

Synthesis of Research on Staff Development for Effective Teaching

GEORGEA MOHLMAN SPARKS

Staff development offers one of the most promising roads to the improvement of instruction.¹ It can be thought of as a "nested process" that includes *goals and content*, the *training process*, and the *context*. The diagram in Figure 1 reminds us that these factors are interrelated and that staff development takes place within an organizational context.

While the research on the content of staff development is examined first, the emphasis of this review is on the process—or delivery systems—of staff development and how they affect teacher change and improvement. The final

sections focus on the process of teacher change and recommendations for staff development.

The Content of Staff Development Programs

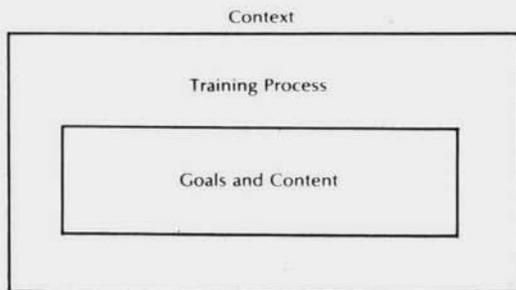
What should be taught to teachers if the goal is instructional improvement? This is a critical question for those in charge of staff development. Fortunately, research has uncovered strong links between certain teacher actions and desirable student outcomes. Since this literature has been reviewed elsewhere (Brophy, 1983; Rosenshine, 1983), only a few of the major lines of research are

mentioned here.

Studies of teacher effectiveness have identified specific classroom management practices, instructional techniques, and expectations that appear to help many students raise their reading and math test scores (Brophy, 1982). Teachers who manage their classes to

Georga Mohlman Sparks, Department of Teacher Education, Eastern Michigan University, Ypsilanti, and Vice President, Stallings Teaching and Learning Institute, Mountain View, California.

Figure 1. Staff Development: A Nested Process



"What should be taught to teachers if the goal is instructional improvement? This is a critical question for those in charge of staff development."

maintain a smooth, business-like environment; who teach actively with full student participation; and who hold the expectation that students can and will learn tend to have students who achieve more in reading and math. Group or team learning approaches have also been found to enhance student learning (Slavin, 1980). And teachers' levels of interpersonal communication skills have been found to relate positively to student attitudes and learning (Aspy and Roebuck, 1982).

The Context of Staff Development Programs

The context or environment that ensures the success of staff development efforts has received considerable attention in the past ten years. The importance of the organizational context of staff development efforts was highlighted in the Rand study of educational innovations (Berman and McLaughlin, 1978). After examining the implementation of hundreds of federally funded programs, the researchers concluded that the major factor affecting success of the programs was administrative support—from both principals and superintendents.

Lieberman and Miller (1981) emphasized the importance of the principal as an instructional leader in bringing about improvements in teaching. Stallings and Mohlman (1981) found that teachers improved most in schools where the principal was supportive of teachers and clear and consistent in communicating school policies.

Little's (1981) study of the effects of staff development concentrated on the prevailing climate and types of interaction in the school context. She found that staff development efforts were most likely to be successful where a "norm of collegiality and experimentation" existed. Simply put, in schools where staff development had the greatest influence on teaching, teachers shared their ideas about instruction and tried out new techniques in their classrooms.

But how is a supportive school context created? Recently, various approaches to school-based staff development have been developed. Many of them share a common element: the major responsibility for planning and implementation is given to the local school staff. Outside assistance is provided only when needed. One such model, RPTIM (Wood, Thompson, and Russell, 1981) includes five steps: readiness, training, planning, implementation,

and maintenance. Wood and his colleagues train school district personnel, who implement the process in local schools.

A similar model, implemented in over 50 schools in metropolitan Detroit, is called Staff Development for School Improvement (SDSI) (Hough and Urick, 1981; Titsworth and Bonner, 1983). The six steps are: (1) awareness, readiness, and commitment among staff; (2) needs assessment; (3) planning; (4) implementation; (5) evaluation; and (6) reassessment and continuation. School planning teams receive start-up money and the assistance of a university facilitator for three years. An evaluation of 19 schools conducted after the second year of the project (Sparks, 1983a) indicated that 82 percent or more of the participants noted improvements in teachers' knowledge, skills, and communication. The most commonly mentioned strengths of the program were the opportunity to have responsibility for staff development and the improved school climate. Clearly, these collaborative staff development models show promise for creating a positive context for inservice activities.

The Processes of Staff Development

What kinds of training processes help teachers grow in their skills? What should be the schedule of training? How large should workshop groups be? Which learning activities enable teachers to use new techniques in their classes? What, if anything, should participants do between workshops? Fortunately, recent research offers answers to these questions.

Scheduling of Staff Development Activities. Most research on instructional improvement has indicated that inservice programs consisting of a single session are largely ineffective (Lawrence, 1974). Most staff development programs that have an impact on teaching behavior are spaced over time (Berman and McLaughlin, 1978). There seem to be at least two explanations for this.

The Rand researchers (Berman and McLaughlin, 1976) introduced the concept of "mutual adaptation." As teachers tried out new practices, they adapted and modified them to fit their unique situations. Both the new techniques and the setting into which they were brought were gradually changed. These researchers found that where such mutual adaptation occurred over time, the likelihood of successful implementation was greater.

“Teachers’ levels of interpersonal communication relate positively to student attitudes and learning.”

Another rationale for the effectiveness of long-term change efforts is provided by the Concerns-Based Adoption Model (CBAM) (Hall and Loucks, 1978). CBAM takes into consideration teachers' concerns at various stages in the change process and designs training activities that address those concerns. For example, teachers' early concerns about how the program will affect them personally may later develop into concerns about how the program will affect students. An effective long-term staff development effort will most likely deal with such changing concerns in an adaptive, sensitive manner.

One staff development schedule that seems to be effective is a series of four to six three-hour workshops spaced one or two weeks apart. This schedule, used in a study of teacher effectiveness (Stallings, Needels, and Stayrook, 1978), resulted in teachers improving their behavior on 25 out of 31 classroom management and instructional practices. Other teaching effectiveness experiments (e.g., Anderson, Everson, and Brophy, 1979) have also demonstrated impressive teacher changes resulting from two or more training sessions separated by at least one week.

The implication here is that teachers need to be given the content of inservice education in small "chunks" spaced over time so that changing concerns can be addressed and only a few changes at a time are being attempted. The "one-shot" presentation (even if the "shot" lasts two or three days) does not allow for the gradual change inherent in the concerns-based approach and in the notion of mutual adaptation. Further, in such

settings, there is no opportunity for on-going discussion of problems and concerns related to implementation, which is critical.

Types of Training Activities. The staff development model proposed by Stallings (1982) is based on the notion of mastery learning, which includes the following steps: pretest (diagnosis), inform and discuss, guided practice and feedback, and post-test. The work of Joyce and Showers (1980, 1981, 1982) has brought to light the importance of carefully selecting the training activities used during staff development programs. Initially they suggested that four training components—presentation of material, demonstration of skills, practice, and feedback—were necessary for most teachers to acquire facility in a new model of teaching. Most recently, the authors have added that without the addition of a fifth component—coaching—transfer of the new skills to everyday practice cannot be guaranteed. Coaching in the correct use of the new skill could be provided by another teacher, an administrator, or a trainer.

By combining the activities suggested by Joyce and Showers (1981) and Stallings (1982), the following list of potential staff development activities results: diagnosing and prescribing, giving information and demonstrating, discussing application, practicing and giving feedback, and coaching (see Figure

Figure 2. Types of Training Activities

- Diagnosing and Prescribing
- Giving Information and Demonstrating
- Discussing Application
- Coaching

2). The research on the effectiveness of each of these activities is examined in the following sections.

● **Diagnosing and Prescribing.** The Stallings Effective-Use-of-Time Program (Stallings and others, 1978) is one of the few staff development models that includes this activity. Teachers receive detailed profiles based on three one-hour classroom observations of their teaching behavior. The profiles include recommendations for behavior change based on previous correlational and experimental studies of teacher effects. Teachers are encouraged to select only a



Robert V. Jones

few areas for change. After training, they receive further observations and a final profile. Teacher improvement has been impressive with this training format.

Many teachers who have participated in the Stallings program have mentioned that their awareness of how they used class time was raised by the teaching behavior profiles. The research on behavior change in counseling situations has long stressed the importance of building an awareness for the need to change before attempting change (Sanford, 1966). Diagnosis and awareness-raising are two aspects of staff development programs that merit further attention.

● **Giving Information and Demonstrating.** This is the "meat-and-potatoes" of most staff development or inservice programs. While we know that "telling is not teaching," it is important that the "telling" part of staff development be done well. Joyce and Showers (1981) stress the importance of providing clear demonstrations of recommended practices and argue that little change is likely to occur without them. The term "demonstration" has a broad meaning that includes live modeling, videotapes, detailed narrative descriptions, and even vividly described (and labeled examples). In short, when trying to learn a new skill or concept, it helps to see it (or visualize it) in practice.

It appears that providing information and demonstrations can be a quite powerful training activity when used alone without other activities. One teacher effectiveness study (Crawford and others, 1978) found that teachers whose only training experience was reading a training manual that contained detailed

explanations and specific narratives of classroom episodes used the recommended teaching practices significantly more than did a control group of teachers. The use of one or two workshops, along with manuals that provide vivid verbal illustrations of recommended teaching practices, has been effective in producing teacher change in other teacher training studies (Good and Grouws, 1979; Anderson and others, 1978). In summary, clear, detailed presentations of information with modeling or demonstrations seem to be necessary, but not necessarily sufficient, for the success of staff development efforts.

● **Discussing Application.** Although neither Joyce and Showers (1981) nor Stallings (1982) lists this as a separate activity, it is included separately because it seems to be a crucially important aspect of staff development and teacher growth. When teachers are asked what they like best about inservice workshops, they often mention the sharing of ideas with other teachers (Holly, 1982).

Discussion can be useful when new concepts or techniques are presented. For example, when presenting the research on time-on-task in the California Department of Education Effective Classrooms Training (Mohlman, Kierstead, and Gundlach, 1982), teachers were asked to brainstorm the techniques they used to increase the amount of academic time and decrease the amount of "down" (or nonacademic time).

In the Effective-Use-of-Time workshops (Stallings and others, 1978), teachers are encouraged to experiment with one or two new techniques at a time (for example, using grouping or designing an incentive system). At the

end of each session they write down the new ideas they will try. The first activity at the next workshop (one or two weeks later) is a discussion of what each person tried and how it worked.

Many programs that have been effective in helping teachers adopt new practices include time for discussion (Evertson and others, 1982). Teachers are encouraged to talk about how the new techniques are working for them, their problems and successes, and their concerns. The discussion is most productive when guided by a facilitator or workshop leader who keeps the group focused on finding solutions and sharing ideas rather than allowing the group to get sidetracked into talk about school policies or individual students. The leader also contributes effective techniques not mentioned by other teachers.

Including opportunities for discussion and reflection in small "support groups" appears to be a productive training activity. The idea of creating instructional support groups is not new. Bentzen's (1974) I/D/E/A study of school change highlighted the "peer group strategy" as a powerful force for change. When staff members formed small groups and engaged in group problem-solving activities, changes occurred and persisted in the school.

It is important that the discussion activity occur in a relatively small group of eight or fewer teachers. Participation tends to be more equal in small groups; shy people are more likely to speak up and those who tend to dominate are more considerate of other group members' desire to contribute their ideas (Menlo and Gill, 1982). Also, it can take several minutes for participants to explain how a particular lesson or game works in enough detail to allow the other teachers to try out the new idea on their own. Additionally, with smaller groups, each member has sufficient time to contribute and explain his or her favorite technique.

Finally, there is a special kind of camaraderie that develops among a small group of teachers who meet regularly to improve their professional skills. In the Stallings' Effective Use of Time Program, six or seven teachers meet five times every one or two weeks. To understand the process of teacher growth, 17 teachers who had just completed the training were interviewed (Sparks, 1983b). Ninety percent of the teachers interviewed mentioned how much they appreciated the "personal nature" of the workshops; most of them said that their



previous inservice programs had been in large groups where an "expert talked down to them." The five teachers who made the greatest improvements in observed teaching behavior said that hearing about their colleagues' instructional problems and solutions made them feel less isolated and more confident about their ability to make changes in their classrooms.

The cost of conducting workshops with small groups is lowered when teachers become trainers of other teachers. Stallings and others (1978) found that Effective-Use-of-Time workshops had the same effects on teaching behavior and student learning when teacher-trainers led the workshops as when Stallings' trainers conducted them.

If logistics make it necessary to conduct the inservice sessions with larger numbers of teachers, small-group activities can still be included. Large groups could gather for presentations and demonstrations; small subgroups could be

formed for discussions. If no facilitators are available to guide the discussions, specific tasks can be assigned to the groups along with guidelines for equal participation. In any case, there is growing evidence that small-group discussion of the application of and concerns about new techniques enhances the eventual adoption of new teaching practices.

• **Practicing and Giving Feedback.** Having opportunities to practice a new skill and receive feedback on performance is helpful for behavior change. Indeed, Brophy and Good (1974) found that just providing feedback to teachers about their differential treatment of students resulted in significant changes in teacher-student interaction. There are several ways of providing practice and feedback in staff development programs.

The simplest form of practice occurs in the classroom, where the teacher tries out a new practice and receives "feedback" by observing the effect on students

of the new technique. The desirable results are often immediately apparent.

For some teachers, for instance, the "omnivores" referred to by Joyce and McKibbin, (1982) and some practices (certain simple classroom management techniques or question-asking strategies), this laissez-faire form of practice and feedback may be adequate. However, for most teachers and most skills being taught in staff development workshops, purposeful, structured practice and feedback activities seem to work best (Joyce and Showers, 1980).

Microteaching, role-playing, and peer observation are common practice and feedback activities. In-classroom coaching (which is discussed separately) is another approach to providing feedback. It differs from simple feedback in that the "coach" critiques behavior, makes suggestions for improvement, and, perhaps, even demonstrates the desirable behavior.

Microteaching has been a successful format for providing practice and feedback. The teacher prepares a 5- to 20-minute lesson that is taught to a group of five to ten students. Usually the lesson is audio- or videotaped to provide immediate feedback on the new skills being practiced in the lesson. Studies of inservice training that include microteaching activities indicate that this activity enables teachers to make specific changes in their teaching behavior (Borg, 1977).

Role-playing during the workshop is another valuable practice activity. The trainer monitors and provides feedback to the participants as they practice the new skill (such as using eye-contact to quell misbehavior) with their peers.

Peer observation is also a powerful mechanism for promoting constructive interaction among teachers. In an oft-cited study by Roper, Deal, and Dornbusch (1976), elementary school teachers who visited each other's classrooms for the purpose of peer evaluation improved their teaching significantly. Berman and McLaughlin (1976) listed peer observation as one of the activities included in the effective change programs they reviewed.

Recently, Sparks (1983b) examined the effects of three combinations of training activities on classroom teaching behavior. Three groups of six junior high school teachers participated in five Effective-Use-of-Time workshops. Teachers in one group conducted two peer observations between workshops, teachers in the second group were "coached" individually by the trainer,

and teachers in the third group received only the workshops with no extra feedback or coaching. The teachers in the workshops-plus-peer-observations group improved more than did the teachers in the workshops-only group. It also appeared that peer observation may have been more powerful than coaching in producing improvements in teaching behavior.

There are several reasons that may explain the effectiveness of peer observation activities. First, the peer observers were involved in the analysis and coding of teacher and student behavior. This experience may have made them more aware of their own behavior and thus more able to analyze and make changes in their own teaching. Second, just observing another teacher can be a powerful learning experience. After observing a colleague, teachers often say how helpful it is to see another classroom; they often then are able to share the good ideas and new techniques they saw in action. Sadly, it is rare for teachers to see their peers teaching (Yarger, Howey, and Joyce, 1980).

Finally, peer observation may help break down the "psychological walls" between classrooms, thus dissipating the loneliness of teachers vividly described by Lortie (1975). The peer-observation group in the Sparks (1983b) study was exceptionally enthusiastic and cohesive. Being observed may have seemed slightly threatening at first, but once teachers realized their peers would not judge them, a team spirit began to develop.

I would like to add here a few cautions about peer observation. First, it should not be seen as a process where one teacher judges another; one teacher merely collects information for another teacher. Although Roper and others (1976) found desirable results with peer evaluation in the mid-70s, jobs are much more tenuous and competition is greater in the 80s. To ensure high levels of trust and collaboration, peer observation activities should be kept voluntary and completely separate from evaluation.

Another key factor in their process is to make the observation student-focused rather than teacher-focused. For example, simple seating charts can be used to mark the target behavior (off-task activity or interactions with the teacher) on each student's "seat." (For more detail see Stallings, 1982.) These data provide ample opportunity for discussing the effects of various teaching practices on student behavior. In the beginning, at least, this helps the observed teacher feel

less "on the spot" and self-conscious. After higher trust is developed, teaching behavior may become the predominant focus of the observation.

The purpose of the peer observation process is not just to provide feedback. Its most important function is to stimulate analysis and discussion of the effects of teaching behavior on students. This process occurs as the pair of teachers examine the completed observation forms under the guidance of the workshop leader or in post-observation discussions. As teachers practice new techniques in their classrooms, they receive objective feedback from the observation forms. They then bring this information to the workshop to discuss in light of what they have been learning about effective teaching practices.

In summary, peer observation—"equals" observing each other—seems to be a promising activity for staff development. To be most effective, however, it should occur in an atmosphere of trust and collaboration.

● **Coaching.** The final framing activity examined here is coaching, defined by Joyce and Showers (1981) as "hands-on, in-classroom assistance with the transfer of skills and strategies to the classroom" (p. 380). In a more recent description of coaching, Joyce and Showers (1982) described the process of coaching as the provision of companionship, giving of technical feedback, analysis of when to apply a model and the effects of its application, adaptation of the model to the needs of students, and interpersonal facilitation (support) during the practice period. Such coaching could be provided by administrators, curriculum supervisors, college professors, or teachers.

Joyce and Showers (1982) suggested that peer coaching is especially helpful for the transfer of learned skills to the classroom. Showers (1983) tested the effectiveness of peer coaching in an experimental study. Seventeen teachers were trained during seven weeks (21 hours) in three models of teaching (Joyce and Weil, 1974). After training, nine teachers participated in an extended observation-feedback cycle (peer coaching), while the remaining teachers taught as usual. The teachers in the coaching group received on the average higher transfer-of-training scores than did the teachers not receiving the coaching. Thus, in this study, the provision of peer coaching appeared to assist in the implementation of the recommended models of teaching.

The efficacy of coaching provided by

an expert (rather than a peer) has received little investigation (Joyce and Showers, 1981). The study by Sparks (1983b) contrasted (1) workshops plus trainer-provided coaching with (2) workshops plus peer-observation with (3) workshops alone. The teachers in the peer-observation group improved more than the teachers in either of the other two groups. In this study at least, workshops plus trainer-provided coaching did not appear to be superior to workshops alone or to workshops plus peer observation. This is good news. Follow-up visits by an expert are expensive, and may be unnecessary for teachers to make real changes in their teaching.

Selecting Training Activities. Which training activities should be included in staff development programs? Are some more critical than others? Do characteristics of the training content influence the selection of training activities?

Joyce and Showers (1980) attempted to answer these questions in their review of training studies. They made an important distinction between two types of training content—the fine-tuning of existing skills and the learning of a new repertoire of unfamiliar skills or strategies. Briefly, they concluded that, for fine-tuning of skills, presentation and modeling were adequate for some teachers to use the skills routinely in class. As the recommended methods become less familiar and more complex, however, consistent practice with feedback was necessary for the majority of teachers. And some teachers needed direct coaching before transfer of such skills was attained.

An analysis of the training activities used in 20 studies of the implementation of inservice training (Sparks, 1983b) provided some support for these conclusions. In six of the studies of successful inservice training programs, only the presentation and modeling activities were used. The content of these six programs was derived from observational studies of everyday teaching behavior. Thus, the recommended practices were familiar to many teachers—clearly not “new repertoire.” The two studies including coaching activities were providing training in Joyce and Weil’s (1974) “models of teaching.” These models—not derived from observational research on teacher effectiveness—were less familiar (“new repertoire”) for the teachers.

Based on these analyses, familiarity with the recommended teaching practices (how foreign they are to the teachers’ existing repertoire) may be an im-

portant factor influencing the choice of training activities: Teachers who are less familiar with the methods learned in workshops will tend to need additional training activities after presentation and demonstration.

Teacher Characteristics and Attitudes Toward Change

Although content, context, and process are important to consider when designing staff development programs, we have not yet touched on a fourth element that can influence the effectiveness of inservice education—the teachers themselves. Just as some methods work best with some students and not others, staff development programs may need to be adapted to fit various teacher characteristics and attitudes.

Teacher Characteristics. Intellectual traits and developmental maturity are two teacher characteristics that have been found to relate to teacher behavior change. In a teacher effectiveness experiment by Crawford and others (1978), the measure of teachers’ verbal ability correlated significantly and positively with teachers’ observed use of the recommended practices. In Showers’ study of coaching (1983), teachers’ conceptual levels (CL) were investigated. CL refers to modes of thinking and is theorized to range from concrete, rigid thought and behavior to abstract, more flexible thought and behavior (Hunt, 1975). Showers (1983) found that CL was positively related to transfer of training among the coached teachers; more flexible thinkers were more capable of using the recommended models of teaching as intended. No relation was found among the uncoached teachers, however. Finally, in a study by McKibbin and Joyce (1980), a psychologist’s ratings of teachers’ “states” along Maslow’s hierarchy of needs (that is, safety to self-actualization needs) were positively related to teachers’ self-reports of transfer of training to their classrooms.

In an excellent review of the literature on adult development, Oja (1980) made a strong case that staff development should strive to help teachers develop maturity on both the personal level (for instance, on Maslow’s hierarchy) and the cognitive level (for instance, reasoning and CL). She suggested that staff development will have little impact on teaching styles without explicitly addressing personal and cognitive developmental levels of teachers. With the accumulating evidence that such teacher characteristics may influence teachers’ ability to profit from inservice training,

more attention may be needed in this area.

Teacher Attitudes. Teachers have many attitudes toward their staff development experiences. They may like or dislike the timing of the workshops, the trainer, or other organizational aspects of the training. The attitudes discussed here are the teachers’ perceptions of the recommended changes in teaching behavior. Teachers make a conscious decision whether they will or will not try out or adopt a new practice. What influences this decision?

Dovle and Ponder (1977) have suggested that three criteria influence teachers’ decisions regarding implementation of recommended practices. The first, instrumentality, refers to the extent to which a recommendation is stated clearly and specifically. The second criterion is congruence—how well the new practice fits in with the teacher’s philosophy of teaching. The third is cost; teachers appear to weigh the effort required against the payoff of the new technique.

Mohlman, Coladareci, and Gage (1982) examined the findings from five teacher effectiveness experiments in the light of these three criteria and found that the more highly implemented practices tended to be perceived as specific, philosophically acceptable, and/or worth the effort. Many of the practices that were not adopted were seen as vague, as philosophically unacceptable, or as too much work.

These authors also investigated the relationship between teacher attitude toward the recommendations and implementation in one of the experiments. Teachers who expressed disagreement with the recommendations (for instance, “I don’t believe in having high school students read aloud”) or who listed many problems or difficulties with them (“Grouping is too much work; I already do enough planning!”) tended not to implement the suggested practices.

Sparks (1983b) measured teachers’ perceptions of the importance and difficulty of each of the practices recommended in Stallings’ Effective-Use-of-Time workshops. The teachers’ ratings of the importance of using the techniques correlated positively and significantly with their implementation of them and with the degree of improvement. Ratings of the difficulty of the practices, however, did not predict the degree of use or improvement. Some teachers who improved dramatically felt

the changes had been easy to make; other improving teachers felt they had been difficult. The perception of difficulty seemed to be an individual matter.

Based on this work, it appears that, for teachers to use recommended practices in their classrooms, the techniques need to be made clear and explicit and teachers need to become convinced (a) that the practice is worthwhile (in terms of teacher or student outcomes) and (b) that the change can be made without too much work or disruption.

The Process of Teacher Change. Both Sparks (1983b) and Showers (1983) interviewed the teachers they trained to

gain a deeper understanding of how changes in teaching occur. This research has provided new insights into the process of teacher change.

Sparks (1983b) examined interviews, questionnaires, observation data, and field notes for five teachers who made exceptional improvements (on classroom management and active instruction) and five teachers who made no improvements.

One interesting difference between the groups was in their level of self-expectations. The improvers said things like, "I now realize I have control over many things I thought I had no control

over," and "I no longer feel powerless." The training helped these teachers develop a new confidence in their competency. The nonimprovers, in contrast, seemed to have lost hope that any changes could be made. They felt that trying anything new would make no difference. It was a sad case of low expectations for both the teacher and students (see Good, 1981, for a review of teacher expectations research).

Showers (1983) used teacher interviews, observations of, and conversations with the teachers in her Models-of-Teaching training to investigate the difficulties teachers had in transferring their new repertoire of rather complex skills to the classroom.

The most interesting problem the teachers had with the models was in knowing when to use them. Teachers either could not form objectives that fit the models, could not think of their curriculum in terms of the models and the concepts they developed, or used the models inappropriately. It was as if correct use of the models required some teachers to think about their objectives and curriculum in an entirely new way. That, for some teachers, was a cognitive task that proved too complex.

Although many of the barriers to change can be explained by Doyle and Ponder's (1977) notions of instrumentality, congruence, and cost; two other aspects of teacher change have been highlighted by these studies: self-efficacy and cognitive complexity. First, it appears that it may be desirable to help teachers acquire a heightened sense of self-efficacy—a confidence and belief in one's ability to deal effectively with classroom problems. Perhaps this is best done by starting with changes in teaching that are not too difficult, but that ensure success and positive feedback. It appears that, for some of the teachers in the Showers (1983) study, using some of the models correctly required too many complex skills that the teachers did not have. Thus, they could not experience success with the models.

The second piece of the puzzle of teacher change involves the restructuring of teachers' conceptualization of subject matter. That is, if a teacher sees biology as a series of lists to be learned and activities to be performed, it is unlikely that much concept development is going to occur. This teacher will need to be led through a reexamination and restructuring of the topics and concepts of biology. This point takes on more importance when we recognize



Highlights From Research on Staff Development for Effective Teaching

Studies comparing various models or processes of staff development are rare. While it is not possible to state conclusively that one inservice design is superior to another, we can put together the many pieces of research reviewed here to make some general recommendations about staff development programs for more effective teaching.

1. Select content that has been verified by research to improve student achievement.
2. Create a context of acceptance by involving teachers in decision making and providing both logistical and psychological administrative support.
3. Conduct training sessions (more than one) two or three weeks apart.
4. Include presentation, demonstration, practice, and feedback as workshop activities.
5. During training sessions, provide opportunities for small-group discussions of the application of new practices and sharing of ideas and concerns about effective instruction.
6. Between workshops, encourage teachers to visit each others' classrooms, preferably with a simple, objective, student-centered observation instrument. Provide opportunities for discussions of the observation.
7. Develop in teachers a philosophical acceptance of the new practices by presenting research and a rationale for the effectiveness of the techniques. Allow teachers to express doubts about or objections to the recommended methods in the small group. Let the other teachers convince the resisting teacher of the usefulness of the practices through "testimonies" of their use and effectiveness.
8. Lower teachers' perception of the cost of adopting a new practice through detailed discussions of the "nuts and bolts" of using the technique and teacher sharing of experiences with the technique.
9. Help teachers grow in their self-confidence and competence through encouraging them to try only one or two new practices after each workshop. Diagnosis of teacher strengths and weaknesses can help the trainer suggest changes that are likely to be successful—and, thus, reinforce future efforts to change.
10. For teaching practices that require very complex thinking skills, plan to take more time, provide more practice, and consider activities that develop conceptual flexibility.

the current need for more and better teachers of the higher-level thinking skills involved in math and science. It may be, as Oja (1980) has suggested, that we need to teach teachers how to think about their subjects with greater cognitive complexity. □

¹Although some authors make a distinction between staff development and inservice education, I have used the two terms interchangeably to mean any training activity that attempts to help teachers improve teaching skills.

References

- Anderson, L.; Everson, C.; and Brophy, J. "An Experimental Study of Effective Teaching in First-Grade Reading Groups." *Elementary School Journal* 79 (1979): 193-223.
- Aspy, D. N., and Roebuck, F. N. "Affective Ed: Sound Investment." *Educational Leadership* 39 (1982): 488-493.
- Bentzen, M. *Changing Schools: The Magic Feather Principle*. New York: D. Appleton and Co., 1974.
- Berman, P., and McLaughlin, M. "Implementation of Educational Innovations." *Educational Forum* 11 (1976): 347-370.
- Berman, P., and McLaughlin, M. *Federal Programs Supporting Educational Change, Vol. VIII: Implementing and Sustaining Innovations*. Santa Monica, Calif.: The Rand Corporation, 1978.
- Borg, W. R. "Changing Teacher and Pupil Performance with Protocols." *Journal of Experimental Education* 45 (1977): 9-18.
- Brophy, J. "Classroom Organization and Management." *The Elementary School Journal* 83 (1983): 265-285.
- Brophy, J. "Successful Teaching Strategies for the Inner-City Child." *Phi Delta Kappan* (April 1982): 527-530.
- Brophy, J., and Good, T. *Teacher-Student Relationships: Causes and Consequences*. New York: Holt, Rinehart and Winston, 1974.
- Crawford, J.; Gage, N. L.; Corno, L.; Stavrook, N.; Mitman, A.; Schunk, D.; Stallings, J.; Baskin, E.; Harvey P.; Austin, D.; Cronin, D.; and Newman, R. *An Experiment on Teacher Effectiveness and Parent-Assisted Instruction in Third Grade* (3 vols.). Stanford, Calif.: Center for Educational Research at Stanford, 1978.
- Doyle, W., and Ponder, G. "The Practicality Ethic and Teacher Decision-Making." *Interchange* 8 (1977): 1-12.
- Everson, C.; Emmer, E.; Sanford, J.; and Clements, B. "Improving Classroom Management: An Experiment in Elementary Classrooms." Paper presented at the annual meeting of the American Educational Research Association, New York, 1982.
- Hough, W. M., and Urick, R. V. "Leadership, Educational Change, and the Politicization of American Education." In *Education in the 80's: Curricular Challenges*. Edited by L. Edinger, P. L. Houts, and D. V. Meyer. Washington, D.C.: National Education Association, 1981.
- Good, T. "Teacher Expectations and Student Perceptions: A Decade of Research." *Educational Leadership* 38 (February 1981): 415-422.
- Good, T., and Brophy, J. "Changing Teacher and Student Behavior: An Empirical Investigation." *Journal of Educational Psychology* 66 (1974): 390-405.
- Good, T., and Grouws, D. "The Missouri Mathematics Effectiveness Project: An Experimental Study in Fourth-Grade Classrooms." *Journal of Educational Psychology* 71 (1979): 355-362.
- Hall, G., and Loucks, S. "Innovation Configurations: Analyzing the Adaptations of Innovations." Paper presented at the annual meeting of the American Educational Research Association, Toronto, 1978.
- Holly, F. "Teachers' Views on Inservice Training." *Phi Delta Kappan* (February 1982): 417-418.
- Hunt, D. E. "Person-Environment Interaction: A Challenge Found Wanting Before It Was Tried." *Review of Educational Research* 45 (1975): 209-230.
- Joyce, B., and McKibbin, M. "Teacher Growth States and School Environments." *Educational Leadership* 40 (November 1982): 36-41.
- Joyce, B., and Showers, B. "Improving Inservice Training: The Messages of Research." *Educational Leadership* 37 (February 1980): 379-385.
- Joyce, B., and Showers, B. "Teacher Training Research: Working Hypotheses for Program Design and Directions for Further Study." Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, 1981.
- Joyce, B., and Showers, B. "The Coaching of Teaching." *Educational Leadership* 40 (October 1982): 4-10.
- Joyce, B., and Weil, M. *Models of Teaching*. New Jersey: Prentice Hall, 1974.
- Lawrence, G. "Patterns of Effective Inservice Education: A State of the Art Summary of Research on Materials and Procedures for Changing Teacher Behaviors in Inservice Education." Tallahassee: Florida State Department of Education, 1974. ED 176-424.
- Lieberman, A. L., and Miller, L. "Synthesis of Research on Improving Schools." *Educational Leadership* 38 (April 1981): 583-586.
- Little, J. W. *School Success and Staff Development: The Role of Staff Development in Urban Desegregated Schools, Executive Summary*. Washington, D.C.: National Institute of Education, 1981.
- Lortie, D. C. *School Teacher: A Sociological Study*. Chicago: University of Chicago Press, 1975.
- Menlo, A., and Gill, S. "Antecedents to Member Participation Within Small Groups: A Review of Theory and Research." Paper presented at Finley Carpenter Research Conference, The University of Michigan School of Education, Ann Arbor, 1982.
- McKibbin, M., and Joyce, B. "Psychological States and Staff Development." *Theory Into Practice* 19 (1980): 248-255.
- Mohlman, G.; Coladareci, T.; and Gage, N. "Comprehension and Attitude as Predictors of Implementation of Teacher Training." *Journal of Teacher Education* 33 (1982): 31-36.
- Mohlman, G.; Kierstead, J.; and Gundlach, M. "A Research-Based Inservice Model for Secondary Teachers." *Educational Leadership* 40 (October 1982): 16-19.
- Oja, S. "Adult Development is Implicit with Staff Development." *Journal of Staff Development* 1 (1980): 7-56.
- Roper, S.; Deal, T. E.; and Dornbusch, S. M. "Collegial Evaluation of Classroom Teaching: Does It Work?" *Educational Research Quarterly* (Spring 1976).
- Rosenblum, B. "Teaching Functions and Instructional Programs." *The Elementary School Journal* 83 (1983): 335-352.
- Sanford, N. *Self and Society*. New York: Atherton Press, 1966.
- Showers, B. "Transfer of Training." Paper presented at the annual meeting of the American Educational Research Association, Montreal, 1983.
- Slavin, R. "Cooperative Learning." *Review of Educational Research* 50 (1980): 315-342.
- Sparks, G. M. *Evaluation of the Staff Development for School Improvement Program, Final Report*. Detroit: Wayne State University, 1983a.
- Sparks, G. M. "Inservice Education, Training Activities, Teacher Attitude, and Behavior Change." Doctoral dissertation, Stanford University, 1983b.
- Stallings, J. A. "Effective Strategies for Teaching Basic Skills." In *Developing Basic Skills Programs in Secondary Schools*. Edited by D. G. Wallace. Alexandria, Va.: Association for Supervision and Curriculum Development, 1982.
- Stallings, J. A., and Mohlman, G. G. *School Policy, Leadership Style, Teacher Change, and Student Behavior in Eight Schools, Final Report*. Washington, D.C.: National Institute of Education, 1981.
- Stallings, J.; Needels, M.; and Stavrook, N. *How to Change the Process of Teaching Basic Reading Skills in Secondary Schools: Phase II and Phase III Final Report*. Menlo Park, Calif.: SRI International, 1978.
- Titsworth, G., and Bonner, C. "School Improvement in a Local Michigan School District." *Journal of Staff Development* 4 (1983): 120-128.
- Wood, F.; Thompson, S.; and Russell, F. "Designing Effective Staff Development Programs." In *Staff Development/Organization Development*. Edited by B. Dillon-Peterson. Alexandria, Va.: Association for Supervision and Curriculum Development, 1981.
- Yarger, S.; Howey, K.; and Joyce, B. *Inservice Teacher Education*. Palo Alto, Calif.: Bookend Laboratory, 1980.

Copyright © 1983 by the Association for Supervision and Curriculum Development. All rights reserved.