence over those classrooms.

The ERIC Descriptors define teacher effectiveness as "the degree to which teachers are successful in satisfying their objectives, obligations, or functions." Brophy and Good (1986) cite most definitions as including elements that deal with "success in socializing students and promoting their affective and personal development in addition to success in fostering their mastery of formal curricula." As a result of process-product research done in the '70s and '80s, much more is now known about what constitutes teacher effectiveness: the knowledge, behaviors, and attitudes teachers exhibit that encourage student learning. Within this, the context of the individual classroom must be remembered. "Effective instruction involves selecting (from a large repertoire) and orchestrating those teaching behaviors that are appropriate to the context and to the teacher's goals, rather than mastering and consistently applying a few (generic) teaching skills" (Brophy & Good, 1986).

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Teacher effectiveness looks at a broad range of student outcomes, not just achievement gain. The research most commonly reviewed, however, addresses teacher effects on student achievement, especially research on math and reading scores. Rosenshine and Stevens (1986), for example, see their work on teacher functions as being more or less applicable depending on the content. The explicit teaching functions apply most in those areas where there is a set body of knowledge or a skill to be taught in a step-by-step manner, along with the teaching processes or skills to be applied in other settings. These functions are least applicable in "ill-structured" settings, such as in teaching composition and writing of term papers, analysis, social issues, etc., where unique or creative responses are sought.

Brophy and Good (1986) state that, while it seemed that explicit skills applied more "to early grades or to basic rather than more advanced skills, it now appears that they apply to any body of knowledge or set of skills that has been sufficiently well organized and analyzed so that it can be presented (explained, modeled) systematically and then practiced or applied during activities that call for student performance that can be evaluated for quality and (where incorrect or imperfect) given corrective feedback."

This resource bibliography presents resources that address three major questions about teacher instructional effectiveness:

- What do effective teachers know?
- What do effective teachers do?

- What attitudes do effective teachers have?

Many other questions surround this complex and very human and subjective issue, and many issues still need to be addressed in research on teacher effectiveness. Information on pedagogy that increases the likelihood of students acquiring skills, attitudes, and behaviors necessary for dealing effectively with the complex society they will encounter must be shared with practitioners and with their supervisors. The recent reports on education all highlight what education as it is today does not do; however, if we are to be other than a "nation at risk," we will have to go beyond simply doing better what we have always done. We must pioneer further into the field of effectiveness as it relates to assuring the highest quality preparation possible for the highest number of students. Much has been learned about "what works" for increasing student learning. Much more remains to be done. The questions posed here are still not fully answered.

Contributors to this annotated resource include

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**REFERENCES IN TEXT**

Brophy, J. "Teacher Effects Research and Teacher Quality." *Journal of Classroom Interaction, Vol. 22, No. 1, 1986.*

Brophy, J., and T. Good. "Teacher Behavior and Student Achievement." *Handbook of Research on Teaching.* New York: Macmillan Publishing Company, 1986.

Dunn, R., and A. Bruno. "What Does the Research on Learning Styles Have to Do with Mario?" *The Clearing House.* September, 1984.

Letteri, C. "Cognitive Profile: Relationship to Achievement and Development." Paper presented at meeting of Congress of World Education Research Association. Helsinki, Finland: 1982.

Palonsky, Stuart P. "Teaching Effectiveness in Secondary Schools: An Ethnographic Approach." *The High School Journal.* November, 1977.

Rosenshine, B., and R. Stevens. "Teaching Functions." *Handbook of Research on Teaching.* New York: Macmillan and Company, 1986.

Stallings, J. "Effective Use of Classroom Time." *Promoting School Excellence through the Application of Effective Schools Research.* Beth D. Sattes (ed), Regional Exchange Workshop. 1984.

Other references are included in the annotations.

## What do effective teachers know?

What a teacher needs to know can be broken into four areas: content knowledge, pedagogical knowledge, curricular knowledge (Shulman, 1986), and knowledge of students (Brophy, 1986). In order to make instructional decisions, a teacher must know what to represent (content), how to represent it (pedagogy), what materials are appropriate (curricular), and what manner of presentation will speak to the student's ability to process the content and relate to it (knowledge of students).

Within this knowledge of students lies the area of learning styles. Studies by both Letteri (1982) and Dunn and Bruno (1984) show gains in achievement when student learning profiles are used to help diagnose style and to prescribe strategies for instruction and environment for learning.

Annotations of two articles that help define what effective teachers know follow.

Berliner, David. "In Pursuit of the Expert Pedagogue." *Educational Researcher*, 15, August-September, 1986.

As a next step to the research on teacher effectiveness, Berliner decided to look at the difference in behaviors between experienced and novice teachers. There was a need to discover the internal criteria that are used during a teaching episode. The performance of an expert can be a starting point for novice teacher training.

Various differences between the novice and expert have been studied, such as: ways of knowing about children, their background, and how they will perform in a classroom; an ability to infer what is happening and to categorize and analyze what problems exist; and rapid and accurate recognition of patterns. Sensitivity to the characteristics of the environment is also found in experts over novices, as well as flexibility to change tracks in instruction. Self-regulatory or meta-cognitive differences exist, such as using long-range time and anticipating situations in planning.

Recognition and diagnosis of problems are heightened in an expert. Clarity of goals is also important. Confidence in classroom discipline appear as additional differences. It takes up to five years for all these skills to be present.

The need to continue studying the expert pedagogues and to recognize and applaud their expertise is Berliner's conclusion.

Shulman, Lee S. "Those Who Understand: Knowledge Growth in Teaching." *Educational Researcher*, 15, February, 1986.

Shulman traces the types of tests that teachers have been required to take over time, analyzing what they were being expected to know for success on these tests. The combination of

content versus pedagogy has been a swinging pendulum. He identifies a "missing paradigm" on teacher knowledge of various content, pedagogy, and curricular knowledge. He also identifies forms of knowledge: propositional, case, and strategic. This information should drive both educational research and teacher preparation to a more case study approach.

## What do effective teachers do?

Stallings (1984) identified basic categories for teacher behaviors that encourage student learning. These include planning and preparation, classroom management, evaluation of student learning, teacher expectations, and, while certainly not documented in the research, the all important human element. This last is often overlooked in favor of the more observable behaviors but can often account for the difference between the effective teacher and the ineffective teacher. While teacher expectations and the human element also fall into teacher attitudes, teacher behaviors communicate those attitudes to students.

The following annotations describe books, articles, and a videotape that define behaviors of effective teachers.

Good, Thomas L. "Teacher Effects." *Making Our Schools More Effective*. Proceedings of three state conferences, June, 1984.

Five categories of teacher behaviors are associated with student achievement: time usage, classroom management, teacher expectations, teacher effectiveness research, and specific teacher behaviors.

Correlations exist between student achievement scores and certain teacher behavior patterns. "Successful" teachers were identified as those who were more active in presenting, explaining, illustrating, and reinforcing concepts. Teachers who used more seatwork saw lower student achievement gains.

Teacher effect does not equal teacher effectiveness. Research has primarily emphasized the effect of

instructional behavior on the mean or average performance of students on achievement tests.

The research on classroom performance will only be effective when used in the classroom to inform decisions that also take into account knowledge about student learning/development and subject matter, curriculum development.

Hunter, Madeline. "Madeline Hunter Describes a Good Teacher." *Educational Leadership*, October, 1979.

In this compilation of articles are diagrams and explanations that describe an effective teacher and what he/she does. The areas that one would observe include: 1) teaching to an objective; 2) correct level of difficulty; 3) monitoring and adjusting; and 4) use of principles of learning (motivation, rate/speed of learning, retention, and transfer). Teachers, like artists or musicians, need feedback (observation) to improve their performance.

Teaching is both a science and an art, but one particular article concentrates on the known science of teaching. The constant stream of decisions that a teacher makes are in the areas of content, learner behavior, and teaching behaviors. We need a common language to be able to talk to each other about teaching.

Hunter describes the "synthesis of science and sensitivity" that goes on in educational situations. Four components for professional development are identified and described. They are: 1) identification of decisions a teacher must make; 2) inservice that enables the teacher to combine science and art in teaching; 3) films and tapes

that provide opportunities to predictably "see" how it looks in the classroom; and 4) a diagnostic-prescriptive instrument that provides knowledge of results in professional performance.

Wolfe, Pat, and Pam Robbins. *Instructional Decisions for Long-Term Learning*. ASCD Videotape Series, 1987.

The videotape focuses on how students think and the implications for teacher decision making. Lesson Design and Active Participation strategies are presented in a decision-making framework. Suggestions for support through training and coaching for reflective decision making are also given.

Rosenshine, Barak. "Synthesis of Research on Explicit Teaching." *Educational Leadership*, 43, April, 1986.

The research since 1974 has identified a pattern of instruction that presents "materials in small steps, pausing to check for student understanding, and eliciting active and successful participation from all students." The findings speak to "well-structured" disciplines where performance skills or mastery of a body of knowledge are key. They do not apply as well to less well structured areas (composition, term papers, reading comprehension, analyzing literature or historical trends, etc.).

The author identifies six teaching functions: review, presentation, guided practice, correction and feedback, independent practice, and weekly and monthly reviews. Modifications are suggested for slower and stronger students.

## What do effective teachers do?

Rosenshine, Barak, and Robert Stevens. "Functions of Teaching." *Handbook of Research on Teaching*, New York: Macmillan and Co., 1986.

Rosenshine and Stevens clearly delineate the areas that explicit teaching covers. They also call this paradigm systematic teaching. They highlight the areas for which this approach is applicable or not, and for whom this approach is most relevant. Rosenshine and Stevens have also found that the cooperative learning models can be studied in this approach, since some of the same functions occur, but not with the teacher as the focal point.

Cohen, E. *Designing Groupwork: Strategies for the Heterogeneous Classroom*. New York: Teachers College Press, 1987.

This author treats groupwork from a sociological perspective and gives practitioners valuable ideas for creating efficient groups that result in harmonious, equality-oriented classrooms.

Gibbs, J. *Tribes: A Process for Social Development and Cooperative Learning*. Santa Rosa, CA: Center Source Publications, 1987.

This source explains the theory and gives instructions for building cooperative learning groups. It contains 121 activities, instruments, and resources.

Glasser, W. *Control Theory in the Classroom*. New York: Harper & Row, 1986.

This book gives a theoretical and practical view on how cooperation can be used in the classroom to improve (especially secondary) students' sense of control and efficacy.

Johnson, David W., Roger T. Johnson, Edythe J. Holubec. *Circles of Learning: Cooperation in the Classroom (Revised)*. Edina, MN: Interaction Book Co., 1986.

This slim book is a useful introduction to cooperative learning. It gives the research findings, essential characteristics, and guidelines for administrators.

Slavin, R. "Cooperative Learning." *Review of Educational Research*, 50, 1980.

This comprehensive review of research on cooperative learning gives information about how research is conducted -- the variables, constructs, methods, etc. The results indicate that learning and attitudes benefit significantly from cooperative learning approaches.

Slavin, R. *Student Team Learning: An Overview and Practical Guide*. Washington, DC: National Education Association, 1986.

This manual gives step-by-step instructions on how to use heterogeneous teams in cooperative learning. Jigsaw, Teams-Games-Tournaments, and other strategies are described.

Squires, D.A., W. F. Huitt, and J.R. Segars. *Effective Schools and Classrooms*. Alexandria, VA: Association for Supervision and Curriculum Development, 1983.

This book presents a research-based model of school and classroom effectiveness. It emphasizes leadership, climate, supervision, teaching behavior, and student behavior.

Note: Classroom management and the teaching of thinking skills are treated in separate resource bibliographies entitled, "Classroom Management: An Annotated Resource List" and "Teaching for Thinking: An Annotated Resource List," available from The Regional Laboratory.

## *What attitudes do effective teachers have?*

Much work has been done in the area of teacher expectations and their effect on student achievement. Rutter and others (1979) found that "students were likely to work better if taught in an atmosphere of confidence that they can and will succeed in the tasks they are set." Good and Brophy in Looking in Classrooms have also identified behaviors that communicate expectations to students. Often teachers' perceptions of students' abilities are established early in the year. These can be instrumental in determining the level of success of the student at the end of the year. Teachers' perceptions determine their behaviors, which in turn have an impact on how the students view themselves and their abilities, which in turn affects their level of work.

The well-known French professor at Dartmouth, John Rassias, speaks of being an "authentic person" in the classroom. A caring climate has been found to be crucial to classroom effectiveness, especially at the secondary level. Palonsky (1977) found that "the student must have a positive, caring perception of the teacher if the teacher is to receive that cooperation which will result in increased student achievement." Teachers themselves insist upon respect and love of children as primary characteristics for an effective teacher. A supportive environment in which a student does not feel "put down" for incorrect answers has been identified to be more conducive to learning, especially for students who have experienced failure in the past.

Brief annotations of two resources that define attitudes of effective teachers follow.

Gibson, Sherri, and Myron H. Demo. "Teacher Efficacy: A Construct Validation." *Educational Psychology*, August, 1984.

Teacher efficacy has been identified as a variable accounting for individual differences in teaching effectiveness. This study of elementary school teachers developed an instrument to measure teacher efficacy, provided construct validation support for the variable, and examined the relationship between teacher efficacy and observable teacher behaviors.

Good, Thomas L. "Teacher Expectations." *Talks to Teachers*. D. Berliner and B. Rosenshine, Eds. New York: Random House, 1987.

Teacher expectations have been found to relate to student achievement. Desirable expectations are described along with ways to work with low achievers. Questioning and grouping are only two of the many areas covered.

**Programs for teacher instructional effectiveness**

The following commercial programs, available through Performance Learning Systems, Inc. 446 Old Hook Road, Suite 25-26 Emerson, NJ 07630

are directed to teacher effectiveness behaviors in the classroom: Project TEACH (Teacher Effectiveness and Classroom Handling)

P.R.I.D.E. (Professional Refinement in Developing Effectiveness)

Teaching through Learning Channels Coaching Teachers to Higher Levels of Effectiveness

The following two programs are part of the National Diffusion Network's validated programs that work:

**Resident Supervisory Support for Teachers (RSST)**

RSST is a peer supervision program designed to improve classroom instruction by training school personnel to use effective clinical supervision, with an emphasis on a peer clinical approach.

Contact: Rosalie B. Huff  
Banneker Academic School  
800 Euclid Street N.W.  
Washington, DC 20001

**Project INSERVICE**

Project INSERVICE's goals are the improvement of teaching skills for significant gains in academic achievement and student attitude related to self, school, and learning.

Contact: John Zerges, Director  
Berthalto Unit 8 Schools  
322 East Central  
Berthalto, IL 62010

**If teachers and administrators want to use these new ideas, what can they learn from research about managing change and conducting effective staff development?**

Loucks-Horsley, Susan, and Leslie Hergert. *An Action Guide to School Improvement*. Andover, MA: The NETWORK, Inc., 1985.

This book describes a seven-step process for implementing new ideas in schools. Based on the findings of recent research, the steps range from initiating a project through planning for implementation through refining and maintaining it.

Loucks-Horsley, S., C. Harding, M. Arbuckle, L. Murray, C. Dubea, and M. Williams. *Continuing to Learn: A Guidebook for Teacher Development*. Andover, MA: The Regional Laboratory, 1987.

This book describes the characteristics of effective staff development programs and a process for developing them. It discusses twelve different approaches that are alternatives to traditional inservice workshops, illustrating how they can be used to help teachers learn new knowledge and skills.

Hord, Shirley, William Rutherford, Leslie Hulg-Austin, and Gene Hall. *Taking Charge of Change*. Austin, TX: Southwest Educational Development Laboratory, 1987.

This book describes the Concerns-Based Adoption Model (CBAM), a mode for understanding the change process and designing strategies for implementation. Each dimension of the model is discussed, with examples of how it looks in practice and tools for managing the change process.

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