Five Models of Staff Development for Teachers

In the early 1970s, a growing concern about the effectiveness of inservice education resulted in a spate of studies to determine the attitudes of educators about these programs (Ainsworth, 1976; Brim & Tollett, 1974; Joyce & Peck, 1977; Zigarmi, Betz, & Jensen, 1977). The findings indicated nearly unanimous dissatisfaction with current efforts, but a strong consensus that inservice was critical if school programs and practices were to be improved (Wood & Klein, 1987).

During the late 1970s and early 1980s, several major studies and reviews contributed to our understanding of the characteristics of effective staff development, focusing not on attitudes, but on actual practices (Berman & McLaughlin, 1978; Kells, 1980; Lawrence, 1974; Yager, Howey, & Joyce, 1980). The resulting list of effective practices, well known by now, included:

- Programs conducted in school settings and linked to school-wide efforts
- Teachers participating as helpers to each other and as planners, with administrators, of inservice activities
- Emphasis on self instruction, with differentiated training opportunities
- Teachers in active roles, choosing goals and activities for themselves
- Emphasis on demonstration, supervised trials, and feedback: training that is concrete and ongoing over time
- Ongoing assistance and support available on request

Staff development came of age in the 1980s. It was the focus of countless conferences, workshops, articles, books, and research reports. State legislators and administrators of local school districts saw staff development as a key aspect of school improvement efforts. Many school districts initiated extensive staff development projects to improve student learning. Research on these projects and craft knowledge generated by staff developers have substantially advanced our understanding of effective staff development practices beyond the overview studies of the early 1980s referred to above.

**Introduction**

In spite of this recent intense, widespread interest in staff development, much remains to be learned about the process. This article organizes what is known about effective staff development into five models currently being espoused and used by staff developers. A review of the supporting theory and research on these models is followed by a description of what is currently known about the organizational context that is required to support successful staff development efforts.

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staff development efforts. The conclusion discusses what can be said with confidence about effective staff development practice and what remains to be learned. First, however, are definitions of the key terms and a description of the literature that is used throughout the article.

Definitions

Staff development is defined as those processes that improve the job-related knowledge, skills, or attitudes of school employees. While participants in staff development activities may include school board members, central office administrators, principals, and non-certified staff, this article focuses on staff development for teachers. In particular, it examines what is known about staff development that is intended to improve student learning through enhanced teacher performance.

Two uses of the word “model” have been combined in an effort to both conceptualize staff development and make this conceptualization useful to staff developers. First, borrowing from Ingvarson’s (1987) use of the term, a model can be seen as a design for learning which embodies a set of assumptions about (a) where knowledge about teaching practice comes from, and (b) how teachers acquire or extend their knowledge. Models chosen for discussion differ in their assumptions. Second, adapting Joyce and Weil’s (1972) definition of a model of teaching, a staff development model is a pattern or plan which can be used to guide the design of a staff development program.

Each staff development model presented below is discussed in terms of its theoretical and research underpinnings, its critical attributes (including its underlying assumptions and phases of activities), and illustrations of its impact on teacher growth and development. The literature supporting these models is of several types. First, for each model, the theoretical and research bases that support its use in improving teachers’ knowledge, skills, or attitudes are considered. The question asked was: Why should one believe that this model should affect teachers’ classroom behavior? Second, program descriptions were reviewed in which these models were applied. The question asked was: What evidence exists that demonstrates that this model can be implemented by staff developers in schools and school districts? Third, data about outcomes was sought. The question asked was: What evidence indicates that this model actually makes a difference in teacher performance?

An Overview

This article presents five models of staff development: (a) individually-guided staff development, (b) observation/assessment, (c) involvement in a development/ improvement process, (d) training, and (e) inquiry.

Individually-guided staff development refers to a process through which teachers plan for and pursue activities they believe will promote their own learning. The observation/assessment model provides teachers with objective data and feedback regarding their classroom performance. This process may in itself produce growth or it can provide information that may be used to select areas for growth.

Involvement in a development/improvement process engages teachers in developing curriculum, designing programs, or engaging in a school improvement process to solve general or particular problems. The inquiry model requires that teachers identify an area of instructional interest, collect data, and make changes in their instruction based on an interpretation of those data. The training model (which may be synonymous with staff development in the minds of many educators) involves teachers in acquiring knowledge or skills through appropriate individual or group instruction.

Next, this article examines the organizational context that is required to support these models. Our discussion includes organizational climate, leadership and support, district policies and systems, and participant involvement.

The final section looks for gaps in the knowledge base of staff development, identifying areas about which there is still more to learn and areas that as yet remain unexplored by researchers. The hope is that this article and the chapter from which it is adapted will serve as both a signpost for how far we have come in the past 20 years in our understanding of effective staff development practices and a springboard for future research in this vital area.

Staff development came of age in the 1980s. It was the focus of countless conferences, workshops, articles, books, and research reports. State legislators and administrators of local school districts saw staff development as a key aspect of school improvement efforts. Many school districts initiated extensive staff development projects to improve student learning.
Five Models of Staff Development
1. Individually-Guided Staff Development

Teachers learn many things on their own. They read professional publications, have discussions with colleagues, and experiment with new instructional strategies, among other activities. All of these may occur with or without the existence of a formal staff development program.

It is possible, however, for staff development programs to actively promote individually-guided activities. While the actual activities may vary widely, the key characteristic of the individually-guided staff development model is that the learning is designed by the teacher. The teacher determines his or her own goals and selects the activities that will result in the achievement of those goals. Perhaps a sense of this model is best represented in an advertisement for the Great Books Foundation which reads: “At 30, 50, or 70, you are more self-educable than you were at 20. It’s time to join a Great Books reading and discussion group.”

Underlying assumptions. This model assumes that individuals can best judge their own learning needs and that they are capable of self direction and self-initiated learning. It also assumes that adults learn most efficiently when they initiate and plan their learning activities rather than spending their time in activities that are less relevant than those they would design. (It is, however, true that when individual teachers design their own learning there is much “reinventing of the wheel” which may seem inefficient to some observers.) The model also holds that individuals will be most motivated when they select their own learning goals based on their personal assessment of their needs.

Theoretical and research underpinnings. According to Lawrence’s (1974) review of 97 studies of inservice programs, programs with individualized activities were more likely to achieve their objectives than were those that provided identical experiences for all participants. Theory supporting the individually-guided model can be found in the work of a number of individuals. Rogers’ (1969) client-centered therapy and views on education are based on the premise that human beings will seek growth given the appropriate conditions. “I have come to feel.” Rogers wrote, “that the only learning which significantly influences behavior is self-discovered, self-appropriated learning” (p. 153).

The differences in people and their needs are well represented in the literature on adult learning theory, adult development, learning styles, and the change process. Adult learning theorists (Kidd, 1973; Knowles, 1980) believe that adults become increasingly self-directed and that their readiness to learn is stimulated by real life tasks and problems. Stage theorists (Levine, 1989) hold that individuals in different stages of development have different personal and professional needs. Consequently, staff development that provides practical classroom management assistance to a 22-year-old beginning teacher may be inappropriate for a teaching veteran who is approaching retirement.

Learning styles researchers (Dunn & Dunn, 1978; Gregorc, 1979) argue that individuals are different in the ways they perceive and process information and in the manner in which they most effectively learn (e.g., alone or with others, by doing as opposed to hearing about). Research on the Concerns-Based Adoption Model (CBAM) (Hall & Loucks, 1978) indicates that as individuals learn new behaviors and change their practice, they experience different types of concerns that require different types of responses from staff developers. For instance, when first learning about a new instructional technique, some teachers with personal concerns require reassurance that they will not be immediately evaluated on the use of the strategy, while a teacher with management concerns wants to know how this technique can be used in the classroom.

Taken together, these theorists and researchers recognize that the circumstances most suitable for one person’s professional development may be quite different from those that promote another individual’s growth. Consequently, individually-guided staff development allows teachers to find answers to self-selected professional problems using their preferred modes of learning.

Phases of activity. Individually-guided staff development consists of several phases: (a) the identification of a need or interest, (b) the development of a plan to meet the need or interest, (c) the learning activity(ies), and (d) assessment of whether the learning meets the identified need or interest. These phases might be undertaken informally and almost unconsciously, or they may be part of a formal, structured process. Each phase is explained in greater detail below.

With the identification of a need or interest, the teacher considers what he or she needs to learn. This assessment may be done formally (e.g., the completion of a needs assessment process or as a result of evaluation by a supervisor) or occur more spontaneously (e.g., a conversation with a colleague or reflection upon an instructional problem). The need or interest may be remedial (e.g., “I’ve really come to dislike my work because of the classroom management problems I’m having”) or growth-oriented (e.g., “I’m intrigued by recent research on the brain and want to better understand its implications for student learning”).

Having identified the need or interest, the teacher selects a learning objective and chooses activities that will lead to accomplishing this objective. Activities may include workshop attendance, reading, visits to another classroom or school, or initiation of a seminar or similar learning program.

The learning activity may be single session (e.g., attendance at a workshop on new approaches to reading in the content areas) or occur over time (e.g., examination of the research on retaining students in grade). Based on the individual’s preferred mode of learning, it may be done alone (e.g., reading or writing), with others (e.g., a seminar that considers ways of boosting the self-esteem of high school students) or as a combination of these activities.

When assessing formal individually-guided processes the teacher may be asked to make a brief written report to the funding source or an oral report to colleagues. In other instances the teacher may simply be aware that he or she now better understands something. It is not uncommon that as a result of this assessment phase the teacher may realize how much more there is to be learned on the topic or be led to a newly emerging need or interest.

Illustrations and outcomes. Individually-guided staff development may take many forms. It may be as simple as a teacher reading a journal article on a
topic of interest. Other forms of individually-guided staff development are more complex. For instance, teachers may design and carry out special professional projects supported by incentive grants such as a competitive "teacher excellence fund" promoted by Boyer (1983) or "mini-grants" described by Mosher (1981). Their projects may involve research, curriculum development, or other learning activities. While evidence of outcomes for such programs is not substantial, there are indications that they can empower teachers to address their own problems, create a sense of professionalism, and provide intellectual stimulation (Loucks-Horsley, Harding, Arbuckle, Dubee, Murray, & Williams, 1987). This strategy proved effective in New York City and Houston, where teachers were supported to develop and disseminate their own exemplary programs through Impact II grants. They reported changes in their classroom practices, as well as increases in student attendance, discipline, and motivation (Mann, 1984-85).

Teacher evaluation and supervision can be a source of data for individually guided staff development. McGreal (1983) advocates that goal setting be the principal activity of teacher evaluation. Supervisors would assist in the establishment of those goals based on the motivation and ability of the teacher. The type of goals, the activities teachers engage in to meet the goals, and the amount of assistance provided by supervisors would differ from teacher to teacher based upon developmental level, interests, concerns, and instructional problems.

Similarly, Glatthorn's (1984) "differentiated supervision" calls for "self-directed development" as one form of assistance to teachers. Self-directed development is a goal-based approach to professional improvement in which teachers have access to a variety of resources for meeting their collaboratively identified needs.

Research on teacher centers also demonstrates the value of individually guided staff development. Hering and Howey (1982) summarized research conducted on 15 teacher centers sponsored by the Far West Laboratory for Educational Research and Development from 1978 to 1982. They concluded that, "the most important contribution of teachers' centers is their emphasis on working with individual teachers over time" (p. 2). Such a focus on individual teachers is absent from many traditional staff development programs, which teacher centers appear to complement quite effectively.

Hering and Howey (1982) reported that mini-grants of up to $750 provided by the St. Louis Metropolitan Teacher Center were used to fund a variety of classroom-oriented projects. Interviews with participants found that teachers made extensive use of the ideas and products they developed. Some of these projects eventually affected not only an individual classroom, but a school or the entire district. Regarding this project, Hering and Howey concluded:

As would be expected, teachers who were given money and support reported high levels of satisfaction and a sense of accomplishment. Also not surprisingly, they developed projects anchored in the realities of the classroom and responsive to the needs and interests of their students. Perhaps most important, however, is the strong suggestion that they can. In fact, influence change and innovation in other classrooms, as well as their own, through projects they design at minimal costs. (p. 6)

Hering and Howey (1982) also report the findings for a study done on individualized services provided at the Northwest Staff Development Center in Livonia, Michigan. Even though these awards rarely exceeded $50, 78 percent of the recipients reported that they had considerable control over their own learning and professional development. Almost 85 percent of the recipients thought that these services made a substantive difference in their classrooms. In summarizing the value of individualized services, the researchers wrote, "Individual teacher needs and concerns have to be attended to, as well as school-wide collective ones, or enthusiasm for the collective approach will quickly wane" (p. 6).

While there are many illustrations of an individualized approach to staff development in the literature and many more in practice, research on its impact on teaching is largely perceptual and self-report. Perhaps as more resources are directed to
supporting this strategy — particularly in the form of incentive grants to teachers — more will be learned about its contribution to teacher, as well as student, growth.

2. Observation/Assessment

"Feedback is the breakfast of champions" is the theme of Blanchard and Johnson's (1982) popular management book, The One Minute Manager. Yet many teachers receive little or no feedback on their classroom performance. In fact, in some school districts teachers may be observed by a supervisor as little as once every 3 years, and that observation/feedback cycle may be perfunctory in nature.

While observation/assessment can be a powerful staff development model, in the minds of many teachers it is associated with evaluation. Because this process often has not been perceived as helpful (Wise & Darling-Hammond, 1985), teachers frequently have difficulty understanding the value of this staff development model. However, once they have had an opportunity to learn about the many forms this model can take (for instance, peer coaching and clinical supervision, as well as teacher evaluation), it may become more widely practiced.

Underlying assumptions. One assumption underlying this model, according to Loucks-Horsley and her associates (1987), is that "Reflection and analysis are central means of professional growth" (p. 61). Observation and assessment of instruction provide the teacher with data that can be reflected upon and analyzed for the purpose of improving student learning.

A second assumption is that reflection by an individual on his or her own practice can be enhanced by another's observations. Since teaching is an isolated profession, typically taking place in the presence of no other adults, teachers are not able to benefit from the observations of others. Having "another set of eyes" gives a teacher a different view of how he or she is performing with students.

Another assumption is that observation and assessment of classroom teaching can benefit both involved parties — the teacher being observed and the observer. The teacher benefits by another's view of his or her behavior and by receiving helpful feedback from a colleague. The observer benefits by watching a colleague, preparing the feedback, and discussing the common experience.

A final assumption is that when teachers see positive results from their efforts to change, they are more apt to continue to engage in improvement. Because this model may involve multiple observations and conferences spread over time, it can help teachers see that change is possible. As they apply new strategies, they can see changes both in their own and their students' behavior. In some instances, measurable improvements in student learning will also be observed.

Individual teacher needs and concerns have to be attended to, as well as school-wide collective ones, or enthusiasm for the collective approach will quickly wane.

Theoretical and research underpinnings. Theoretical and research support for the observation/assessment model can be found in the literature on teacher evaluation, clinical supervision, and peer coaching. Each of these approaches is based on the premise that teaching can be objectively observed and analyzed and that improvement can result from feedback on that performance.

McGreal's (1982) work on teacher evaluation suggests a key role for classroom observation, but expresses a major concern about reliability of observations. The author points to two primary ways to increase the reliability of classroom observations. The first is to narrow the range of what is looked for by having a system that takes a narrowed focus on teaching (for instance, an observation system based on the Madeline Hunter approach to instruction), or by using an observation guide or focusing instrument. The second way is to use a pre-conference to increase the kind and amount of information the observer has prior to the observation. Glathorn (1984) recommends that clinical supervisors (or coaches) alternate unfocused observations with focused observations. In unfocused observation the observer usually takes verbatim notes on all significant behavior. These data are used to identify some strengths and potential problems that are discussed in a problem-solving feedback conference. A focus is then determined for the next observation, during which the observer gathers data related to the identified problem.

Glickman (1986) suggests that the type of feedback provided teachers should be based on their cognitive levels. Teachers with a "low abstract" cognitive style should receive directive conferences (problem identification and solution come primarily from the coach or supervisor); "moderate-abstract" teachers should receive collaborative conferences (an exchange of perceptions about problems and a negotiated solution); and "high-abstract" teachers should receive a non-directional approach (the coach or supervisor helps the teacher clarify problems and choose a course of action).

Peer coaching is a form of the observation/assessment model that promotes transfer of learning to the classroom (Joyce & Showers, 1982). In peer observation, teachers visit one another's classrooms, gather objective data about student performance or teacher behavior, and give feedback in a follow-up conference. According to Joyce and Showers (1983):

Relatively few persons, having mastered a new teaching skill, will then transfer that skill into their active repertoire. In fact, few will use it at all. Continuous practice, feedback, and the companionship of coachees are essential to enable even highly motivated persons to bring additions to their repertoire under effective control. (p. 4)

Joyce (Brandt, 1987) says that up to 30 trials may be required to bring a new teaching strategy under "executive control." Similarly, Shalaway (1985) found that 10 to 15 coaching sessions may be
necessary for teachers to use what they have learned in their classrooms.

**Phases of activity.** The observation/assessment model — whether implemented through evaluation, clinical supervision, or peer coaching — usually includes a pre-observation conference, observation, analysis of data, post-observation conference, and (in some instances) an analysis of the observation/assessment process (Loucks-Horsley et al., 1987). In the pre-observation conference, a focus for the observation is determined, observation methods selected, and any special problems noted.

During the observation, data are collected using the processes agreed upon in the pre-observation conference. The observation may be focused on the students or on the teacher, and can be global in nature or narrowly focused. Patterns found during instruction may become evident. Hunter (1982) recommends three points of analysis: (a) behaviors that contribute to learning, (b) behaviors that interfere with learning, and (c) behaviors that neither contribute nor interfere, but use time and energy that could be better spent.

In the post-observation conference both the teacher and observer reflect on the lesson and the observer shares the data collected. Strengths are typically acknowledged and areas for improvement suggested (by either the teacher or observer, depending upon the goals established in the pre-observation conference). An analysis of the supervisory (or coaching) process itself, while not necessarily a part of all forms of this model, provides participants with an opportunity to reflect on the value of the observation/assessment process and to discuss modifications that might be made in future cycles.

**Illustrations and outcomes.** Acheson and Gall (1980) report a number of studies in which the clinical supervision model has been accepted by teachers when they and their supervisors are taught systematic observation techniques. They further note that this process is viewed as productive by teachers when the supervisor uses "indirect" behaviors (e.g., accepting feelings and ideas, giving praise and encouragement, asking questions). While the authors report that trained supervisors helped teachers make improvements in a number of instructional behaviors, they were unable to find any studies that demonstrated student effects.

The most intensive and extensive studies of the impact of observation/assessment on learning come from the work of Showers and Joyce. Discussed in more detail in the training section, these authors and their associates have found that powerful improvements have been made to student learning when the training of teachers in effective instructional practices is followed by observations and coaching in their classrooms (Joyce & Showers, 1988). In a study that contrasted different sources of coaching, Sparks (1986) contrasted a workshop-only approach with peer coaching and with consultant coaching. Her findings indicated that peer coaching was most powerful in improving classroom performance.

The research, then, provides reason to believe that teacher behaviors can be positively influenced by the use of an observation/assessment model of staff development.

3. **Involvement in a Development/Improvement Process**

Teachers are sometimes asked to develop or adapt curriculum, design programs, or engage in systematic school improvement processes that have as their goal the improvement of classroom instruction and/or curriculum. Typically these projects are initiated to solve a problem. Their successful completion may require that teachers acquire specific knowledge or skills (e.g., curriculum planning, research on effective teaching, group problem-solving strategies). This learning could be acquired through reading, discussion, observation, training, and/or trial and error. In other instances, the process of developing a product itself may cause significant learnings (e.g., through experiential learning), some of which may have been difficult or impossible to predict in advance. This model focuses on the combination of learnings that result from the involvement of teachers in such development/improvement processes.

**Underlying assumptions.** One assumption on which this model is based is that adults learn most effectively when they have a need to know or a problem to solve (Knowles, 1980). Serving on a school improvement committee may require that teachers read the research on effective teaching and that they learn new group and interpersonal skills. Curriculum development may demand new content knowledge of teachers. In each instance, teachers' learning is driven by the demands of problem solving.

Another assumption of this model is that people working closest to the job best understand what is required to improve their performance. Their teaching experiences guide teachers as they frame problems and develop solutions. Given appropriate opportunities, teachers can effectively bring their unique perspectives to the tasks of improving teaching and their schools.

A final assumption is that teachers acquire important knowledge or skills through their involvement in school improvement or curriculum development processes. Such involvement may cause alterations in attitudes or the acquisition of skills as individuals or groups work toward the solution of a common problem. For instance, teachers may become more aware of the perspectives of others, more appreciative of individual differences, more skilled in group leadership, and better able to solve problems. While the learnings may be unpredictable in advance, they are often regarded as important by teachers.
Theoretical and research underpinnings. We have chosen to represent curriculum development and school improvement as types of staff development: involvement in these processes nurtures teachers’ growth. Others see staff development (perhaps viewed more narrowly as training) as a key component of effective curriculum development and implementation. As Joyce and Showers (1988) write, “It has been well established that curriculum implementation is demanding of staff development — essentially, without strong staff development programs that are appropriately designed a very low level of implementation occurs” (p. 44).

Whichever perspective one has, staff development and the improvement of schools and curriculum go hand in hand. Glickman (1986), who argues that the aim of staff development should be to improve teachers’ ability to think, views curriculum development as a key aspect of this process. He believes that the intellectual engagement required in curriculum development demands that teachers not only know their content, but that they must also acquire curriculum planning skills. He recommends that curriculum development be conducted in heterogeneous groups composed of teachers of low, medium, and high abstract reasoning abilities. According to Glickman, the complexity of the curriculum development task should be matched to the abstract reasoning ability of the majority of teachers in the group.

Glatthorn (1987) describes three ways in which teachers can modify a district’s curriculum guide. They may operationalize the district’s curriculum guide by taking its lists of objectives and recommended teaching methods and turning them into a set of usable instructional guides. Or they may adapt the guide to students’ special needs (e.g., remediation, learning style differences, etc.). Finally, teachers may enhance the guide by developing optional enrichment units. Glatthorn recommends that these activities be done in groups, believing that, in doing so, teachers will become more cohesive and will share ideas about teaching and learning in general, as well as on the development task at hand.

The involvement of teachers in school improvement processes, while similar in its assumptions and process to curriculum development, finds its research and theory base in other sources. General approaches to school improvement come from the literature on change and innovation. For example, Loucks-Horsley and Hergert (1985) describe seven action steps in a school improvement process that are based in research on implementation of new practices in schools (Crandall & Loucks, 1983; Hall & Loucks, 1978; Louis & Rosenblum, 1981). The research on effective schools underpins other approaches to school improvement (Cohen, 1981). Finally, an approach to school improvement through staff development developed by Wood and his associates was derived from an analysis of effective staff development practices as represented in the research and in reports from educational practitioners (Thompson, 1982; Wood, 1989). The result is a five-stage RPTIM model (Readiness, Planning, Training, Implementation, and Maintenance) used widely in designing and implementing staff development efforts (Wood, Thompson, & Russell, 1981). As a result of involvement in such improvement efforts, schools (and the teachers within them) may develop new curriculum, change reporting procedures to parents, enhance communication within the faculty, and improve instruction, among many other topics.

Phases of activity. This model begins with the identification of a problem or need by an individual, a group of teachers (e.g., a grade-level team or a secondary department), a school faculty, or a district administrator. The need may be identified informally through discussion or a growing sense of dissatisfaction, through a more formal process such as brainstorming or the use of a standardized instrument (such as a school improvement survey or needs assessment), or through examination of student achievement or program evaluation data.

After a need has been identified, a response is formulated. This response may be determined informally or formally. In some cases, the necessary action may become immediately evident (e.g., the need for new lunchroom rules). At other times, teachers may need to brainstorm or search out alternatives, weigh them against a set of predetermined criteria, develop an ac-
tion plan, and determine evaluation procedures. This process may take several sessions to complete and require consultation with a larger group (e.g., the schoolwide staff development committee may receive feedback on the tentative plan from the entire faculty).

Typically it becomes evident during this phase that specific knowledge or skills may be required to implement the plan. For example, the faculty may decide that it wants to study several discipline systems before implementing the new lunchroom management system. The improvement of students' higher-order thinking may involve the selection of new textbooks, requiring that committee members better understand which features to look for in a textbook to support this goal. The development or selection of a new elementary science curriculum may require study of the latest research on science teaching and the examination of other curricula.

At this point the plan is implemented or the product developed. This process may take several days, several months, or several years. As a final step, the success of the program is assessed. If teachers are not satisfied with the results, they may return to an earlier phase (e.g., acquisition of knowledge or skills) and repeat the process.

Illustrations and outcomes. While teachers have long been involved in curriculum development, little research on the impact of these experiences on their professional development has been conducted. The research that has been done has assessed the impact of such involvement on areas other than professional development (for example, job satisfaction, costs, and commitment to the organization) (Kimpston & Rogers, 1987). Similarly, although the engagement of teachers in school improvement processes has increased in the last few years, little research has been conducted on the effects of that involvement on their professional development. There are, however, numerous examples that illustrate the various ways schools and districts have enhanced teacher growth by engaging them in the development/improvement process.

In the past few years, many state education agencies have supported implementation of state-initiated reforms through the encouragement (and sometimes mandat-

ing) of school improvement processes. For example, the Franklin County (Ohio) Department of Education used a staff development process to assist five school districts to meet mandated state goals (Scholl & McQueen, 1985). Teachers and administrators from the districts learned about the state requirements and developed goals and planning strategies for their districts. A major product of the program was a manual that included a synthesis of information and worksheets that could be used to guide small group activities in the five districts.

School districts have also initiated programs which involved teachers in improvement planning. In the Hammond (Indiana) Public Schools, decision making is school based (Casner-Lotto, 1988). School improvement committees teach composed of 15-20 members, including teachers, administrators, parents, students, and community members) received training in consensus building, brainstorming, creative problem solving, and group dynamics. After this training, each committee develops a "vision of excellence" for its school. As a result, schools have initiated projects in individualized learning, peer evaluation, cross-grade-level reading, and teacher coaching/mentoring.

Sparks, Nowakowski, Hall, Alec, and Imrick (1985) reported on two elementary school improvement projects that led to large gains on state reading tests. The first school's staff decided to review the reading curriculum and to investigate alternative instructional approaches. Teachers task-analyzed the six lowest-scoring objectives on the state test, studied effective instructional techniques, and participated in self-selected professional growth activities. In 2 years the number of students who scored above the average rose from 72 percent to 100 percent. In the second school, teachers adopted a new reading series, revised the kindergarten program, and created a booklet that included practice test items and effective instructional practices for improving student achievement. The percentage of students achieving the reading objectives increased almost 20 percent in 3 years.

The Jefferson County (Colorado) School District has long involved teachers in curriculum development and adaptation (Jefferson County Public Schools, 1974). A cyclical process of needs assessment, curriculum objective statements, curriculum writing, pilot testing and evaluation, and district-wide implementation has been used on a regular basis in the majorontent areas. Teachers involved in writing and pilot test teams hone their skills as curriculum planners and developers and as masters of the new techniques that are incorporated into the curriculum (these have included such strategies as cooperative learning and individualized instruction). They also often take on the role of teacher trainers for the district-wide implementation that follows pilot and field tests (Loucks & Pratt, 1979).

E. J. Wilson High School in Spencerport (New York) is one of many across the country that has implemented elements of effective schools through a systematic school improvement process. Teachers in the school participate with building administrators on a Building Planning Committee which spearheads the achievement of "ideal practices" within the school through a seven-step process that engages the entire faculty in assessment, planning, implementation, and evaluation. As a result, the school climate and student achievement have improved, as have the knowledge, skills, and attitudes of the teachers involved. This school's outcome is representative of other schools that have implemented similar improvement processes (Kyle, 1985).

These state, school, and district-level efforts illustrate the wide variety of ways in which this model of staff development is being used. While the research and evaluation evidence regarding the impact of these processes on teacher knowledge and skills is not substantial, research does support many of the ingredients contained within these processes. These include commitment to the process by school and building administrators, which includes giving authority and resources to the team to pursue and then implement its agenda; development of knowledge and skills on the part of the teacher participants; adequate, quality time to meet, reflect, and develop; adequate resources to purchase materials, visit other sites, hire consultants to contribute to informed decision making; leadership that provides a vision, direction and guidance, but allows for significant decision
making on the part of the teacher participants; and integration of the effort into other improvement efforts and into other structures that influence teaching and learning in the school (Loucks-Horsley et al., 1987). When these factors are present, a limited amount of research data and a great deal of self-report data indicate clearly that the desired outcomes of staff development are achieved.

4. Training

In the minds of many educators, training is synonymous with staff development. Most teachers are accustomed to attending workshop-type sessions in which the presenter is the expert who establishes the content and flow of activities. Typically the training session is conducted with a clear set of objectives or learner outcomes. These outcomes frequently include awareness or knowledge (e.g., participants will be able to explain the five principles of cooperative learning) and skill development (e.g., participants will demonstrate the appropriate use of open-ended questions in a class discussion). Joyce and Showers (1988) cite changes in attitudes, transfer of training, and “executive control” (the appropriate and consistent use of new strategies in the classroom) as additional outcomes. It is the trainer’s role to select activities (e.g., lecture, demonstration, role-playing, simulation, micro-teaching) that will aid teachers in achieving the desired outcomes.

Whatever the anticipated outcomes, the improvement of teachers’ thinking is an important goal. According to Showers, Joyce, and Bennett (1987):

> the purpose of providing training in any practice is not simply to generate the external visible teaching "moves" that bring that practice to bear in the instructional setting but to generate the conditions that enable the practice to be selected and used appropriately and integratively. . . . a major, perhaps the major, dimension of teaching skill is cognitive in nature. (pp. 85-86)

Underlying assumptions. An assumption that undergirds the training model of staff development is that there are behaviors and techniques that are worthy of replication by teachers in the classroom. This assumption can certainly be supported by the large number of research-based effective teaching practices that have been identified and verified in the past 20 years (Sparks, 1983).

Another assumption underlying this model is that teachers can change their behaviors and learn to replicate behaviors in their classroom that were not previously in their repertoire. As Joyce and Showers (1983) point out, training is a powerful process for enhancing knowledge and skills. “It is plain from the research on training,” they say, “that teachers can be wonderful learners. They can master just about any kind of teaching strategy or implement almost any technique as long as adequate training is provided” (p. 2).

Because of a high participant-to-trainer ratio, training is usually a cost-efficient means for teachers to acquire knowledge or skills. Many instructional skills require that teachers view a demonstration of their use to fully understand their implementation. Likewise, certain instructional techniques require for their classroom implementation that teachers have an opportunity to practice them with feedback from a skilled observer. Training may be the most efficient means for large numbers of teachers to view these demonstrations and to receive feedback as they practice.

Theoretical and research underpinnings. The theoretical and research underpinnings for the training model come from several sources, but the most recent and intensive research has been conducted by Joyce and Showers (1988). They have determined that, depending upon the desired outcomes, training might include exploration of theory, demonstration or modeling of a skill, practice of the skill under simulated conditions, feedback about performance, and coaching in the workplace. Their research indicates that this combination of components is necessary if the outcome is skill development.

In addition to those components identified by Joyce and Showers, Sparks (1983) cites the importance of discussion and peer observation as training activities. She notes that discussion is useful both when new concepts or techniques are presented and as a problem-solving tool after teachers have had an opportunity to try out new strategies in their classrooms. Training sessions that are spaced 1 or more weeks apart so that content can be “chunked” for improved comprehension and so that teachers have opportunities for classroom practice and peer coaching are shown to be more effective than “one-shot” training (Loucks-Horsley et al., 1987; Sparks, 1983).

Sparks (1983), Wu (1987), and Wood and Kleine (1987) point out the value of teachers as trainers of their peers. Sparks indicates that teachers may learn as much from their peers as from “expert” trainers. She also argues that school districts can afford the type of small-group training that she recommends when peers are used rather than more expensive external consultants. In reviewing the research, Wood and Kleine found that teachers preferred their peers as trainers. Wu’s review of the research also confirmed this, finding that when their peers are trainers, teachers feel more comfortable exchanging ideas, play a more active role in workshops, and report that they receive more practical suggestions. There is, however, evidence that indicates that expert trainers who have the critical qualities teachers value in their peers (e.g., a clear understanding of how a new practice works with real students in real classroom settings) can also be highly effective (Crandall, 1983).

Phases of activities. According to Joyce and Showers (1988), “Someone has to decide what will be the substance of the training, who will provide training, who and where the training will be held and for how long” (p. 69). While training content, objectives, and schedules are often determined by administrators or by the trainer, Wood, McQuarrie, and Thompson’s (1982) research-based model advocates involving participants in planning training programs. Participants serve on planning teams which assess needs (using appropriate sources of data), explore various research-based approaches, select content, determine goals and objectives, schedule training sessions, and monitor implementation of the program.

Joyce and Showers (1988) point out that there are specific “learning-to-learn” attitudes and skills that teachers possess or can develop that aid the training process. They cite persistence, acknowledgment of the transfer problem (the need for considerable practice of new skills in the classroom), teaching new behaviors to students, meeting the cognitive demands of innova-
tions (developing a "deep understanding" of new practices), the productive use of peers, and flexibility. The authors list several conditions of training sessions that foster these attitudes and behaviors: adequate training, opportunities for collegial problem solving, norms that encourage experimentation, and organizational structures that support learning. Sparks' (1983) review of staff development research suggests that a diagnostic process (such as detailed profiles of teaching behaviors based upon classroom observations) may be an important first step in the training process.

After training, in-classroom assistance in the form of peer observation and coaching is critical to the transfer of more complex teaching skills (Joyce & Showers, 1988). The process of data gathering and analysis that accompanies most forms of peer observation is valuable to the observer as well as the observed teacher (Brandt, 1987; Sparks, 1986). A more thorough discussion of this topic can be found in the observation/assessment model described earlier in this article.

Illustrations and outcomes. The power of training to alter teachers' knowledge, attitudes, and instructional skills is well established. Its impact on teachers, however, depends upon its objectives and the quality of the training program. Joyce and Showers (1988) have determined that when all training components are present (theory, demonstration, practice, feedback, and coaching), an effect size of 2.71 exists for knowledge-level objectives, 1.25 for skill-level objectives, and 1.68 for transfer of training to the classroom. (The effect size describes the magnitude of gains from any given change in educational practice; the higher the effect size, the greater the magnitude of gain. For instance, an effect size of 1.0 indicates that the average teacher in the experimental group outperformed 84% of the teachers in the control group.) "We have concluded from these data," Joyce and Showers (1988) report, "that teachers can acquire new knowledge and skill and use it in their instructional practice when provided with adequate opportunities to learn" (p. 72). Coaching and peer observation research cited earlier in the observation/assessment model also supports the efficacy of training.

Wade (1985) found in her meta-analysis of inservice teacher education research that training affected participants' learning by an effect size of .90 and their behavior by .60. An effect size of .37 was found for the impact of teacher training on student behavior. Wade also concluded that training groups composed of both elementary and secondary teachers achieved higher effect sizes than did those enrolling only elementary or only secondary teachers.

Gage (1984) traces the evolution of research on teaching from observational and descriptive studies to correlational studies to nine experiments that were designed to alter instructional practices. "The main conclusion of this body of research," Gage wrote, "is that, in eight out of the nine cases, inservice education was fairly effective — not with all teachers and not with all teaching practices but effective enough to change teachers and improve student achievement, or attitudes, or behavior" (p. 92).

Numerous specific illustrations of training programs are available that have demonstrated impact on teacher behavior and student learning. For instance, studies indicate that teachers who have been taught cooperative learning strategies for their classrooms have students who have higher achievement, display higher reasoning and greater critical thinking, have more positive attitudes toward the subject area, and like their fellow students better (Johnson, Johnson, Holubec, & Roy, 1984).

Good and Grouws (1987) describe a mathematics staff development program for elementary teachers. In this 10-session program teachers learned more about mathematics content and about instructional and management issues. As a result of the training, the researchers found 'changes in teachers' classroom practice and improved mathematics presentations. Student mathematics performance was also improved.

Kerman (1979) reports a 3-year study in which several hundred K-12 teachers were trained to improve their interactions with low-achieving students. The five-session training program included peer observation in the month interval between session. The researchers found that achieving students in experimental class made significant academic gains over their counterparts in control groups.

As the preceding discussion indicates, there is a much more substantial research literature on training than on the models presented earlier. Under the appropriate conditions, training has the potential for significantly changing teachers' beliefs, knowledge, behavior, and the performance of their students.
Rauth (1986) describes an American Federation of Teachers training program that brought research on teaching to its members. Teacher Research Linkers (TRLs) first determine which aspects of the research will be most valuable in their teaching. Between sessions they carry out implementation plans in their own classrooms. TRLS are then taught how to effectively share this research with their colleagues. A study of this program indicated that teachers made significant changes in their practice and that, in addition, their morale and collegiality increased dramatically.

Robbins and Wolfe (1987) discuss a 4-year staff development project designed to increase elementary students' engaged time and achievement. Evaluation of the training program documented steady improvement for 3 years in teachers' instructional skills, student engaged time, and student achievement in reading and math. While scores in all these areas dropped in the project's fourth and final year, Robbins and Wolfe argue that this decline was due to insufficient coaching and peer observation during that year.

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5. Inquiry

Teacher inquiry can take different forms. A high school teacher wonders if an alteration in her lesson plan from her first period class will produce improved student understanding in second period. A brief written quiz given at the end of the class indicates that it did. A group of teachers gathers weekly after school for an hour or two at the teacher center to examine the research on ability grouping. Their findings will be shared with the district's curriculum council. Several elementary teachers study basic classroom research techniques, formulate research questions, gather and analyze data, and use their findings to improve instruction in their classrooms.

Teacher inquiry may be a solitary activity, be done in small groups, or be conducted by a school faculty. Its process may be formal or informal. It may occur in a classroom, at a teacher center, or result from a university class. In this section teacher inquiry is explored as a staff development model.

Underlying assumptions. Inquiry reflects a basic belief in teachers' ability to formulate valid questions about their own practice and to pursue objective answers to those questions. Loucks-Horsley and her associates (1987) list three assumptions consistent with their educational values. . . . [The approach] aims to give greater control over what is to count as valid educational knowledge to teachers. (Ingvarson, 1987, pp. 15, 17)

Theoretical and research underpinnings. The call for inquiry-oriented teachers is not new. Dewey (1933) wrote of the need for teachers to take "reflective action." Zeichner (1983) cites more than 30 years of advocacy for "teachers as action researchers." "Teacher scholars," "teacher innovators," "self-monitoring teachers," and "teachers as participant observers."

More recently, various forms of inquiry have been advocated by a number of theorists and researchers. Tikunoff and Ward's (1983) model of interactive research and development promotes teacher inquiry into the questions they are asking through close work with researchers (who help with methodology) and staff developers (who help them create ways of sharing their results with others). Lieberman (1986) reports on a similar process in which teachers serving on collaborative teams pursued answers to school-wide rather than classroom problems. Watts (1985) discusses the role of collaborative research, classroom action research, and teacher support groups in encouraging teacher inquiry. Simmons and Sparks (1985) describe the use of action research to help teachers better relate research on teaching to their unique classrooms.


One of the important tenets of the inquiry approach is that research is an important activity in which teachers should be engaged, although they rarely participate in it other than as "subjects."

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about a teacher inquiry approach to staff development:

- Teachers are intelligent, inquiring individuals with legitimate expertise and important experience.
- Teachers are inclined to search for data to answer pressing questions and to reflect on the data to formulate solutions.
- Teachers will develop new understandings as they formulate their own questions and collect their own data to answer them.

The overarching assumption of the model is that

the most effective avenue for professional development is cooperative study by teachers themselves into problems and issues arising from their attempts to make their practice
activity in which teachers should be engaged, although they rarely participate in it other than as "subjects." Gable and Rogers (1987) "take the terror out of research" by describing ways in which it can be used as a staff development tool. They discuss both qualitative and quantitative methodology, providing specific strategies that teachers can use in their classrooms. They conclude by saying "... the desire to and ability to do research is an essential attribute of the professional teacher of the Eighties" (p. 695).

**Phases of activity.** While the inquiry model of staff development can take many forms, these forms have a number of elements in common. First, individuals or a group of teachers identify a problem of interest. Next, they explore ways of collecting data that may range from examining existing theoretical and research literature to gathering original classroom or school data. These data are then analyzed and interpreted by an individual or the group. Finally, changes are made, and new data are gathered and analyzed to determine the effects of the intervention.

This process can be adapted to the unique needs of a particular approach to inquiry. For instance, Howda and Kyle (1984) provide a 10-step process for action research that progresses from identifying interested participants, through sharing several study ideas, to discussing findings, to considering having the study published or presented. Glatthorn (1987) describes a four-step process for action research. Collaborative research teams (a) identify a problem, (b) decide upon specific research questions to be investigated and methodology to be used, (c) carry out the research design, and (d) use the research to design an intervention to be implemented in the school.

Watts (1985) describes "reflective conversations" in which teachers carefully observe and thoughtfully consider a particular child or practice. Using a standard procedure, the group shares observations, reviews previous records and information, summarizes their findings, and makes recommendations. As a final step, the group reviews the process to assess how well it went, looks for gaps, and identifies ideas to repeat in future conversations.

Organizational support and/or technical assistance may be required throughout the phases of an inquiry activity. Organizational support may take the form of structures such as teacher centers or study groups, or of resources such as released time or materials. Technical assistance may involve training in research methodologies, data-gathering techniques, and other processes that aid teachers in making sense of their experiences.

**Illustrations and outcomes.** The forms of inquiry as a staff development model may

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**Teacher development in school districts does not take place in a vacuum. Its success is influenced in many ways by the district's organizational context.**

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take are limited only by the imagination. Simmons and Sparks (1985) describe a "Master of Arts in Classroom Teaching" degree designed to help teachers meet their individually identified improvement goals. Teachers in this program learn about educational research, identify and analyze classroom problems, pursue topics of professional interest, and improve their overall teaching ability. The authors report evidence of change in participant knowledge (e.g., concerning effective teaching-learning), thinking (e.g., enhanced problem-solving skills, increased cognitive complexity), and patterns of communication and collegiality.

Watts (1985) presents a number of ways in which teachers act as researchers. She discussed collaborative research in teacher centers funded by the Teachers' Center Exchange (then located at the Far West Laboratory for Educational Research and Development) that was conducted in the late 1970s and early 1980s. Fourteen projects were funded in which teachers collaborated with researchers on topics of interest to the individual teachers' center. Watts also described ethnographic studies of classrooms conducted collaboratively by teachers and researchers. In addition, she provided examples of classroom action research and teachers' study groups as forms of inquiry. Watts concluded that these three approaches share several outcomes. First, as a result of learning more about research, teachers make more informed decisions about when and how to apply the research findings of others. Second, teachers experience more supportive and collegial relationships. And third, teaching improves as teachers learn more about it by becoming better able to look beyond the immediate, the individual, and the concrete.

The effects of the teacher inquiry model of staff development may reach beyond the classroom to the school. An example of school-wide impact comes from the report of an eight school team convened to reflect on a lack of communication and support between teachers and administrators (Liberman & Miller, 1984). As a result of working together to define the problem, learn each other's perspectives, gather evidence, and formulate solutions, teachers and administrators address important school problems collaboratively. Note that there is a substantial overlap between this kind of "school-based" inquiry and some of the school improvement processes discussed earlier in the model described as involvement in a development/improvement process.

**Organizational Context**

Teacher development in school districts does not take place in a vacuum. Its success is influenced in many ways by the district's organizational context (McLaughlin & Marsh, 1978; Sparks, 1983). Key organizational factors include school and district climate, leadership attitudes and behaviors, district policies and systems, and the involvement of participants.

While staff development fosters the professional growth of individuals, organiza-
ional development addresses the organization's responsibility to define and meet changing self improvement goals (Dillon-Peterson, 1981). Consequently, effective organizations have the capacity to continually renew themselves and solve problems. Within this context, individuals can grow.

In earlier sections of this article, five models of staff development were discussed that have solid foundations in research and/or practice, and are being used in increasingly robust forms throughout the country today. While each model requires somewhat different organizational supports to make it successful, it is also true that research points to a common set of attributes of the organizational context without which staff development can have only limited success (Loucks-Horsley et al., 1987). In organizations where staff development is most successful:

- Staff members have a common, coherent set of goals and objectives that they have helped formulate, reflecting high expectations of themselves and their students.
- Administrators exercise strong leadership by promoting a "norm of collegiality," minimizing status differences between themselves and their staff members, promoting informal communication, and reducing their own need to use formal controls to achieve coordination.
- Administrators and teachers place a high priority on staff development and continuous improvement.
- Administrators and teachers make use of a variety of formal and informal processes for monitoring progress toward goals, using them to identify obstacles to such progress and ways of overcoming these obstacles, rather than using them to make summary judgments regarding the "competence" of particular staff members (Conley & Bacharach, 1987).
- Knowledge, expertise, and resources, including time, are drawn on appropriately, yet liberally, to initiate and support the pursuit of staff development goals.

This section briefly highlights the research that supports these organizational attributes.

Organizational Climate

Little (1982) found that effective schools are characterized by norms of collegiality and experimentation. Simply put, teachers are more likely to persist in using new behaviors when they feel the support of colleagues and when they believe that professional risk taking (and its occasional failures) are encouraged. Fullan (1982) reports that the degree of change is strongly related to the extent to which teachers interact with each other and provide technical help to one another. "Teachers need to participate in skill-training workshops," Fullan writes, "but they also need to have one-to-one and group opportunities to receive and give help, and more simply to converse about the meaning of change" (p. 121).

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Joyce and Showers (1983) point out that "in a loose and disorganized social climate without clear goals, reticent teachers may actually subvert elements of the training process not only for themselves but also for others" (p. 31). While teacher commitment is desirable, it need not necessarily be present initially for the program to be successful. Miles (1983) found that teacher/administrator harmony was critical to the success of improvement efforts, but that it could develop over the course of an improvement effort. Initially, working relationships between teachers and administrators had to be clear and supportive enough so that most participants could "suspend disbelief," believing that the demands of change would be dealt with together (Crandall, 1983). In their study of school improvement efforts that relied heavily on staff development for their success, both Miles and Crandall found that in projects where a mandated strategy caused some initial disharmony between teachers and administrators, the climate changed as the new program's positive impact on students became clear. When a new program was selected carefully and teachers received good training and support, most who were initially skeptical soon agreed with and were committed to the effort. Showers, Joyce, and Bennett (1987) support the position that, at least initially, teachers' ability to use a new practice in a competent way may be more important than commitment.

Few would disagree with the importance of a school and district climate that encourages experimentation and supports teachers to take risks, i.e., establishes readiness for change (Wood, Thompson, & Russell, 1981). Yet a supportive context consists of more than "good feelings." The quality of the recommended practices is also critical. Research conducted by Guskey (1986) and Loucks and Zacchei (1983) indicates that the new practices developed or chosen by or for teachers need to be effective ones — effective by virtue of evaluation results offered by the developer or by careful testing by the teachers who have developed them. These researchers found that only when teachers see that a new program or practice enhances the learning of their students will their beliefs and attitudes change in a significant way.

Leadership and Support

According to the Rand Change Agent Study (McLaughlin & Marsh, 1978) active support by principals and district administrators is critical to the success of any change effort. According to McLaughlin and Marsh (1978):

The Rand research sets the role of the principal as instructional leader in the context of strengthening the school improvement process through team building and problem solving in a "project-like" context. It suggests that principals need to give clear messages that teachers may take responsibility for their own professional growth. (p. 92)

Stallings and Mohlman (1981) determined that teachers improved most in staff
development programs where the principal supported them and was clear and consistent in communicating school policies. Likewise, Fielding and Schalock (1985) report a study in which principals’ involvement in teachers’ staff development produced longer-term changes than when principals were not involved.

In their discussion of factors that affect the application of innovations, Loucks and Zaccchi (1983) wrote “...administrators in successful improvement sites take their leadership roles seriously and provide the direction needed to engage teachers in the new practices” (p. 30).

According to Huberman (1983), teachers’ successful use of new skills often occurs when administrators exert strong and continuous pressure for implementation. He argues that “...administrators, both at the central office and building levels, have to go to center stage and stay there if school improvement efforts are to succeed” (p. 27). While administrator presence is important, administrators must also act as gatekeepers of change so that “innovation overload” can be avoided (Anderson & Odden, 1986).

While much research points to administrators as being key leaders in staff development and change, it is also true that others can take on leadership and support roles—and may in fact be better placed to do so. Research on school improvement indicates that a team approach can help orchestrate leadership and support “functions” which can be shared by administrators (building and district level), district coordinators or staff developers, teachers, and external trainers and consultants (Loucks-Horsley & Hergert, 1985). For example, Cox (1983) reports that while principals seem to play an important role in clarifying expectations and goals and stabilizing the school organization, central office coordinators, who often know more about a specific practice, can effectively coach teachers in their attempts to change their classroom behavior. Coordinated leadership can also help avoid situations such as a school’s textbooks and curriculum not matching the instructional models teachers are being taught to use (Fielding & Schalock, 1985).

**District Policies and Systems**

Staff development activities occur within the context of a school district’s staff development program. According to Ellis (1988), a comprehensive staff development program includes a philosophy, goals, allocation of resources, and coordination. The philosophy spells out beliefs that guide the program. District, school, and individual goals (and their accompanying action plans) provide direction to staff development efforts. Resources need to be allocated at the district, school, and individual levels so that these goals have a reasonable chance of being achieved. Staff development programs need to be coordinated by individuals who have an assigned responsibility for this area. Ellis also supports the use of a district-level staff development committee to aid in coordination of programs.

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The selection, incorporation, or combination of the models of staff development described in this article are the responsibility of the district’s staff development structure. Decisions about their use need to match the intended outcomes if they are to be effective (Levine & Brodue, 1989), but these decisions are also influenced by state and/or community initiatives aimed at the improvement of schools and/or teaching (Anderson & Odden, 1986).

**Participant Involvement**

Research clearly indicates that involving participants in key decisions about staff development is necessary for a program to have its greatest impact. According to Lieberman and Miller (1986), a supportive context for staff development requires both a “top-down” and “bottom-up” approach. The top-down component sets a general direction for the district or school and communicates expectations regarding performance. The bottom-up processes involve teachers in establishing goals and designing appropriate staff development activities.

The establishment of common goals is important to the success of staff development efforts (Ward & Tikunoff, 1981). Odden and Anderson’s (1986) research indicates that a clearly defined process of data collection, shared diagnosis, and identification of solutions to problems must be employed during the planning phase. Collaboration, from initial planning through implementation and institutionalization, is a key process in determining these goals and in influencing lasting change (Lambert, 1984; McLaughlin & Marsh, 1978; Wood, Thompson, & Russell, 1981).

Lortie (1986) argues that when teachers perceive that they can participate in important school-level decisions, the relationship between the extra efforts required by school improvement and the benefits of these efforts becomes clearer. Following this argument, he recommends that schools be given relatively little detailed supervision, but be monitored instead for results based on explicit criteria.

Others report that, when teachers cannot be involved in initial decisions regarding staff development (e.g., when it is mandated by state legislation or when it supports the use of district-wide curriculum), their involvement in decisions about the “hows” and “whens” of implementation can be important to success. Furthermore, teachers’ involvement in developing curriculum and as trainers for staff development programs can contribute in important ways to the success of an effort (Loucks & Pratt, 1979). Odden and Anderson (1986) capture the reciprocal relationship between organization and individual development in this discussion of their research:

When instructional strategies, which aim to improve the skills of individuals, are successful, they had significant effects on schools as organizations. When school strategies, which aim to improve schools as organizations, were successful, they had significant impacts on individuals. (p. 585)
The importance of paying attention to the context of staff development is underscored by Fullan (1982). He responds to educators who say that they cannot provide the elements required to support change (e.g., supportive principals, a 2- or 3-year time period for implementation):

Well don't expect much implementa-
tion to occur... I say this not
because I am a cynic but because it
is wrong to let hopes blind us to the
actual obstacles to change. If these
obstacles are ignored, the experi-
ence with implementation can be
harmful to the adults and children
directly involved — more harmful
than if nothing had been done. (p.
103)

Conclusion

Staff development is a relatively young
"science" within education. In many ways
the current knowledge base in staff de-
velopment is similar to what was known about
teaching in the early 1970s. During the
1970s and early 1980s research on teaching
advanced from descriptive to correlational
to experimental (Gage, 1984). With the
exception of research on training, much of
the staff development literature is theoreti-
cal and descriptive rather than experimen-
tal. The remaining two sections describe
what can be said with some confidence
about the research base for the staff de-
velopment models and what remains to be
learned.

What Can Be Said
with Confidence

Staff development possesses a useful
"craft knowledge" that guides the field.
This craft knowledge includes ways to
organize, structure, and deliver staff de-
velopment programs (Caldwell, 1989). It
has been disseminated in the past decade
through publications such as The Journal
of Staff Development, Educational Leader-
ship, and Phi Delta Kappan, and through
thousands of presentations at workshops
and conventions. As a result, in the past 20
years hundreds of staff development pro-
grams have been established in urban, sub-
urban, and rural school districts
throughout the United States and Canada.
This craft knowledge serves another useful
purpose: It can guide researchers in asking
far better questions than they could have
asked a decade ago.

Of the five models discussed in this
article, the research on training is the most
robust. It is the most widely used form of
staff development and the most thoroughly
investigated. As a result, it is possible to
say with some confidence which training
elements are required to promote the at-
tainment of specific outcomes. Likewise,
research on coaching has demonstrated the
importance of in-classroom assistance to
teachers (by an "expert" or by a peer) for
the transfer of training to the classroom.

The consensus of "expert opinion" is
that school improvement is a systemic pro-
cess (Fullan, 1982). This ecological ap-
proach recognizes that changes in one part
of a system influence the other parts. Con-
sequently, staff development both influ-
ences and is influenced by the
organizational context in which it takes
place. The impact of the staff development
models that have been discussed depends
not only upon their individual or blended
use, but upon the features of the organiza-
tion in which they are used.

While this appears to relate to the "art"
of making staff development work (i.e., the
judgment with which one combines and
juggles the various organizational interac-
tions), there is also much "science" that
can be drawn from when it comes to the
organizational supports necessary for ef-
effective staff development. Study after
study confirms the necessity of:

- Schools possessing norms that sup-
port collegiality and experimentation
- District and building administrators
who work with staff to clarify goals
and expectations, and actively com-
mit to and support teachers' efforts to
change their practice
- Efforts that are strongly focused on
changes in curricular, instructional,
and classroom management practices
with improved student learning as the
goal
- Adequate, appropriate staff develop-
ment experiences with follow-up as-
sistance that continues long enough
for new behaviors to be incorporated
into ongoing practice

Interestingly enough, it appears that
these factors apply to a wide variety of
school improvement and staff develop-
ment efforts. While there are little hard
research data on some of the models dis-
cussed above (see next section), most if not
all of these factors will certainly persist as being important, regardless of what is learned about other models.

**What We Need to Learn More About**

While the work of staff developers during the past decade has been grounded in theory and research from various disciplines (e.g., adult learning, organization development, training), the scientific base of their own practice (with the exception of training and coaching) is quite thin. Unfortunately, the systematic study of some of the models discussed earlier is difficult because their use is not widespread or because they have been implemented only recently as part of comprehensive staff development programs. Listed below are areas for further study.

1. **We need research to determine the potency of the models described above (with the exception of training).** We need to learn which models are most effective for which outcomes with which teachers. For instance, we might ask: How effective is individually-guided staff development for knowledge level outcomes for self-directed experienced teachers? Or: How effective is an inquiry approach in helping beginning teachers learn their craft?

2. **We need a better understanding of the impact on student learning of the four non-training staff development models.** Do non-training models alter teacher knowledge or skills in a way that improves student learning?

3. **We need to know more about the impact on teachers of blending the models described above in a comprehensive staff development program.** How are teachers’ attitudes, knowledge, and skills altered when they choose among and blend various models as the means of reaching one or more “growth” goals? For instance, what would be the result if a teacher blended individually-guided staff development (e.g., reading research on tracking), observation/assessment (e.g., peer observation), and training (e.g., in cooperative learning) as means to alter classroom practices that are viewed as disadvantageous to a sub-group of students?

4. **We need a systemic view of comprehensive staff development at the district level.** Most districts provide a variety of staff development opportunities to teachers. Some purposely support individual, school-based, and district-based activities.

We need descriptive studies of what these programs look like, both from the overall, coordination point of view, and from the individual teacher point of view. We need to know: How are goals set and coordinated? How are resources allocated? How equitable are opportunities for individual teachers? How do different contextual factors (e.g., resources, state mandates) influence success?

5. **We need to understand more about the relative costs of different staff development models and combinations of the models.** Moore and Hyde (1978, 1979, 1981) have conducted some useful analyses of how many school district resources actually go for staff development purposes. But more micro-analyses would be useful to understand the cost-effectiveness of relatively labor-intensive models (e.g., coaching) versus those that rely only on the activity of a single teacher (e.g., individually-guided staff development).

6. **Finally, we need to look at staff development as it contributes to teacher professionalism and teacher leadership.** Many believe that teacher professionalism and leadership must characterize our education system in the future if that system is to survive. Yet there are as many different definitions of the terms as there are ideas of how to implement them. One role of staff development research is to help identify and clarify the various meanings given to these concepts. We then need descriptive studies of staff development’s contributions to these efforts, with special attention to how these efforts influence the conduct of staff development.

It is possible that future research may contradict current craft knowledge (this, for example, has occurred with the learning that attitude change does not always have to precede behavior change), or as is likely, future research will support current practice. Many questions about effective staff development remain unanswered. The need is great for well-designed, long-term studies of school improvement efforts that are based on staff development. The field of staff development seeks a solid base that moves beyond description and advocacy to a better understanding of those factors that support and improve classroom practice.

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**References**


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