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ABSTRACT

Papers presented at a conference on major inservice issues are reprinted along with summaries of discussions following the presentations. A decription is given by C.B. Garrison of the Arkansas Program for Effective Teaching, which exemplifies an inservice program wherein all districts in one state are using one highly structured, research-based model. Marian Mohr describes a process that attracts and immerses teachers in an inservice writing project designed to increase professionalism and improve performance by students. Paul Parks discusses graduate courses in content areas and the quandary of the reluctance of teachers to take graduate courses in content disciplines rather than concentrating their graduate work in education courses. William Graves discusses the prerequistites to attract arts and sciences faculties into inservice education for teachers. Michael Rowls illustrates that school district programs are gradually replacing formal graduate courses as the route to recertification, and the pressure that exists to grant graduate credits for school-based activities. Peer counseling for beginning teachers is discussed by Terry Wyatt. Constance Bergquist describes the Teacher Education Center program in Flordia, an inservice model that allows each district to design its own activities and gives teachers a voice in determining their inservice program content. (JD)

What Works in In-service Education Programs for Teachers?

Southern Regional Education Board

What Works in In-service Education Programs for Teachers?

Edited by
Eva C. Galambos

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Foreword

The SREB Task Force on Higher Education and the Schools acknowledged in 1981 that the improvement of classroom teaching depends greatly on assisting currently employed teachers. At current turnover rates, the quality of the overall teaching force for the next few years will be influenced more by the continuing education of teachers now employed than by the recruitment of new teachers. The Task Force's 1983 assessment of educational improvements in the South noted, however, that more progress had been made in assessing minimum standards for beginning teachers than in improving the quality of practicing teachers.

In-service education is complex, involving many forces: teacher participation, local school administration involvement, teacher and college faculty rewards, and state certification procedures. Consequently, improvements in continuing education for teachers will result from a comprehensive, not a piecemeal, approach.

States are recognizing this phase of teacher education, and the responses often reflect the special circumstances in each state. In December 1984, the Southern Regional Education Board convened a meeting of state and national leaders concerned with staff development for teachers to examine various state approaches to in-service education and to determine if any general principles about its effective provision are emerging. This report, edited by Eva Galambos, presents the major in-service issues discussed during that conference.

Winfred L. Godwin
President

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Hows and Whys of In-service for Teachers

There are many who tie the improvement of elementary and secondary schools primarily to teachers. Although the principal and other school administrators affect the quality of the instructional program too, once the classroom door is closed, the teacher has the most important role in what and how students will learn during the school day.

Only approximately five percent of the teachers in any one year are newly trained. Thus, pegging the improvement of teachers to better pre-service training programs will have an impact on only a small proportion of the teaching force. The largest potential for elevating the quality of teaching depends on programs that will motivate, stimulate, recharge, and improve the thousands of currently employed teachers.

In-service programs for teachers take many forms. They include formal graduate courses as well as workshops sponsored by school districts. Whether called staff development, continuing education, or in-service programs, all are aimed at developing the human resources of the school districts to higher levels of performance.

While administrators and legislators are all aware of the need to develop the human resources of the schools, there is little agreement on the effectiveness of various programs toward this objective. Time and time again new directions have been charted for various in-service programs, sometimes with more state control, but increasingly with input by teachers at the district level. Still, there is a dearth of knowledge about the payoff of various strategies for providing in-service education for teachers.

In December 1984, the Southern Regional Education Board (SREB) sponsored a conference on "What Works in In-service Education Programs for Teachers?" for the purpose of exploring issues related to the question. Attending this invitational conference was a cross-section of persons directly involved with in-service training of teachers across the South—school district superintendents and staff development directors, personnel from state departments of education, deans and faculty from colleges of education and the arts and sciences, and teachers. The strategies covered by the speakers range from a statewide, highly structured staff development model (in Arkansas) to individualized, one-to-one peer counseling of teachers (in Toledo, Ohio). The issues explored in the conference are keyed to the presentations and discussions relating to the strategy under consideration.

How Structured or Controlled Should the Substance of In-service Be?

The Arkansas Program for Effective Teaching (PET) exemplifies an in-service program wherein all districts in one state are using one model. The model itself is highly structured. The instructors and participating teachers follow a planned sequence of modules developed on the basis of Madeline Hunter's research. The chances are that if one visited an in-service site in one district using the PET model, one would find the same program as given in another district. On the same day of the in-service sequence, the participants in different sites would be following more or less the same activities, lectures, readings, etc.

On the other hand, the Teacher Education Center program in Florida illustrates an in-service model that allows each district to design its own activities. It involves a "needs assessment" process that gives teachers a voice in determining their in-service program content. Visiting different centers would probably mean exposure to vastly different subjects, and no subject probably would be pursued for more than a day, if that long. This system, while benefiting from partial ownership by the teachers (they are "in-servicing" themselves), illustrates the one-shot workshop, speaker, or subject-of-the-day approach.

To What Extent Does The Continuing Education of Teachers Need To Emphasize Knowledge or Pedagogy Skills?

Two papers in this publication stress emphasis on content: William Graves speaks from the perspective of a leading research university that is reasserting its responsibility to public schools; Paul Parks' remarks are from the viewpoint of chairman of the Task Force on Teacher Education of the Southern Council of Graduate Deans. Dr. Graves discusses the prerequisites to attract arts and sciences faculties into in-service education of teachers. Dr. Parks addresses the quandary of the reluctance of teachers to take graduate courses in content disciplines rather than concentrating their graduate work in education courses.

Credit for What? Voluntary or Involuntary?

What kinds of incentives do teachers need to participate in staff development activities, graduate courses, and other continuing education programs?

Recertification regulations represent one incentive. Michael Rowls illustrates that school district programs are gradually replacing formal graduate courses as the route to recertification. But, since teacher pay scales are still tied to the credentials they have earned, there is pressure to grant graduate credits for school-based activities, summer institutes, etc. How is this pressure reconciled with university standards for graduate programs?

The discussion following Dr. Rowls' presentation illustrates these concerns. While Dr. Parks pleads for teacher preparation in courses in their subject or disciplines, Dean Mulhern (University of South Carolina, College of Education) poses the problem of teachers who need retraining. Will the mathematics department offer a course at the graduate level in geometry to meet the needs of such a teacher? Superintendent Garrison assumes voluntarism as the condition for successful in-service programs, yet, Superintendent McLean (also from an Arkansas school district) requires his teachers to participate.

Teacher/consultant Terry Wyatt from Toledo explains peer counseling (another form of in-service) for beginning teachers, or for experienced teachers who are having severe problems in their classrooms. The teachers must participate. Voluntarism exists in so far as the teachers' organization sought this role through negotiations with the school district.

Marian Mohr, co-director of the Northern Virginia Writing Project, describes a process that attracts and immerses teachers in an in-service activity for its intrinsic value. The rewards are increased professionalism and improved performance by students.

Given limited funding, which is the better strategy—to reach most of the teachers, as PET does in Arkansas, or to work intensively with a few teachers, as Dr. Graves describes in North Carolina, and Ms. Mohr reports regarding the Writing Project?

Does "In-Service" Effect Change in Teachers or Improved Student Achievement?

Presumably the massive sums invested by private industry in staff development and training of its human resources pay off in higher profits. What kind of measure does education have to determine the returns on in-service programs? A majority of the papers allude to the frailty of the evaluation studies, if final outcomes are at issue. Do teachers really change what they do because of attending in-service sessions? Do their students perform better? Hard data are hard to come by.

Dr. Rowls points to quality controls inherent in university-controlled courses, as compared to some other staff development activities. Dr. Bergquist concludes that the impact of the Teacher Education Center programs varies considerably from district to district. Ms. Mohr brings to life how teachers as researchers in their own classrooms effect improvement and change—in themselves and in their students.

Whose Objectives Are To Be Met by In-Service Programs— the School District's or the Teachers'?

The Arkansas PET program is premised on objectives that have been predetermined as important by administrators. The Florida Teacher Education Centers exemplify a system in which teachers have a majority vote in determining program content. Ms. Mohr, in describing the Writing Project, illustrates that there is seldom a change among teachers toward a desired objective until that objective is internalized by the teacher.

There may have been a time when in-service programs developed by schools (and/or teachers) represented the school district's objectives in terms of staff development, while the graduate courses teachers took to amass credits represented their objectives. Thus, teachers paid for the latter; school districts paid for the former. Now these lines are becoming fuzzier. Districts may pay for teacher participation in summer institutes which, in some cases, do convey graduate credits. Formal on-campus courses that teachers take to prepare themselves for teaching in a shortage area may meet school district needs as well as teacher objectives.

The following papers and discussion address these and other important issues. They do not necessarily produce hard answers. But, the beginning of knowledge is to ask the right questions.

The Arkansas Program for Effective Teaching: A Statewide Staff Development Program*

C. B. Garrison
Superintendent of Fort Smith Public Schools

What works in in-service education for teachers? In Arkansas the answer seems to be the Program for Effective Teaching (PET). Faced with increased public emphasis on teacher accountability, student mastery of basic skills, educational standards, academic excellence, and instructional leadership, Arkansas educators have implemented a state-adopted staff development model—the Arkansas Program for Effective Teaching. The ultimate objective of PET is to promote learning for students in a more effective, efficient, and relevant manner. PET has been defined as:

> a research-based staff development program which teaches teachers the essential elements of any lesson, how to analyze his/her teaching behavior in terms of these elements, and how to continually make needed improvements or adjustments so that all students can learn more effectively and efficiently (Etheridge, 1978).

The program was introduced to Arkansas by Don Roberts in 1979. Dr. Roberts, the newly appointed Director of Education, had initiated the development of the program with his staff in Newport News, Virginia, where he had been the superintendent of schools.

The PET model was developed by Bill Etheridge of the Newport News Public Schools, after he had participated in an in-service training program directed by Madeline Hunter, principal of the UCLA lab school in California. Etheridge synthesized a training model for use with Newport News teachers as a staff development effort to improve instruction in order to raise student achievement levels in basic subject areas.

Pleased with the effort and its effect on student achievement, Dr. Roberts arranged for a small group of Arkansas educators to participate in a pilot program of PET training in Newport News. The training consisted of instructional input sessions plus practice sessions in which the concepts and strategies were put into application by the participants. After intensive training, this group of Arkansas educators assumed trainer roles and led other groups of Arkansas teachers and administrators through the effective training program. Persons who became trainers completed three cycles of PET training as well as special seminar sessions with UCLA consultants to perfect skills and refine the training outline. In 1981, the state-certified trainers met in a workshop and developed a comprehensive program outline for the Arkansas Program for Effective Teaching. Workshops have since been provided on related teaching/learning research findings, which have increased the scope of the program and enriched the original content materials.

"From the initial group of 24 educators, the program has expanded across the state [via the multiplier effect] to include in excess of 18,900 Arkansas educators."

From the initial group of 24 educators, the program has expanded across the state (via the multiplier effect) to include in excess of 18,900 Arkansas educators. According to the Management and Development Office of the State Department of Education, participation has included approximately:

- 81 percent of the school districts
- 65 percent of the colleges
- 60 percent of the classroom teachers
- 75 percent of the principals
- 50 percent of central office administrators
- 50 percent of college of education professors.

There are approximately 600 certified PET instructors. All instructional personnel at the State Department of Education receive PET training. Many school districts offer the program on a maintenance schedule for new teachers or those who have not participated in the training.

*Prepared by Patricia J. Jackson, Director of Personnel, Fort Smith Public Schools

Science Versus Art

The Program for Effective Teaching recognizes the individuality, needs, style, and interests of the teacher and focuses on providing the teacher with tools and techniques to use in planning for effective instruction as he/she utilizes his/her own teaching style in the presentation of instruction. PET is the *science* of teaching, while the teacher's style is the *art* of teaching.

"It allows teachers to use PET [the science of teaching] as the foundation for their own style and creativity [the art of teaching]."

The science insures that the essential elements of an effective lesson are included in the presentation and planning is done before, during, and after the lesson. In an address to Arkansas PET trainers, Dr. Hunter noted:

> The teacher who has a "knack with kids" but no *science* of instruction can remain a promising amateur who never develops the rigor needed to become a professional. The teacher who has the science, but never developed the *artistry* of delivery remains, at best, a technician (Hunter, 1980).

The teaching techniques and concepts which compose the Program for Effective Teaching are primarily based on the research results of Dr. Hunter's comprehensive research study of effective teaching.

Dr. Hunter's mastery teaching approach is based on understanding "cause-effect relationships" in the teaching/learning act and helping the teacher use those causal relationships to increase student learning. In her workshops, Dr. Hunter presents teaching techniques and concepts to teachers for their consideration and adaptation to their own style and classroom situation.

Training in the Program for Effective Teaching similarly provides the teacher with a reservoir of techniques and concepts on which to draw as he/she focuses on increasing the effectiveness of the teaching act to increase the probability of student learning.

Format of PET

The Program for Effective Teaching is based on a model which describes the total teaching act as being composed of six components:

- knowledge of content;
- planning skills;
- selection and use of appropriate materials;
- classroom management;
- human relations skills;
- instructional skills based on knowledge and understanding of human growth and development.

Although the six components are interrelated and interdependent, the content of the PET training program focuses primarily on the instructional skills component. The instructional skills include:

- select the objective at the appropriate level of difficulty;
- teach to the objective;
- maintain the focus of the learner on the learning;
- use without abuse the principles of learning (motivation, reinforcement, retention, and transfer);
- monitor and adjust the teaching/learning.

Techniques and theory relative to these skills are addressed in the training program sessions. These techniques and concepts are also modeled by the trainer in his/her presentations to the program participants.

In addition to presentations on the five instructional skills, the participants learn to plan a lesson using the

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". . . the PET training program focuses primarily on the instructional skills component."

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steps of task analysis, to increase the student's thinking skills using Bloom's Taxonomy of Educational Objectives (Bloom, 1956), and to outline a lesson using the PET lesson line developed by Bill Etheridge.

The lesson line which establishes the elements of the instructional presentation includes:

- *anticipatory set*—stating the objective, involving the learners, relating the learning to past and/or future learning;
- *teach to the objective*—explanation, questions, responding to the efforts of the learner in terms of the learning, and activities;
- *closure*—involving the learners and summarizing the learning (Etheridge, 1978).

Participants in the training program not only receive instructional input on the content of the training program, but also practice the techniques, view teaching demonstrations, and apply the PET techniques and concepts in a teach/observation/conference session. In this session the participant and observer discuss the lesson relative to the effective teaching model. Objectives for the next demonstration are mutually established.

In the Fort Smith district, PET training extends over a 23-day cycle, which includes six days of instructional input and four teach/observation/conference sessions interspersed with applied practice in the classroom. Most districts use some variation of this cycle. Several Arkansas colleges give graduate workshop credit for the program based on the instructional input and lab hours.

The Question of Structure

Does the excellent, creative teacher feel constricted rather than motivated by having to delineate specific objectives? Does PET fail to address the individualized needs of teachers? What does such a structured effort achieve?

"Participants . . . apply PET techniques and concepts in a teach/observation/conference session."

PET is based on the research results of the techniques used by excellent, creative, and effective teachers. It allows teachers to use PET (the science of teaching) as the foundation for their own style and creativity (the art of teaching). Teachers are encouraged to internalize and adapt the concepts of PET to their teaching style. PET asks only that the essential elements of effective teaching be included in the planning and presentation of instructional objectives so that students may learn in an efficient and effective manner from a presentation that is relevant to the instructional objective.

PET helps teachers learn to evaluate their own teaching and helps administrators provide the clinical supervision required for continued professional growth and for maintenance of effective schools. When both principal and teacher have received PET training, the discussion of instructional content and teaching performance is facilitated.

PET offers the beginning teacher a base of operation rather than trial-and-error efforts. This saves time for the teacher and the student, and ultimately increases time on task—instructionally and administratively.

PET instructors model the concepts and attempt to stimulate the teacher's motivation by using the same variables the PET participants learn to use to motivate their students: success, concern, feeling tone, interest, knowledge of results, and reward (Hunter, 1967).

The teach/observation/conference experience provides a framework for clinical supervision of the teacher by the administrator/supervisor.

Past participants in the Program for Effective Teaching have written the following comments in their evalution of the training cycle:

> This has been the greatest educational experience in my life!
>
> I feel that I had these skills all along; however, it (the training) certainly has better organized and clarified when and why I use them. I will make certain that I use these principles as best I can, as I am now aware of their effectiveness in making me a more efficient and effective teacher.
>
> The skills are great. They are very practical and are not difficult to implement. The children seem to enjoy the lessons, and they seem to get a lot out of the lessons in a shorter period of time. Everything makes so much sense.
>
> I can't tell you about PET. It's like religion—you've gotta get it for yourself!

An Arkansas administrator with over 30 years of experience noted:

> Teachers and administrators are (now) talking about the same kinds of things and finding that they really have had the same basic goals all the time. The Program for Effective Teaching is the kind of in-service which really has a professional tone and a beneficial effect on all levels of the educational endeavor in a school.
>
> It seems to pay off in terms of more effective learning, more efficient use of time and more relevant communication at all levels of the educational hierarchy (Lingle, 1983).

The development of a common language of terminology to describe the teaching/learning act has indeed been a tremendous bonus from PET. From district to district and at the state level, Arkansas educators are communicating more effectively (formally and informally) about instruction.

Conclusion

What works in in-service education for teachers? In Arkansas, PET has worked as a statewide staff development effort implemented at the district level. The program has served not only to unite educators in providing more efficient, effective, and relevant learning for students (accountability), but also as a catalyst and a frame of reference for numerous other staff development activities. Arkansas educators take pride in this united professional effort and in its effect on the academic progress of our students.

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Discussion

Is the evaluation of teachers through classroom observation tied to PET?

No. We generally steer clear of that. We don't want teachers to think that's the purpose of PET, so we do not use the PET structure in doing the twice-a-year teacher evaluation. I would be remiss not to say that those people who have gone through the program talk that language in the principal-teacher conference, but at our school, we deliberately steer clear of anything related to the PET model in the evaluation process. I don't know about other schools. (At this point another Arkansas district superintendent indicated that his district integrates PET and teacher evaluation, and that PET is not voluntary in his district.)

Based upon your experience with the program, how do you react to the voluntary nature of it as opposed to being a condition of employment?

I prefer voluntary kinds of programs—personally, if you have to make me do it, I'm not going to do very well on it. Right now, for example, 10 to 15 percent of the people don't want to fool with it. To me the effectiveness for the participants far outweighs trying to force those people into the program. That's a personal feeling.

Do participants receive graduate credits for the PET activities?

Our district had a requirement, long before the state got into it, that every teacher has to have so many hours of staff development activity every six years. We allow PET to count as part of that staff development.

Can PET be divided into chunks or components that might be offered without having to go through the entire PET sequence?

This particular program is structured. It's a "no-no" to try to break it into separate modules. You pretty much have to stay with the entire model.

Who pays for the PET program? Is it the local district, or does the state give you money for those six days that the teachers are missing classes? What's the cost of this?

It is now funded at the local level—we bear the cost. We have to provide substitutes for six days for each teacher to go through the course—and that is a significant cost for us. (Another local superintendent from Arkansas added that his district cycles all teachers through PET over a four-year period, at a cost of about $90 per teacher.)

Did any of your secondary teachers raise any concerns about the fact that the research base for the PET project was primarily conducted in elementary schools?

I don't know that that question has been raised. They probably don't know it. The model as it has been presented at our schools is equally appropriate for a secondary teacher, an elementary teacher, or a physical education teacher, because we dwell on the fundamentals that are the basic things I talked about. We emphasize very strongly up front that we're not trying to change the artistry of the teacher. The very concept that you're going to make a presentation on a lesson and that the learner knows what you're going to expect from him or her is a fundamental. Secondly, you stay on the target, keep right on that subject. Now, those are fundamentals!

Comment: I'd like to add that Madeline Hunter has new findings based on secondary schools.

In-service, Writing Projects, and Teacher Change

Marian M. Mohr, Teacher and Co-director
Northern Virginia Writing Project

Underlying the question of this conference--What works in in-service education?—is the question of how teachers change.

As a classroom teacher, I have been "in-serviced." But also, because of my job as a resource teacher and as co-director of a writing project, I plan and present programs for other teachers; I have the worries of an in-service giver.

To look at the questions wholly, I need to include some of my history as a recipient of in-service and the attitude it developed in me toward myself as a teacher. I have also been part of a large in-service effort, the Northern Virginia Writing Project at George Mason University in collaboration with the Fairfax County Public Schools. This experience has given me an attitude toward in-service itself. Finally, in the past three years as a resource teacher in Fairfax County and as leader of a group of teachers who are conducting research about writing process in their own classrooms, I have developed a new attitude toward teaching in general—teaching as research. From these three vantage points, I hope to see more clearly what kinds of in-service help teachers to change.

"Underlying the question of this conference—What works in in-service education?—is the question of how teachers change."

As far as I can remember, I did not learn to teach until I began teaching, and when I began teaching I became instantly, at that moment, a recipient of in-service. Some of this in-service was informal and unintentional. I learned from a variety of daily messages.

My administrators seemed to approve of me, but we did not often talk about teaching. Our meetings were about managing the school and about exceptions to rules that were rules themselves. I went to administrators for help in introducing new programs that needed money, and I appreciated their occasional kind words. I understood the frequent interruptions of my classes by the loud speaker as their comment on the importance of my instruction, and each year I ignored a few more of their memos.

I learned about teacher-proof curriculum. Some of the texts even told me what to say, reaffirming that, at best, I was irrelevant and, at worst, actively impeding my students' learning.

In addition to these informal in-service messages, I learned from the huge gatherings my school system held at the beginning of each year. One August day I was summoned with all the hundreds of other county teachers to the largest gym we had at the time. After struggling to park, I crowded in and sat half-way up the bleachers to hear William Glasser, a tiny figure under a basketball net, talk about schools where teachers and students grow close, about schools without failure. He seemed a strong voice over the mike and I was determined to try his ideas on the first day of school.

That afternoon I attended the second half of the day's program. It was about grade inflation, grade distribution, and the importance of having a certain number of grades in the grade book for each student each week. I accepted both messages, not expecting theoretical consistency from in-service.

"In-service was a respite from struggling with the problems of teaching on my own, but I felt no pressure to change . . . as a result of it."

I went to every meeting and took lots of courses and lots of notes. Sometimes when I tried out what I had heard, it worked; other times it didn't. In-service was a respite from struggling with the problems of teaching on my own, but I felt no pressure to change how I taught as a result of it.

The Writing Project

The learning process I've been describing, including both formal and informal, intentional and unintentional in-service, taught me an attitude toward teachers and a way to behave as a teacher. If I had not changed my attitude and behavior, if I had not grown to know and respect a few teacher colleagues, and if I had not begun to write about my experience as a teacher, I think I would no longer be one.

The National Writing Project influenced my professional growth by supporting and encouraging the actions in those "if" clauses. I began to learn about and respect the work of other teachers and my own work as well. The writing project story goes much beyond my small high school and its classrooms, however.

It began at the University of California in Berkeley under the steady and inspired leadership of Jim Gray. It is now a national organization in its eleventh year of working on writing—how teachers teach it and how students learn it. Currently there are 130 National Writing Project sites. About 70,000 teachers are part of its programs annually—20,000 in its summer institutes and 50,000 more in its various in-service programs. Its leadership is now decentralized to the extent

"Currently there are about 130 National Writing Project sites. About 70,000 teachers are part of its program nationally . . . in summer institutes and various in-service programs."

that every local project has directors and assistant directors whose ideas and expertise move on to Jim; they help him keep his vision. Funding for the various sites has come from the National Endowment for the Humanities, the Carnegie Corporation, and from various other sources, including state government education budgets.

All of the sites share certain purposes and assumptions about the teaching of writing and in-service. The main purpose of the National Writing Project is to improve the teaching and learning of writing at all grade levels. Some of the assumptions about writing are:

> Writing is a skill acquired over many years, and growth in writing requires constant practice and careful nurturing.
>
> Writing is not only a skill to be learned but also is fundamental to learning in all disciplines.
>
> Most teachers of writing have not been trained to teach writing and, in addition, the body of knowledge about writing that exists—and there is a growing amount—is relatively new.
>
> Effective writing teachers can be identified and brought together to exchange ideas, and what is known about writing comes from these practitioners as well as from research.
>
> An important link exists between practicing the craft of writing and teaching it and, therefore, to become competent teachers of writing, teachers must write themselves.

An additional purpose of the National Writing Project is to create and develop an in-service model that acknowledges the professionalism of teachers at all grade levels while assisting them in changing the way they teach. Some of the assumptions about in-service are:

> Effective in-service is collaborative—universities and schools developing a new professional relationship of mutual respect among teachers at all grade levels.
>
> The most effective teacher of a teacher is another teacher.
>
> Effective in-service programs are ongoing and enable teachers to come together at regular intervals to study and discuss changes they are attempting.
>
> In-service needs to reach beyond the classroom teacher to involve parents and administrators.
>
> Effective in-service includes rewards—money, credit, and professional recognition—for those who participate in it.

Probably the best way to get to know a writing project is to visit a summer institute, a gathering of about 25 teachers from all grade levels and often from several disciplines. They are selected for recognized expertise in the teaching of writing, openness to new ideas, and interest in working with other teachers. They each prepare a presentation on some aspect of the teaching of writing with which they feel successful and, starting on the first day of the institute, they give their presentations to each other, afterwards discussing content and effectiveness of delivery. They also spend considerable time writing on topics of their choice—revising and developing polished pieces, at least one of which will appear in the institute's final publication and perhaps later in the Writing Project newsletter.

The directors of the institute participate on a similar basis, giving presentations and belonging to a writing group. All members of the institute read current texts on writing and study writing research and theory. Both the institute directors and the participating teachers

". . . the emphasis is on the individual teacher as a professional thinking person who takes the responsibility for his or her own practice."

emphasize the effectiveness of modeling the teaching and writing behavior they desire in their students. As a whole, an institute is a lively, emotional, struggling, thinking, supportive opportunity for change, and the power of writing, often being experienced for the first time by many of the participants, contributes to that change.

Teacher change is what the institute is about. Teachers feel it happening and become increasingly interested in how it happens to others. Writing projects

"The most effective teacher of a teacher is another teacher."

are not curriculum or lesson plans. Because teachers in the institute read research about writing and stay current on new developments in the field, they try out similar practices in their teaching. But, the emphasis is on the individual teacher as a professional thinking person who takes the responsibility for his or her own practices. This precipitates a heady exchange of ideas, constant discussion, and not a few arguments about what works in the classroom and why.

Curriculum change is viewed as an eventual part of a teacher's professional role, but the writing project itself does not promote particular curriculum ideas. Instead, the project suggests that curriculum should be a living document growing out of changing research findings and teacher practices.

Besides visiting a summer institute, another way to understand the writing project model of in-service is to visit a program or class coordinated by writing project teacher/consultants (as teachers are called after they have successfully completed the summer institute). Teacher/consultants are likely to pull the chairs into a circle and throw out the podium. The other teachers, present voluntarily, are approached as colleagues.

"Teacher change is what the [summer] institute is about."

The teacher/consultants will ask the participants to write, and they themselves write. They show samples of what their students have written. They listen to the questions and comments of the participants who talk about difficulties they have had with their methods and how they worked through them. They connect their practices to current research and theory. They argue with the theories if they disagree, but indicate they have read the books and the research. Some speak of their own classroom research and how it has informed their practices. They offer the participants a handout with explanations of the practices they have been describing plus an annotated bibliography should anyone wish to pursue the subject further. At the end, some follow-up plans are made.

A third place to visit to learn more about writing projects is a project office. It is usually a crowded little room in the university that houses the project—paper is piled high, file drawers bulge, and phones ring. Several teachers are at work on one of the ongoing programs of the project—putting the newsletter together, planning for presentations at a professional conference, holding a meeting of a writing group, planning an in-service program, or discussing the possibility of a new program.

All these visits that I have suggested have not yet included the classroom of a writing project teacher/consultant. Their classrooms are very different from each other, at least on the surface, and research is currently underway to discover what these teachers of writing have in common. Many evaluation studies have already been conducted on the work of the National Writing Project, however, and the results show certain similarities:

> The writing skills of students of teachers trained in writing projects, either in the summer institutes or in-service programs, show significant gains.
>
> A spin-off effect is evident on teachers in the same schools with writing project teacher/consultants.
>
> Areas other than writing—teacher expectations, curriculum, educational policy, community education, and professional growth—show the impact of writing project in-service.
>
> Writing projects are cost-effective.

Teacher Research as In-service

Any student of educational research discovers a gap between what is known based on research findings and what is actually practiced. When I first began to read staff development research, I realized that the same gap exists between what is known to be effective in-service and what is practiced by universities and school systems.

Part of the reason for this gap, I believe, is that most in-service is planned and led by people who are no longer classroom teachers. They prepare programs for people who are *still* in the classroom.

A program where teachers conduct their own research in their own classrooms about questions that concern them assumes respect for the learner, in this case both the teachers and their students. For the past few years I have led a group of teachers interested in

"Effective in-service includes rewards—money, credit, and professional recognition—for those who participate in it."

the teaching of writing and in finding out more about it. They do qualitative research, descriptive of context. They observe closely what they and their students do, and they record it carefully. They analyze their data,

most of which is material they would collect under any circumstances, and they ask their students questions, writing down the answers. They describe and categorize the qualities of the teaching and learning about writing in their classrooms.

Teacher-researchers can, I believe, make significant contributions to research about how people learn. They can also add to existing research the sorely missed context which makes it meaningful to the practitioner.

". . . [a] gap exists between what is known to be effective in-service and what is practiced by universities and school systems."

As in-service, teacher-research is equally significant. Teachers who are thinking of themselves as researchers teach differently. They ask more and different kinds of questions. They become interested in how their students learn. They begin to seek more consistency in what they do, as they document it and analyze it. Most importantly, they model for their students the behavior of a learner. The behavior of a teacher-researcher—writing down what happens, asking students about their work and their understandings, studying their work for clues as to how they learn and, therefore, how to teach more effectively—all these behaviors say to the students, "This is the way a person learns. This is what a learner does." It is a powerful way to teach.

Of course, if teacher-research is to become a significant element in in-service, teachers who do it need support. They need the support of other teacher-researchers, since what they do can be risky and threatening. They need other teacher-researchers to help them verify and analyze their data. They also need the support systems for this do-it-yourself in-service, most helpfully in the form of released time and recognition.

As I was preparing this essay, I thought I had synthesized what I wanted to say about successful in-service in two basic rules:

> You can't teach someone you don't respect.
>
> You can't teach someone unless they have something to teach you, too.

I felt pleased with these ideas and decided to try them out on my classes of tenth- and eleventh-graders who were working on definition papers, trying to follow some of Plato's ideas of how to write a good definition. I had been working on my definition of in-service while they worked on theirs of courage, love, education, and other terms important to them. They reminded me that Plato's idea was that a good definition needed to be stated positively and to be transforming, to change the way people look at things. They were not very much up on in-service, but they knew their Plato! I went back to revising.

Perhaps because I am an English teacher interested in writing, I searched for a literary quotation, preferably from a poet, to give me an elegant ending.

"Teachers who are thinking of themselves as researchers . . . ask more and different kinds of questions . . . [and] model for their students the behavior of a learner."

The quote that popped into my head is from the notebooks of the American poet Theodore Roethke. He wrote, "A teacher is a person who conducts his [or her] education in public."

What works in in-service education is the kind of exchange that this conference represents, our attempts to carry on our education in public. I have appreciated the opportunity to learn from you, and I hope that what I have had to say was helpful, positive, and transforming.

Discussion

This is an administrative bureaucrat from outside your profession speaking. One of the things we hear a lot is that students are not writing enough; yet English teachers in our secondary schools often teach 150 students. How can these two factors be reconciled?

Most teachers, and particularly the National Council of Teachers of English, say 150 students are far too many. There is no way for a writing teacher to eat and sleep and still teach writing effectively to 150 students. I know that's not a practical answer, and this is a little off the in-service subject, but it has to do with whether or not you'll even get teachers to come to in-service about writing.

The new research shows that, in the teaching of writing, students need to spend more time on the revision process of one piece of writing—they don't necessarily need lots of assignments which the teacher then grades and gives back to them. For example, in my classes, my students might spend as long as four weeks on one paper. They do a lot of

writing, and they may re-draft that paper three or four times, but I'm not intimately involved in reading and correcting it. We work in a workshop arrangement within the class, and I have a chance to talk to them about what they're doing.

There is research evidence that if you take a student's paper and make all the corrections on it, you've not taught that student anything other than the fact that you know how to spell and you know where punctuation marks go. Until students take that editing and revising responsibility for themselves, they aren't going to learn how to revise and edit. So I don't correct spelling errors; I try to teach them how to be good editors and proofreaders. Those are classroom answers to an administrative problem.

There's a major transition from high school writing to very large freshman comp classes in most college programs. How does this affect students?

My experience in universities is that most freshman comp classes are not really very large. Students may be in large lecture classes sometimes, but I think that's not so true in freshman comp. Frequently, however, what *is* true is that students are taught by graduate students (teaching assistants) who themselves have never had any training in the teaching of writing; by and large they are just learning how to teach writing. One of the interesting spin-offs in the Virginia Writing Project is that the classroom teachers in the Writing Project have been called in to give presentations at universities to the freshman comp teaching assistants to give them ideas about teaching writing.

One of the things we're doing in our school district is to promote writing across all disciplines. Could you comment on this strategy?

Can math, science, social studies, and teachers in other disciplines be interested in, or leaned on, to participate in writing in-service? I think that is happening. Much of the new research about writing deals with the relationship between writing and learning. It becomes very clear that students who write about what they're learning learn it better. One of the teacher/researchers I work with, a fifth-grade teacher, uses writing to teach math. Her students write problems; they write to try to figure out how to solve problems; and they keep learning logs (the jargon term for that kind of writing).

For the most part, I think teachers in other disciplines have welcomed this as a way to help their students learn better. They also complain, however, if they see themselves suddenly having to stay up late at night, as English teachers do, to grade papers. But, once they learn that it is not necessarily useful to correct that kind of writing for grammar, they generally relax a little bit. The other spin-off is that some teachers of other subjects, particularly historians and scientists, have been looking at the writing done by historians and scientists. One teacher I know uses scientific journals to show students examples of how scientists figure out an idea by writing about it.

Can we find enough excellent writers among our teachers to teach others to improve this writing?

That's an interesting question. A teacher does not have to be an excellent writer, but does have to practice the craft. One of the most effective things that I have seen teachers do is to write in front of their students, either on an overhead or a chalkboard. When they're working quickly, they may make a mistake or two, and they model for their students what writers do—their first draft is not their last draft. They work on a piece of writing creating it into what it finally becomes. I don't think a teacher of writing has to be an expert writer; I do think he or she has to be a practitioner.

As far as the depth of knowledge that they need, I think the best in-service can offer is to help teachers have theoretical consistency. For example, if you have your students do a learning log and you say you want them to think, to try to figure out things on paper, and then if you grade it for grammar and spelling mistakes, you're sending a mixed message to your kids about what writing is. In-service can help teachers avoid that kind of problem.

Teachers need the opportunity to integrate the things that they are learning into a consistent approach in the classroom. I think teachers are very interested in research and theory. I know that's not what a lot of the in-service literature says, but I think teachers just don't say it the "right way." What they say is, "I tried to do that in my classroom, and it didn't work. It's a dumb idea!" What they mean is they weren't able in any consistent way to make it a part of their philosophy of teaching.

If a state were reconsidering its in-service program and asked you for advice in general, what would you tell them?

I guess the two things that interest me the most about the writing project, and that make it work, are the teacher control of it and knowing that's a dangerous thing. When I listen to presentations of some people in the writing project, for example, there's a part of me that cringes, because I don't believe in what they're saying and, yet, I do believe that the only way teachers will become more professional is by assuming that they should be presenting their ideas. I guess it's really the same thing you do in your classroom. If you go in and assume that the people there are not going to be able to learn, can't take responsibility for their own learning, you'll have a very hard time getting them to do it. But if you go in, as we do at the summer institute of the writing project, with the assumption that these people are good professionals who want to be good teachers, that they have the right to be in control of their own education, then you have good success. So that would be one component in it.

The other thing would be this whole emphasis on classroom research. The exciting thing that begins to happen when a teacher documents what goes on in his or her classroom is that he or she is modeling what a learner does. The teachers are then asking questions, "What do you think about this?" and their students are seeing the teacher as a person who learns, not as a person who knows everything. It's that model that students need. How do people learn? Well, they ask questions; they write about their ideas; they come back if they're not sure; they're not afraid to take risks; and they may make mistakes sometimes. That's the kind of model for teaching that teacher research is.

What kind of relationship would you like to have with the faculty at the university in that research activity?

That's a difficult question because of the tradition. Right now I think teachers who are doing research in their classrooms are hesitant and afraid of doing things wrong. It may be the saddest commentary on American education that teachers do not place a high value on what they do and what they know. I say to teachers who are beginning to do research, "what you know matters" because, by and large, it hasn't been valued. A part of me wants to answer your question by saying, "Just get off our backs for a while. Leave us alone and let teachers get some confidence in doing this." The truth is, of course, that we very much need the expertise and support of the university community. One of the things I'm trying to work on is to have positions for teacher/researchers modeled after the released time program at the university level, that is, a teacher who wants to conduct research might have one less class, and have "guilt free" Xeroxing privileges.

I think eventually there will be models which will be truly collaborative and not top-down models. The teachers need to come up with their own research questions, not simply to be the pawns in the projects of the university researchers. For the most part teachers don't do quantitative research, at least not the ones I know about.

In my wildest dreams, I imagine a group of teachers in a school conducting research about what goes on in their classrooms and putting that together, working out a collaborative arrangement with the university whereby somebody begins to quantify some of the things they're finding out. I think if we got that far, we might begin to understand a little bit about what goes on when people learn.

Do we in universities need to assist teachers in developing sharper research questions? I assume that is at least a part of the problem.

Yes, though I think again it's such a problem of confidence. Many of the teachers that I'm working with have taken courses in educational research based on quantitative, experimental models. To the teachers, that was something they "got through" but was not anything that had much to do with their own classrooms. Several weeks ago I was at the National Council of Teachers of English (NCTE) meeting in Detroit, and there must have been five different presentations on teacher research. Teachers were leading them, talking about what they were finding out in their classrooms, and there were university researchers in the room, sharing with the teacher/researchers. So, I think that's changing and I certainly hope it continues to.

Graduate Courses in Content Areas

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I have been assigned the task of discussing graduate courses in subject matter areas (English, mathematics, science, etc.) as a part of in-service training programs for school teachers. First, let me say that I have interpreted my charge broadly—especially as it relates to the definition of "in-service" programs. And, because my primary interest is the subject matter content in teacher education programs, I will consider pre-service preparatory programs as well as graduate and staff development work.

The report, *A Nation at Risk,* states that "the teacher preparation curriculum is weighed heavily with courses in 'educational methods' at the expense of courses in subjects to be taught," and follows with the conclusion that "half of the newly employed mathematics, science, and English teachers are not qualified to teach these subjects" (*Education Under Study,* 1983). According to an SREB publication, the National Science Teachers' Association has reported that only 30 percent of the nation's teachers are adequately trained in the subject matter they teach (SREB, 1984).

I appreciate the importance of the professional component of teacher training programs (courses in the historical, social, and philosophical foundations of education; educational psychology; learning theory; research in education; testing and measurement; and pedagogical methods). My comments are in no way intended to demean these important areas of study. I also appreciate the difficult challenges which have little to do with subject matter competence that teachers face daily—excessive teaching loads, inadequate facilities, discipline and other problems of classroom management, increasing use of the public schools as instruments of social change, etc. But, as the reports indicate, there is a deep and abiding concern that teacher preparation and in-service programs are not adequately preparing teachers in the subject matter areas they teach. I take as my thesis that this is, in fact, true and will propose ways of improving both the quantity and quality of the preparation teachers receive in their teaching field.

> *". . . there is deep and abiding concern that teacher preparation and in-service programs are not adequately preparing teachers in the subject matter areas they teach."*

> *". . . arts and sciences majors . . . may provide a rich source of qualified teachers for the public schools if a reasonable mechanism can be established for their entry into the profession."*

The resolution of this problem may require dramatic changes in the basic structure of teacher training programs. In this context I am impressed with the recommendations of Boyer (*Education Under Study,* 1983). He proposes a five-year program with the following components:

- a core of common learning;
- careful selection of teacher candidates at the beginning of the junior year;
- completion of a major in an academic discipline with appropriate electives (prospective teachers should have contact with schools during undergraduate years);
- a fifth year of professional coursework, internship, and a series of seminars to provide an interdisciplinary perspective.

It may be properly argued that the financial and professional rewards do not justify a five-year commitment for preparation to practice. Many professional programs require more than four years of preparation, but in most cases the earning power of the professional is considerably greater than that of teachers. And, many professional training programs include a paid internship. I believe the five-year program could be justified if states would provide a modest stipend for the fifth-year internship to those students who agree to teach in the public school for some reasonable number of years.

Newly graduated arts and sciences majors, as well as persons with extensive training in an academic field who have been involved in other professions for a number of years, may provide a rich source of qualified teachers for the public schools if a reasonable mechanism can be established for their entry into the profession.

Let me turn now to continuing education or professional improvement programs for practicing teachers and consideration of how such programs may be used to enhance subject matter competency.

The State of Alabama has established a program to allow secondary teachers with undergraduate-level certification and one year of satisfactory teaching performance to obtain a master's degree and advanced certification in a subject matter field. In this strengthened

"At Auburn . . . half of the graduate work toward the minimum degree requirement in the M.Ed. program for secondary teachers [must] be taken in subject matter courses."

subject matter option, 75 percent of the coursework must be at the appropriate graduate level and in the academic discipline. The students are also required to complete courses in Evaluation of Teaching and Learning, Exceptional Child Education, and Psychology of Learning if these courses were not taken for prior certification. A similar option also exists for certification at the sixth-year, or Class AA, level. The problem we have faced is that there is little incentive to take this option—no premium in salary or professional advancement is assigned to this option—and most students choose to take the less rigorous (in terms of subject matter preparation) Master of Education degree with a predominance of professional education courses. At Auburn University we have remedied this in part by requiring that half of the graduate work toward the minimum degree requirement in the M.Ed. program for secondary teachers be taken in subject matter courses.

Summer institute programs that focus on the teaching field offer an excellent model for one kind of program that should be used more widely for the continuing education of teachers in their teaching field. An example of such a program was the Sequential Summer Institute program in mathematics offered a decade ago at Auburn University under the auspices of the National Science Foundation. This program provided stipends and other support for qualified students to earn a master's degree over four summers (8-week terms). The degree required 36 quarter-hours of mathematics and 12 quarter-hours of professional education courses. The Institute was open to high school teachers of mathematics with at least three years of teaching experience, and was directed by the faculty in the Department of Mathematics.

A joint committee of graduate deans and deans from the State of Kentucky, in a communication to the Task Force on Teacher Education of the Conference of Southern Graduate Schools, has also recommended reestablishing "summer institutes" on individual campuses that would focus on currently employed teachers who require upgrading of subject knowledge in their academic fields.

A recent report to the National Science Board (1983) recommends that both state and federal government assist in developing summer and academic year programs in science and mathematics for the retraining of teachers. The report points to the special urgency of this undertaking because of the rapid change in the subject matter of these disciplines.

In this regard, the State of North Carolina has developed a statewide coordinated system of eight math/science centers located at branches of the University of North Carolina. A unique aspect of the centers is that school systems select participants in the program. Those who qualify for admission to the Graduate School may take courses for graduate credit; other students may apply work toward renewal of certification. The mathematics courses are team-taught by a math education specialist and a member of the

"The challenge will be to offer a full range of professional improvement programs . . . including extensive subject matter training involving faculty from academic disciplines."

mathematics faculty. The science courses are taught by a science education specialist and a faculty member from an appropriate science discipline. This is a cooperative effort involving professional education, academic disciplines, and the local school systems, with the school systems providing part of the support. Specific support for the program is being provided by the State of North Carolina. Similar initiatives are required in other disciplines as well.

The State of Alabama is presently planning the establishment of regional Professional Development Centers. The centers will likely be administratively housed at one of the state universities, and each will serve a designated number of school districts. These school districts will be full partners in the planning and operation of the centers. The challenge will be to offer a full range of professional improvement programs through these centers, including extensive subject matter training involving faculty from academic disciplines.

One model for the delivery of subject matter coursework that I think may be applied to in-service subject matter training of teachers could be patterned after Auburn University's Engineering Outreach Program. In this program, a regularly offered on-campus graduate course is videotaped and delivered overnight to students throughout the state. Students, singly or in groups, take the class by playing the tape on a videotape player. The instructor is in his or her office at a designated hour to answer questions via telephone. All such questions are repeated in the next day's class. Students are mailed examinations, and these exams are taken on-site.

". . . programs must be flexible in order to meet the special needs of teachers."

Whatever the structure of the program to provide subject matter training for teachers, there are certain ingredients that I believe are essential to the success of these programs.

First, there must be adequate incentives to encourage teachers to undertake what are often very rigorous programs. The 1981 report to the Southern Regional Education Board by its Task Force on Higher Education and the Schools recommends that "state laws and regulations should be revised to tie teacher pay increments and recertification to completion of meaningful graduate education or staff development activity. The graduate education should be relevant to the teacher's current assignment . . . ." (SREB, 1981). This is good advice. Career ladder programs should also encourage strong subject matter-based graduate and staff development programs.

Second, these programs must be flexible in order to meet the special needs of teachers. Some may be served best by advanced graduate courses, while older teachers may benefit more from review work offered at the upper-division undergraduate level. These courses may also need to be offered in formats other than the traditional quarter or semester model or through the application of new technologies.

". . . there must be adequate incentives to encourage teachers to undertake what are often very rigorous programs."

Third, faculty members from the academic disciplines must be full partners in this enterprise. The question is: Can we, within the university's traditional reward system, find ways to encourage such participation? Dr. Hunter Ballew, director of the math/science center at the University of North Carolina at Chapel Hill, made an interesting observation during my discussions with him. He noted that senior faculty members have been valuable participants in the North Carolina program. It could well be that these faculty members are at a stage in their careers where they are seeking new challenges and may represent a valuable cadre of subject matter specialists for teacher training programs.

Finally, we must always remember that master teachers are not satisfied with a knowledge of their subject that is simply sufficient to teach high school courses. They seek a level of scholarship and depth of knowledge that allow them to truly understand their discipline. These are the teachers that bring clarity and love of learning to their students. We must provide graduate and staff development programs that encourage qualified teachers to pursue this level of understanding and scholarship.

"The question is: Can we, within the university's traditional reward system, find ways to encourage [academic faculty] participation?"

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Discussion

In our state, a significant proportion of the high school enrollment is outside the metropolitan areas. As academic requirements for high school graduation have been raised, one of the big problems is that teachers are teaching out of field. They may have earned a degree in biology, and all of a sudden they have been reassigned to teach a mathematics course. They come back to college because they need, for example, a course in modern geometry. On our campus a modern geometry course at the graduate level carries a prerequisite of three calculus courses, plus a pre-calculus course, which means these requirements essentially pertain to someone who was a math major. That's the problem, and the reality, that many teachers face when they go to graduate school. So they come to me in the college of education, and want me to teach a course called "Classroom Procedures in Modern Geometry," which I do. How can this be resolved?

I think this is something the graduate deans need to address. We ought to get away from the idea that the only kind of in-service work available to students past the baccalaureate is to come back and do graduate work. We need a system that would allow us to evaluate each student to determine the student's needs—Is it a matter of retraining, of changing fields, of simply retooling? The university must decide if it's willing to let that student take that work under a set of circumstances where he or she does not have to go back as a math major, as you said, to get retrained. At my school the teacher would be better off if we had a series of review courses at the junior level where we could place the student. (I understand the problem, by the way, but I'm against any change in career direction that involves just taking two or three courses, even though they may be the best possible courses we can offer students. But that's a side issue.)

Let's say that the superintendent sent that person back to a university. He or she said, "Look, you're going to teach mathematics—geometry, algebra, or whatever. I'm going to send you back to the university and let you take X number of courses in the subject area at the undergraduate level to prepare you to teach these courses." How will the university meet this problem? Which department level at the university has the problem now?

Comment: I'm a mathematician, so I have some insight on this. The course this person needs is an undergraduate course, and I think most universities would let him or her take it under those circumstances. We're putting too much emphasis on credit. When corporations send executives back to school, they send them to the school of business where they take these intensive programs. The corporations reward them, but what about the credit aspect? We ought to be doing the same kind of things with teachers. There is another side issue here—the geometry that is taught in public schools is rarely taught in universities any more. Geometry is gone from university curriculum. If it's there, it's only because it's part of the public school curriculum, and someone will have to teach it to teachers.

Comment: That's right, if it's found at all, it's not in the math department. We really need to look at the college mathematics curriculum, if public schools need this training.

Comment: Teachers need the distinction of credit hours. A master's degree is still an incentive. It pays more in most states.

Comment: IBM doesn't have to offer graduate credit for in-service because the company doesn't base salaries on it. That helps.

What is the possibility of not tying certification requirements to graduate credentials necessarily but, rather, to whatever work is necessary to move that person to some level of competence?

Then most teachers wouldn't even be thinking about graduate-level courses.

In-service Programs at Research Universities: A Practical Perspective from the Arts and Sciences

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Research universities are at the top of the pyramid of American education. The efficacy of their research programs is not arguable, but some education critics might argue that the research focus is antithetical to the goals of in-service education. The research focus, however, has never been viewed as antithetical to corporate and professional goals of continuing education. Rather, the resources and prestige of the research universities contribute significantly to the value of their continuing education programs. The nation's research universities could also contribute significantly to the quality of in-service training and to the perception of teaching as a profession.

Why, then, do in-service programs seldom prosper at research universities? One answer may lie in the relative value that the public accords teaching. This answer argues for the participation of the nation's most prestigious educational institutions in an effort to add esteem and quality, from the bottom up, to the entire educational system. Also, in-service programs often have no natural home. Many highly ranked schools of education, unlike their counterparts in law and medicine, offer little or no in-service training.

Across campus, however, academic departments involved in teaching freshmen—departments in the arts and sciences—bemoan the quality of the freshman's preparation for university study but seldom recognize their obligation to join the search for solutions. The hard truth is that arts and sciences faculties often have been openly indifferent, even hostile, to teacher training and in-service programs offered through schools of education. Institutionally-sponsored in-service programs requiring the cooperation of arts and sciences and education faculties are rare. Hostilities, perceived or real, between arts and sciences and education faculties, however, conceal important interests shared by all university faculty members—a desire to be good teachers and an interest in teaching and education. The hostilities, whether boiling or only simmering, do not reflect personal indifference or antipathy to the plight of the public schools.

". . . arts and sciences faculties often have been openly indifferent, even hostile, to teacher training and in-service programs offered through schools of education."

Where do the obligations and the opportunities for effective in-service training at research universities lie? To answer this question, those goals of in-service faculties must be identified and nurtured; for, new programs created in the enthusiasm of the educational moment surely will recede into ineffectiveness unless they are carefully designed to serve prevailing university interests. For example, in-service programs which address the college-preparatory curriculum will be the most appealing ones to the largest university faculty constituency—the arts and sciences faculty.

". . . those goals of in-service education which are compatible with the interests of research faculties must be identified and nurtured."

An Assumption about Effective Teaching

One assumption underpins the strategies presented here—a necessary condition for effective teaching is mastery of subject matter.

I call on personal experience to nail down this point. I am a university mathematician. My potential to succeed as a freshman calculus teacher is very great, not only because of years of experience teaching calculus, but because my Ph.D. training included course after course which reexamined and extended the ideas of the calculus. The calculus is part of me.

Public school teachers do not have the luxury of extended preparation time for teaching. It is extremely important, then, that the teacher's continuing education include course after course which examine and ex-

tend the basic concepts of the subject(s) to be taught. Mastery of subject is a necessary, but not sufficient, condition for effective teaching in the public schools.

The View from Arts and Sciences

One implication of the "mastery-of-subject" assumption about effective teaching is that comprehensive in-service programs will require the participation of arts and sciences faculties. This implication buttresses, and is buttressed by, the argument that effective arts and sciences involvement in in-service training should be built around the college preparatory curriculum. The next step, then, is to understand, and in the context of college preparatory curricula, the arts and sciences perspective on mastery of subject.

The belief that too many high schools attempt to cover too many subjects is widely held in the arts and sciences. Breadth of coverage in the absence of depth of resources dilutes the quality of learning. Most high schools have neither the faculty, the students, nor the physical resources to be small colleges.

Depth—as opposed to sampling—is especially important in the study of mathematics, the sciences, and foreign languages. When choices must be faced, ensuring student and teacher mastery of pre-calculus is more important than ensuring coverage of the calculus. Four years of French are preferred to two of French and two of Spanish if limited resources force the issue.

In the humanities and the social sciences, the argument takes a different form. The ability to recognize and to analyze issues and to integrate knowledge into a reasoned perspective on the human condition is paramount. Self-expression and perspective, more than accumulated fact, are the goals. Writing and oral expression take center stage. Teachers should have a good command of the English language, written and spoken, and should insist that their students learn the subject at hand by writing and speaking about it.

". . . a necessary condition for effective teaching is mastery of subject matter."

A corollary of the belief in depth and quality at the possible expense of breadth in the high school curriculum is skepticism for the "quick fix." Little of substance and quality can be expected from one-day programs and other in-service efforts which do not require a sustained intellectual commitment from participants. Intellectual involvement is the key to learning.

A Role for Schools of Education

The argument to this point calls for the participation of arts and sciences faculties in in-service programs to provide in-depth study in mathematics, science, foreign languages, and in writing and speaking about other basic subjects—history, literature, and political systems, for example. This path, however, is not intended to bypass potential contributions to in-service training by schools of education at the leading universities.

"It is extremely important, then, that the teacher's continuing education include course after course which examine and extend the basic concepts of the subject(s) to be taught."

Content-oriented, in-depth training programs surely should be informed by studies of their effectiveness. Program evaluation has little appeal to many arts and sciences faculties but is a major focus of most schools of education.

Teachers are interested in how to teach. A natural adjunct to coursework in a discipline is careful consideration of how best to teach the discipline. Cooperation between arts and sciences and education faculties, however, should be constructed on the practical basis that command of content precedes command of teaching techniques. Any other basis for cooperation is impractical. Ignoring the largest faculty constituency and its views on in-service training will diminish the institutional scope and effectiveness of training programs.

A Summary

The discussion has focused on why and how in-service training should involve arts and sciences faculties at the nation's leading universities. An itemized summary of the perspectives presented should help to illuminate the concrete examples to follow, provided that the summary also reflects some of the viewpoints of the recipients of in-service training.

- The resources and prestige of the nation's research universities could contribute significantly to the quality of in-service training and, thereby, to the esteem accorded the teaching profession.
- To gain institutional support and to have an enduring effect, in-service programs offered by research universities should be designed to appeal to all faculty constituencies, especially to the largest, which is in the arts and sciences.
- In-service programs will appeal to arts and sciences faculties if:

  command of discipline is recognized as the dominant prerequisite for effective teaching;

training focuses on depth and quality in the college-preparatory basics—writing and speaking (about history, literature, social systems), mathematics and the sciences, and foreign languages;

standards are high and an intensive intellectual commitment is required of participants;

the involvement of arts and sciences faculty members does not require extensive off-campus assignments;

education faculties apply their expertise and influence to:

strengthen discipline-based training with training in pedagogy,

evaluate the effectiveness of the in-service training offered,

find new ways for teachers to advance professionally as a result of discipline-based in-service training.

"The belief that too many high schools attempt to cover too many subjects is widely held in the arts and sciences. Breadth of coverage in the absence of depth of resources dilutes the quality of learning."

- In-service programs offered at leading universities and emphasizing mastery of subject will appeal to teachers if:

  there is no financial cost for participation and little personal cost associated with dislocation to the university campus;

  professional advancement and advancement of the professional are corollaries to successful participation in the programs;

  university faculty are interested and active participants in the programs;

  the programs carry the full prestige of the sponsoring institutions.

Some Examples at the University of North Carolina

There is a good relationship at the University of North Carolina at Chapel Hill (UNC-CH) between the School of Education (which does have a teacher training program) and the College of Arts and Sciences. Enlightened professional and self-interest has attracted arts and sciences faculty members to in-service programs. The School of Education has encouraged this interest by helping to establish in-service programs that address college preparatory curricula, a natural interest in the arts and sciences. Here are examples of some in-service programs currently offered by UNC-CH.

UNC-CH Mathematics and Science Education Center Programs

The Center seeks to improve the quality and to increase the number of mathematics and science teachers in the public schools of North Carolina. Collaboration between the College of Arts and Sciences, the School of Education, and the public schools is at the heart of the Center's programs and plans. Several programs illustrate the in-service perspective.

A six-credit-hour course is offered for middle school teachers. A mathematician and a mathematics educator teach the course with emphasis on mathematics mastery. Tuition is free to all participants. The course meets one night each week for a full academic year and concludes with a two-week intensive workshop. Costs are borne jointly by the Center and participants' schools.

A nine-credit-hour course for middle school science teachers, modeled after the course for middle school math teachers, is also offered. The emphasis is on learning more science.

Seminars for teachers of Advancement Placement (AP) courses—in calculus and in chemistry, so far—are offered at no cost to participants. The six-day seminars emphasize in-depth study of the most advanced topics in the AP course under scrutiny. One purpose is

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"Little of substance and quality can be expected from . . . in-service efforts which do not require a sustained and intellectual commitment from participants."

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to ensure that AP courses, when offered, are of high quality. Cooperating schools arrange continuing education credit for participating teachers.

The newly formed UNC Mathematics and Science Education Network Office located on the Chapel Hill campus will encourage and coordinate in-service programs for math and science teachers among the seven Mathematics and Science Education Centers located on constituent campuses of the network. Some of the UNC-CH Center programs described above may spawn similar counterparts at the other six centers located throughout the state. North Carolina's hopes for quality in-service programs in math and science have never been higher.

The Mellon-Babock-Reynolds Summer Workshops

With support from foundations and the State Department of Public Instruction, the College of Arts and Sciences conducts intensive, six-hour graduate credit summer workshops for writing and foreign language teachers from the public schools of North Carolina. Participants are selected by the same (representative) advisory committees which select fellows for academic-year internships. The committees also help to shape the curricula for the workshops.

"A natural adjunct to coursework in a discipline is careful consideration of how best to teach the discipline. Cooperation between arts and sciences and education faculties, however, should be constructed on the practical basis that command of content precedes command of teaching techniques."

Participants are paid an honorarium (about $1,000), which more than covers all tuition, fees, and living expenses for the workshops. The emphasis is on the teacher as a professional whose time is valuable, whose contributions to society are important, and who wants to learn as much as possible about the chosen discipline. The faculty members who conduct the workshops receive rewards commensurate with the high value which the College of Arts and Sciences places on these in-service programs.

The four-week writing workshop is conducted in the Department of English by the director of freshman composition. Participants are selected for their interest in incorporating a major writing component in their classes. Some are English composition teachers; some are not. The teachers design detailed syllabi for the courses they plan to teach. They also write intensively and plan workshops for their colleagues at home. They and their school administrators participate in a closing conference designed to gain support for the participants' leadership efforts.

The three-week French and Spanish workshops are "residential immersion" programs and require participants to "live" in the target language. Workshop days are filled with classes in conversation, grammar and composition, and phonetics. The workshops are conducted by the faculty members who direct the basic curricula in French and Spanish for UNC-CH's students.

An important feature of these three workshops is the follow up work in participants' schools by the arts and sciences faculty members who conduct the workshops.

The Mellon-Babcock-Reynolds Internship Program

The College of Arts and Sciences, with partial support from foundations, sponsors an academic-year internship program for high school writing and foreign language teachers. Each year, at least four teachers of English composition and four teachers of foreign language spend the full academic year at UNC-CH teaching and studying in their disciplines. These teachers are selected by advisory committees (one for writing and one for foreign languages) with representation from the College of Arts and Sciences, the School of Education, the State Department of Public Instruction, and the public schools of North Carolina.

Some advantages of the program to participating fellows are:

- The obligation to teach four courses (two each semester) from the University's basic freshman offerings in the appropriate discipline;
- Fellows learn (by teaching) what the arts and sciences faculty expect of freshmen coming to Chapel Hill;
- The opportunity to participate in periodic workshops on pedagogy conducted for the teaching staff (mostly graduate students) for these basic courses;
- Fellows have the opportunity to complete advanced coursework for academic credit in the appropriate discipline and/or in the School of Education, and to become leaders in their disciplines in their schools.

The internship program also offers several advantages to the University:

- UNC-CH's programs and educational expectations will be better understood by the high schools of North Carolina;
- Faculty members in the arts and sciences learn about the problems of the high schools of North Carolina through collegial contact with the fellows.

Discussion

Could you be more specific about how the schools are reimbursed for the fellows who are on your campus?

To apply for this program a person has to have a letter from the superintendent stating that he or she understands the financial arrangements. The teacher is reassigned to Chapel Hill, continuing to receive his or her regular paycheck for the full academic year. Chapel Hill, in turn, will reimburse the school—this year up to $20,000—for the teacher's replacement.

During this time at the University are teachers required to take a certain minimum number of hours?

We wanted to see what the teachers wanted to do. In fact, they all are taking courses and we're finding that they like being challenged by that experience. They believe they are profiting from it.

After completion of their time on campus are the teachers required to return to their school districts?

That is the idea. We set that burden on the system. The superintendent sponsoring the teacher should work out with that teacher whatever arrangement seems best. I would prefer not to impose that from the university level.

Are the teachers who come taking graduate-level courses?

Yes, these eight are. Of course, these teachers are carefully selected; we bring them to campus and interview them. They're good teachers. Teachers who come to the workshops in the summer are different; we were trying to attack the problem at a more basic level. We don't know yet what effect these in-service programs will have. That's one reason we're bringing in principals and superintendents to talk about what this means back in school.

Research studies indicate that there is no significant relationship between graduate degrees and their effectiveness on student achievement in the classroom. What are the implications for graduate degrees?

My first comment would be that I'd have to know what those degrees are. I'd say a person getting a master's degree in mathematics would be better equipped to teach mathematics than someone with just a bachelor's degree. If you're saying that a person without a bachelor's degree in math or math education would go on to get a master's degree in education, well, I wouldn't be too sure. I think, those are two different cases.

There is an analogy between European education and graduate education here. If this country is successful in any level of education, surely it must be at the very top level, the graduate research level, where we're unparalleled in turns of accomplishments. The reason for that, it seems to me, is that we've picked up the European model of doing one thing very narrowly and going very deeply into it. Obviously, that has some disadvantages, and we find ourselves in many predicaments because of that. But, on the whole, it seems to work in outcomes—doing something very well. We have to find a way to blend the American dream of giving everyone an education in breadth with the notion that you've got to do some things very deeply in order to be really educated.

Comment: I don't know the studies regarding the effect of graduate degrees on student achievement that the questioner was talking about, but there is a problem here. You cannot select one single variable in a very, very complex system to detemine if that is having a direct effect on student performance. You simply can't draw a one-to-one relationship between student performance and specific kinds of degree training. I'm not saying it's right or wrong. I'm simply saying it's very hard to draw that kind of parallels.

How can we justify paying teachers with Class A or AA certificates in Alabama more than those who don't have graduate degrees if, in fact, studies show that they are not more effective in terms of student achievement?

I don't have any simple answers. I'm opinionated, as you may gather. I'd love to see our schools of education become professional schools the way our law schools are. I'd like to see a person get an undergraduate degree and then enter a school of education for professional training. Then we'd get around that business of accreditation linked to graduate or undergraduate credit, because the teacher would be a professional, like a lawyer. Then if returning, reworking, or upgrading were needed, it wouldn't be a matter of credit. We wouldn't have all these other things in the way.

Comment: In most teacher preparation institutions that prepare secondary teachers, the equivalent of an academic major is required in the field of desired certification.

Comment: I'm not at all satisfied that the majors with a liberal arts degree offer as good training for teaching mathematics at the secondary level as the major which we designed at the college of education.

Comment by Dr. Graves: I think you're right in pointing to a problem of the arts and sciences departments. They pay very little attention to this. They make very few distinctions. These degrees are designed as if all students are go-

ing on to graduate school in the discipline. We have to work on that. Departments that are facing that issue are beginning to design different paths for different folks.

Comment: If you indicate to the arts and sciences departments you want to work with them in developing strong content preparation for secondary teachers, I think the arts and sciences people will begin to see a little ownership in the education program. We're in the process of redesigning the secondary programs. The English department is recommending to us the major they think is best suited for preparing teachers for secondary school English. They also are willing to design a pre-education curriculum in the arts and sciences, much like pre-law or pre-med curricula. Our problem is that we cannot get them to design an undergraduate major for elementary school teachers who need good firm courses in five areas. When you start trying to get graduate-level courses for them in content areas, you've got a real problem.

Comment by Dr. Graves: I think y 're right. You're really arguing for strong leadership, where the provost is going to bring the two deans together to solve some of these problems.

In the internship program have you given any thought to the possibility of replacing the teacher with a faculty person from the university, rather than paying the school for that teacher?

Yes, we gave thought to that but, as I said, I think we can do only what's practical, what's "do-able." And that simply is not practical because the faculty members in the arts and sciences have an obligation to the graduate students to carry on the research-guided program, which requires that they be on campus where the library and all the resources are, where their colleagues are. I understand the fair play issue and what and why you're suggesting it, but there's really no way you can do that.

Comment: Since most arts and sciences faculty have not taught in the public schools and particularly as they get more involved in the preparation of teachers, I think that experience in the schools would be very helpful to them.

Comment by Dr. Graves: I'm sure you're right. It's just that my reply to the question "Can it be done?" is "Not very readily." I wouldn't know how to pull that one off.

The Role of Higher Education in Staff Development: Advantages and Requisite Institutional Conditions*

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Throughout the educational reform movement, two important areas have remained relatively untouched: (1) the form and substance of graduate teacher education programs, and (2) the form and substance of in-service teacher education programs.

Historically, colleges of education through their course offerings have been the major vehicle by which teachers have achieved recertification. Many states have legislatively mandated that teachers periodically renew their teaching certificates, as well as expand their professional expertise, by taking credit-bearing courses. State-mandated teacher recertification is a widespread practice; 80 percent of the states report that periodic recertification is required (Hanes and Rowls, 1984).

". . . policymakers have decontrolled the certificate renewal process so that public school educators (as well as private groups) can design, offer, and conduct recertification activities with in-service teachers."

For a variety of reasons, however, local- and state-level educational policymakers have decontrolled the certificate renewal process so that public school educators (as well as private groups) can design, offer, and conduct recertification activities with in-service teachers. These changes in control and governance will forever change the relationship between the public schools and the colleges and universities in the realm of continuing education for teachers, and will redefine the roles of all educators in the teacher preparation process.

There is little difference between the nation and the states of the Southeast with regard to school district options for planning and conducting recertification activities. Nationally, 73 percent of the states allow school districts to recertify teachers, while 77 percent of the Southern states allow this option. However, 40 percent of the states in the Southeast that allow school districts the option of recertifying teachers have split that authority between the school districts and the colleges and universities; this policy is in effect in only 27 percent of the states on a national basis.

In some states, teachers may take half of their recertification work over a typical five-year period via school district programs, and half through college/university credit-bearing courses. This policy makes collaboration between public schools and institutions of higher education more likely, and suggests that public schools avail themselves of existing state resources and facilities in planning continuing education experiences for their teachers.

In general, there is national movement toward expanding both the ways in which staff development is delivered, and the incentives (recertification being just one) offered to teachers for their participation.

Requisite Institutional Conditions for Higher Education

Fenstermacher and Berlinger (1983) have expressed grave concern regarding the ability of institutions of higher education to provide the kind of staff development assistance to teachers that will have a positive effect on the quality of instruction that goes on in public schools. If colleges and universities are to become a viable provider of in-service and staff development within the framework of academic and administrative governing structures, certain institutional conditions must exist:

". . . there is a national movement toward expanding both the ways in which staff development is delivered, and the incentives . . . offered to teachers for their participation."

* Prepared by Michael Rowls and Madlyn Levine Hanes

Curricular mechanisms that allow them to offer to school districts special needs courses that can be designed and approved in a reasonable time frame;

Clearly defined procedures for contracting special needs courses (as well as other in-service and staff development activities) to school districts that will allow such courses to be offered cost effectively;

Reward systems that place *real* value on these kinds of in-service and staff development courses and programs, and that encourage higher education faculty to engage in such activities;

Ways of differentiating among special needs courses and other college/university-sponsored in-service programs regarding their application toward certification and, particularly, toward advanced degrees.

Few higher education institutions have in place these mechanisms which, to a great extent, describe an ideal that incorporates into the mission of a college or university the notion of service to public education. Many higher education institutions are simply not willing to make service to public education a part of their mission.

In the following sections of this paper, we will describe some of the relative advantages unique to college and university pedagogy courses regarding their utility as vehicle for in-service and staff development. Many of the advantages assume: (1) that the institution offering such courses has in place at least some of the institutional conditions previously described, and (2) that such courses are designed with the specific needs of the participating schools and teachers taken into account. Only within the framework of these basic assumptions can the advantages of college and university courses be generalized.

"Many higher education institutions are simply not willing to make service to public education part of their mission."

Advantages of College/University Pedagogy Courses for Use in Staff Development

College and university courses possess a number of inherent strengths for delivering staff development as contrasted with in-service and staff development activities and programs designed and conducted by public school personnel themselves. These advantages focus upon issues of quality assurance and evaluation, scheduling and time allocation, the respective roles higher education and public school personnel necessarily assume, and the kinds of teacher incentives that are made available.

Quality assurance mechanisms. College and university courses pass through a system of examination and scrutiny that typically requires review by university faculty from a variety of disciplines. This review process questions the internal validity of the course, requires that course content and student objectives be clearly and coherently stated, emphasizes the specification of student evaluation procedures, and generally insures insofar as is possible that the product and service to be offered are of high quality. This review process, of course, differs from one institution to another, and can become an obstacle to the use of courses for staff development purposes but, in general, any college or university course offered by an accredited institution automatically brings with it a review system, the purpose of which is to assure the quality of the course offering.

". . . any college or university course offered by an accredited institution automatically brings with it a review system . . . to assure the quality of the course offering."

Instructional time allocation. College and university courses can provide in-depth treatment of course topics and objectives, which implies a number of related advantages. Lawrence (1974), for example, has observed that single-session staff development efforts are largely ineffective. Most staff development programs that are effective, particularly in the sense that they have a positive impact on teaching behavior, are spaced over time (Berman and McLaughlin, 1978). Additionally, researchers (Joyce and Showers, 1980; 1981; 1982) suggest that effective staff development programs possess several necessary components including demonstration of skills taught to participants, supervision and provision of feedback to participants as they practice those skills, and individual coaching of participants to insure transfer of skills to classroom practice. These critical elements of effective staff development lend themselves to college and university pedagogy courses where there is sufficient time both to present course content in some depth and to use the kinds of instructional techniques that have been shown to be effective. Too often, school district staff development programs are planned and conducted without the requisite resources that would help to insure the use of effective instructional procedures.

Procurer and offerer roles. The use of college and university courses by school districts in their overall

staff development efforts places school district personnel in a service/product procurement role rather than in the role of the producer of the service/product. The procurement role allows district-level educators to focus their attention on the analysis of the continuing education needs of district teachers and ways of meeting those needs. When school district staff enter into the design, production, and offering of the actual in-service activities and programs they must at the same time commit a large segment of their available time and resources that might better be directed to other aspects of the continuing education process. Expecting school district personnel to assume major responsibilities for conducting staff development programs is akin to expecting science teachers in a school district to develop and produce their own textbooks. The assumption of the service/product procurement role by district-level educators has worked well in many areas, including test development, textbook acquisition, and building construction and maintenance. This model applies, as well, to in-service and staff development programs.

"Most staff development programs that . . . have a positive impact on teaching behavior are spaced over time."

"Outsider" role. When school and district personnel assume the roles of staff development designer and instructor for teachers with whom they work or whose work they are responsible for supervising, the professional roles and interactions of district staff are complicated in many ways. In instances where close evaluation of teachers in staff development programs is necessary, the in-service education effort can compromise the professional working relationship among teachers and other school district personnel. The university course, however, places an "outsider" in the role of instructor and evaluator and, therefore, follows a well-established model for enhancing overall program quality.

An additional benefit of the "outsider" role of higher education is the increased objectivity it imparts to the content and process of staff development.

"Expecting school district personnel to assume major responsibilities for conducting staff development programs is akin to expecting science teachers in a school district to develop and produce their own textbooks."

Separating the purposes of true development and renewal programs from the daily pressures of the workplace is a most difficult task—particularly for school district personnel involved in conducting staff development.

Provision of incentives. College and university courses carry with them certain teacher incentives that tend to insure participant involvement and learning. Often, teachers are in a position to use the staff development course toward the renewal of the teaching certificate and, depending on the specific circumstances, teachers may also use the staff development course toward academic degree requirements. Finally, the course grade itself serves as an incentive for learning and for demonstrating mastery of course content. While other formats for delivering staff development can very often be applied to recertification requirements, course grade and academic degree application incentives are unique to college and university courses.

Characteristics of Effective Staff Development

Regardless of the means through which staff development is offered—course, workshop, activity—some fundamental characteristics distinguish those programs that meet with success from those that do not. These characteristics can be generalized regardless of the offerer—school district, higher education, independent consultant:

". . . the course grade itself serves as an incentive for learning and for demonstrating mastery of course content."

Institutional and teacher commitment. Institutions (public schools and higher education) must evidence a long-term commitment to staff development. The commitment of economic and human resources to the staff development process affords teachers the time and opportunity to advance in an orderly manner through a rational career continuum that spans the "induction" to "teacher leader" professional roles. By the same token, teachers must be committed to professional growth and must perceive themselves as having the ability to develop instructionally and pedagogically.

Administrative and teacher involvement. Institutional administrative structures must insure the involvement of teachers in the program planning and needs assessment that form the basis for staff development efforts. Administrators at all levels must demonstrate a visible and active role to sustain teacher support.

Program climate. The climate of effective staff development programs must be one of experimentation and professional collegiality. Such a professional climate allows for the nurturing of the skills, knowledges, and attitudes critical to achieving success, and helps

"The commitment of economic and human resources to the staff development process affords teachers the time and opportunity to advance in an orderly manner through a rational career continuum . . . . "

to remove the barriers that can render staff development ineffective almost before it begins.

Program scheduling. Staff development programs must be scheduled in a manner consistent with their purpose. Program implementation schedules should reflect attention to critical components such as demonstration, practice/feedback, and coaching (Joyce and Showers, 1980; 1981; 1982). This suggests that both sufficient time and rational sequencing be applied to the scheduling of in-service programs. Repeated and recycled programs, particularly those designed for teachers in the "induction" and "survival" phases of their careers, promise widespread impact as the repetition provides useful information for the redesign of program schedules.

Instructional practices. The program must include opportunities for demonstration, supervised and support-based trials, and feedback

". . . involve teachers on a voluntary basis, thus assuring adequate participant support for programs."

as the teacher advances in knowledge and skill acquisition and classroom application. Of particular importance are opportunities for self-analysis, with the help of professional peers and peer-leaders, to insure the teachers' internalization of alternative instructional strategies that can be self-enlisted as need be during the instructional process.

Teacher recruitment and level of participation. Successful staff development efforts most often involve teachers on a voluntary basis, thus insuring adequate participant support for programs. Effective programs often target a cadre of "teacher leaders" who can provide important logistical support for the program, and who can assume important implementation roles to insure both dissemination and eventual institutionalization of innovative practices shared through the staff development program.

Summary

Our experience with collaborative models biases us in their favor, and there is evidence to support collaborative efforts in reports of exemplary in-service programs (Hanes *et al.*, 1982). While the independent efforts of the school district or the institution of higher education in providing staff development may prove effective, we find that in-service programs designed in partnership are not merely effective, but require considerably less effort. We propose that the effects of pooling resources and expertise among practitioners and pedagogical specialists far outweigh the single effects of their individual efforts and should not be overlooked in the design of in-service programs.

Our reference to special needs courses is especially fitting here. Special needs courses may indeed be one of the more viable alternatives to in-service education. Ideally, these pedagogical courses 1) are the product of collaborative design; 2) readily address all the context and process characteristics of effective in-service; and 3) render the advantages unique to higher education, e.g. quality assurances, credit incentives, objectivity in matters of evaluating teacher performance and issues entangled with the day-to-day business and dynamics of the workplace.

Certainly not all the needs of school districts can be met within the course format or through college or university participation at any level. And certainly, not all institutions—school districts and higher education alike—are ready to collaborate. There may be a good deal of work remaining for many colleges and universities to achieve the internal conditions requisite for effective in-service ventures, without which collaboration would be prohibited entirely. The benefits of establishing these conditions will be well worth the pursuit. The basis for collaboration has been clearly established already. Continuing education in the form of certificate renewal is a reality for most teachers;

"The climate of effective staff development programs must be one of experimentation and professional collegiality."

responding to mandated instructional and curricular programs is a reality for school districts; and sustaining a principal role in the preparation of teachers throughout the career life-span is rapidly becoming the mission of colleges of education and, to some extent,

the university at large. Examining what has been working in in-service and staff development programs has offered some valuable information and given us a reasonably good start. Examining collaboration in the design and implementation of in-service programs—refining the model and testing its efficacy—is, however, the next critical task awaiting teacher educators.

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Discussion

Does your state permit a mix of classes whereby you're giving higher education courses for degrees as well as staff development? Do you have these two groups of people in the same class?

Mostly no. The department or program that offers a special needs course determines beforehand that this course will not count toward an academic degree. When the university sponsors an institute, students who are enrolled may receive in-service credit awarded by the school district, but this is non-credit from the university's perspective. However, as of today, we have not been able to superimpose that model on to our regular course offerings because the Board of Regents has a rule prohibiting that. There appears to be a feeling that if a course is designed specifically for staff development, it is less legitimate than the regular kinds of courses on college campuses.

Is there a difference between what is presented in the field-based courses and the regular graduate credit courses?

Quite definitely. The field problems course is designed with the idea that it will emphasize the application of skills, giving feedback and coaching to teachers in practical circumstances. We do not, I think, tend to emphasize the testing and evaluation on the basis of written work to the extent that we do in regular course offerings.

Do you give graduate credits for the field courses?

No. The requirements of graduate degree programs in the master's program are such that those kinds of courses—at what we call the 600 level—cannot be used in the degree program. You must have, I think, 18 hours of graduate credit at what we call the 700, or graduate, level, so that sets an automatic limitation on these courses.

You've been emphasizing that in the 600 courses there's an emphasis on clinical applications. The traditional graduate course involves library research and a lot of writing of papers. Do these differences between the 600 and 700 courses relate to what merits graduate credit?

They do relate. For example, in my particular situation I have commitment both to teacher education and to substantive and quality graduate education. It seems like a double-edged sword, and it is. We are faced, in our state, with the problem of delivering some of these instructional services and staff development experiences to teachers in outlying school districts in rural areas and there are no library facilities that will supplement those kinds of courses

to any reasonable extent. (I would like to point out that our dean has been liberal with "Xeroxing" facilities, so that we are able to deliver in that mode various kinds of materials in needed quantities.) But, there are different kinds of courses for different kinds of purposes. The college-based courses are typically what I call the textbook kind of courses, not involving a whole lot of application. What we're trying to do here is go completely the other way. Hopefully, in tandem, those two kinds of techniques will insure quality so that we have the best possible teachers we can have in the state.

There is certainly a dissonance between the programs that are university-based and for university credit and the staff development programs that are offered individually. How do you face the fact that quality of the testing process of those teachers is different at the in-service level than at the university level?

There's a one-word answer to that question: time. Faculty members should want to respond to staff development needs in particular school districts. That means going out of the classroom; that means organizing classes and all of the things that go along with that. To do those things, the time comes from somewhere, and primarily it is from testing procedures, as determined by examinations. Secondly, a typical and traditional kind of final examination is not particularly useful in measuring the kinds of things that we are evaluating. We are evaluating teachers in a practical circumstance; we're not evaluating them in a theoretical mode.

Comment: There's a tremendous resistance on the part of teachers to be tested in that way. They do not want to be tested; yet, in fact, to determine the effectiveness of programs, we need to be able to measure the impact of the teacher's learning on the students.

Comment by Dr. Rowls: Good. You are interested in this programmatic level, and I am too. But, in my day-to-day work, I have to be interested at the personal level—the course level. I am suggesting that a credible evaluation does go on in these kinds of field problems courses, but it does not yield you a number that you can look at and say, "This person failed, and now I see why."

Coaching Individual Teachers by Peer Teacher

Terry Wyatt, Teacher-Consultant
Toledo (Ohio) Intern/Intervention Program

The Toledo Intern/Intervention Program was negotiated, basically, to fill a need. When I say negotiated, that was actually done at the bargaining table between the teachers' union (the Toledo Federation of Teachers) and the school system administration. I might add that this was before *A Nation At Risk* was published—before any of this excellence movement started. We were unhappy with the new teachers coming into our system. We were also very unhappy with the type of evaluation and start that these people were getting as first-year teachers. In 1980, the political and economic climate of Toledo changed in such a way that we were able to negotiate this. We had tried to get it through for many years, but were unable to do so due to labor problems involving a couple of strikes, and economic problems resulting in school closings because Ohio simply ran out of funds and we had to close in December and wait for January to come round for more money. We decided that when funds became

". . . [The Toledo program was negotiated] at the bargaining table between the teachers' union . . . and the school system administration."

available we would use them in a rather narrow focus. We would try to provide service to the people that we felt needed it the most—the entry-level teacher and the experienced teacher who was encountering severe difficulties.

The program itself works by having a group of consultants. The consultants were picked and "inserviced," and they were chosen to try to cover grade levels and subject matter areas across-the-board in our school system. For selection these consultants had to be recommended by their peers and by the administrators who worked with them, and they were judged on such things as whether or not they were an excellent teacher and, because they were going to be working one-on-one with people, whether or not they had human relations and communications skills.

All new teachers that enter the system are assigned to a consultant. The consultants work with 8 to 10 (a maximum of 10) new teachers, and they are matched by grade level or subject matter. Consultants are released full time; they have no teaching duties at all, with a couple of minor exceptions. (The first year I was in the program I couldn't find anybody to teach

". . . provide service to the people that we felt needed it most—the entry-level teacher and the experienced teacher who was encountering severe difficulties."

physics, so I had to keep my one hour of physics a day and go back and teach.) Basically the concept is to release the consultants full time so they can devote all their energies to working with these new people.

Evaluation is the ultimate outcome, but the thrust is to provide every opportunity for the new person to grow. We try to identify their strengths, identify their weaknesses, and coach them in such a way that their strengths are emphasized and their weaknesses corrected.

The consultants are given the full range of the system's resources. We are allowed unlimited observations and conferences. For example, if I had been observing yesterday [when a projector would not work] my intern and I would have had a session afterward on what to do when the unexpected arises. How do you adjust your lesson to fit that kind of need when you are there before children and all of a sudden everything goes out the window because something mechanical breaks down? A new teacher often has not encountered this kind of problem and really does not know what to do, other than tap dance. So, we work

". . . the thrust is to provide every opportunity for the new person to grow."

on those basic everyday problems. We're also given time to do research, so we can provide the kinds of materials new people might need to reinforce things in their classrooms.

We were given funding for substitutes so that we could have our interns go to other classrooms and

observe experienced teachers and then could sit down and share that experience with them. We also have the ability to conduct or to send them to workshops. And,

". . . consultants have to document and support each and every point on our evaluation [for a Board of Review]."

we have videotaping facilities. We have all kinds of methods we can use to help these people in every way possible.

The program is overseen by a nine-member Board of Review; five teachers and four administrators serve on the panel. They administer the program, make assignments, but, more importantly, they thoroughly scrutinize the work that the consultants do. Every intern's evaluation is brought before the review panel and the consultant must support, point-by-point, why the decision was made about that new teacher in that area, what kind of help was given that teacher to meet the goals that were set, what in-service opportunities were provided. We, as consultants, have to document and support each and every point on our evaluation.

The consultants are limited to three years of active service. I completed my third year last year, and had to go back to the classroom. It bothered me when I heard the comment, "Oh, you mean you're going to have to go back to the classroom when you're done with this?" On the contrary, the consultants don't feel that way at all; we're happy to go back to the classroom. The idea is that this program offers peer review and it cannot stay peer review unless the consultants remain peers. When you're removed from the classroom for any period of time, you start to lose that connection. Another thing we negotiated is that we are guaranteed our original assignment and our accrued seniority while we are relased for this job.

I'd like to share with you some of the advantages we feel we're getting from the program. First of all, the consultants do have the time and the resources to provide all the help a new teacher needs. On the other

"We are constantly reviewing and upgrading and changing our program to meet the needs as the people involved in the program see them."

hand, under our old system, the principals, with all their other duties, had very limited amounts of time that they could spend in actual observations and helping new people.

The intern and the consultant are closely matched, in terms of subject matter areas and areas of expertise. The principals dealt with whoever came into their buildings as a new teacher.

We have fewer evaluators. The Review Board has to oversee seven evaluators; under the old system the personnel office had to oversee 70 principals in 70 buildings, all doing evaluations of new teachers. We feel that this helps us insure that common goals are met, and that consistency is kept throughout the system.

Some of the advantages that we feel as consultants are, first of all, we are housed together. We have a common office, and this allows us the opportunity to do some sharing and to get rid of some of the isolation in which teachers work. We solve our own common problems and the problems of our interns. If I make an observation and I want to offer my intern some help but am not quite sure how to approach the problem, other people are there to whom I can go, share, and get input and ideas. I'm not alone. It also allows us to bring our interns together for group in-service if we wish; that was impossible for principals to do.

At the end of the program, the interns are given the opportunity to critique the program—this, of course, is after their evaluation has been turned in, so the

". . . by observing and working with others, we [consultants] also learn from them . . . . take those experiences back to the classroom and are better teachers for it."

pressure is off. We've gotten many many insights into what we've got to do to change and improve the program, and improvements and changes have been made. This program is not etched in stone. We are constantly reviewing and upgrading and changing our program to meet the needs as the people involved in the program see them.

The availability of a highly skilled, experienced colleague gives new teachers access to years of practical knowledge and allows them to assimilate some of that practical knowledge much quicker than they would by the old trial-and-error method. So, we feel it alleviates a lot of that wasted time.

One of the other advantages of the program is that it allows teachers to take the role of instructional leaders. As an outgrowth of this we see some career ladder possibilities. We see a new-found spirit of cooperation between management and labor. We are a union system, and we feel that teachers and administrators will be able to cooperate for the good of the system. At first, as you might expect, the administrators—at least the bulding-level administrators—were very skeptical, and a little bit suspicious about this project in their schools. During the three years the program has been in operation, the attitude has changed dramatically. And, as a result, they would now like us to do a second

year of evaluation and alleviate them of that duty altogether. And, as an offshoot, the administrators in Toledo have also devised their own intern/intervention plan to provide an internship for new administrators and an internship to help administrators who are having problems with their jobs.

Consultants have all benefited. Unanimously we feel that by observing and working with others, we also learn from them. We take those experiences back to the classroom and are better teachers for it.

"If staff development of any type is to be effective, it has to involve teachers at all levels of development and implementation."

In conclusion, I'd like to quote from an article in last week's *Education Times* discussing the Rand Corporation's in-depth study of four evaluation systems in the country, including the one in Toledo. They said, "Teacher involvement and responsibility improve the quality of teacher evaluation." We feel that teacher involvement and responsibility improve all areas of teaching and in-service as well. Teachers are not afraid of evaluation. We are not afraid of entry-level tests, of making a commitment to continued improvement. But, we have become somewhat cynical and skeptical about programs that are proposed. We are tired of having things done to us.

If staff development of any type is to be effective, it has to involve teachers at all levels of development and implementation. There's an old statement that "You have to either get on the train or get in front of it." For many years teachers have been trying to get on the train, and the conductor and the engineer kept throwing us off. We would now like to get back on the train and be involved in all areas that affect us as professionals.

Discussion

How many boards of review are there?

There is one Board of Review for the whole system.

Are you talking about first-year teachers or teachers new to the system?

The first year of the program, they were strictly first-year teachers. Since then, we've made some additions. We found that people coming back into our system from long periods of layoff—people who left to have families or go into other professions and then decided to come back—also benefit from this experience. We also have found a need to put what are called "permanent substitutes" into this program. In Ohio a person who completes 120 days on a single assignment (very often as replacement for maternity leave or extended absence of a teacher) gets probationary credit. We had people going through our system that had completed our requirements for probation and were getting continuing contracts without ever being really looked at or evaluated. We also put those people in. We are adding as we go along. Where we see a need, where a person might benefit from having a consultant to work with, we're placing them in the program.

If a person serves three years as at teacher-consultant and then returns to the classroom, does that teacher ever come back as a consultant?

Well, we've just completed our third year, and I was the first one to complete three years and go back to the classroom, so that can't be answered now. But, I am not so sure that will happen. However, the services of those people are used to train our new consultants. We get involved in sharing sessions with the new consultants so they have some benefit of our experiences.

Do you do any staff development in the area of counseling?

We had various counselors, administrators, people from the university, and other teachers in our system involved in school consultation types of services. They basically gave us some training in that kind of job. We do have a couple of other programs, in one of which I am still involved. In Toledo we have a school consultation program which is a

voluntary, confidential teacher coaching service. Any teacher in the system may call one of the three full-time consultants and request help for any reason. The problem may be just a single child, for example, they may have a student whom they feel is not properly placed; it may be a whole classroom; it may be teaching techniques. It can be anything about which they don't wish to approach an administrator. We have been allowed to work with these teachers confidentially—not evaluate them, but help them with whatever problem they might have.

As you have gone into classrooms working with teachers individually, have you attempted to look at the kind of commonalities in instructional problems you're dealing with and then design a more efficient way of delivering in-service to groups?

Yes, we have done that and, of course, we have found that classroom management is a problem that new teachers universally run into. So, generally, we will conduct an in-service group session for all new people at the beginning of the year to help them get a start on the problems we anticipate they're going to have. We've also been asked by the two local universities, which supply a lot of our new people, to share with them the kinds of problems we see—the common areas for which new people are not adequately prepared. I'm not that sure they like to hear what we have to say, or whether they're really going to do anything about it, but at least they are asking. Colleges of education really are not terribly receptive to making a lot of changes, although I have to say that there are some internal changes underway—deans retiring and other people trying to become the new dean, etc. There was a problem in our relationship with one of the universities in the area—a real resentment on the part of the teachers in the system who perceived the universities as using them just as a place to put the student teacher without any interest in the classroom teachers' input or their work with that student teacher. We resented that, and we told them so; consequently, they're having a hard time placing student teachers in our system.

Have you worked with teachers in all areas, or primarily in science?

My own role as counselor has been limited primarily to science. However, as much as we like to closely match consultants and interns, it's impossible to make a direct match each and every time, so I have worked with people outside my area. I was given all of the vocational people who came into our system. I found that I had some ability to communicate with them because in vocational fields there is technical subject matter and I could relate to that; I understood it. And, I could relate to the fact that you have to coordinate classroom activities and lab or shop activities.

You made reference to the fact that you found classroom management the most frequent problem. What about knowledge of subject matter?

I would say that very infrequently did we find any of our new people "unsatisfactory" in knowledge of subject. Out of nearly 200 interns we've had, probably not more than one or two could be determined as not having sufficient knowledge of their subject.

Are the consultants provided with any training in classroom observation?

Yes, we do provide that training in in-service. Other than myself (I was one of the first ones in the program), the consultants have had the opportunity to go through a period of observation on how the program works. All consultants are required to attend all of the Board of Review meetings in which the observations are reviewed and the evaluations are gone over so that they get a good idea of how that process works. They are also required to attend the "in-services" on developing those kinds of skills.

Is the observation instrument that your evaluators use in classrooms a standard form, or was it developed locally?

It is one that we did locally, and it's been around for a long time. The criteria are broken down into sub-categories which are very well defined, so that each and every new person coming in knows exactly what is going to be evaluated and what kinds of skills we expect.

Has this effort resulted in keeping teachers in the district?

We have no hard facts to indicate that. The feedback is overwhelmingly positive. The new teachers are happy to have someone to work with them—to help them through this traumatic first year. The feedback we get from them also indicates that it has made their jobs easier, and they're much happier being where they are in this system. We've just completed our third year, and we probably need to take a look at those people with whom we started in the first year to see how many of them are still there, but we have to get a few more years in before we can really answer your question.

Does your state have a beginning teacher assessment program such as in Georgia and Florida?

No, Ohio is traditionally very slow to react.

Do the consultants receive a stipend for their services, and what's the approximate cost for beginning teachers?

Yes, we do receive stipends of $1,250; as a pioneer, I had to work for $1,000 the first year. (We are now negotiating a contract, so I'm sure it's going to go up again.) This is supposed to compensate us for all the extra time we have to put in. It comes nowhere near covering that, because we found that as consultants we were working many hours beyond what we would normally be doing as a teacher. As far as cost to the system—it's a very cost-effective program. The Rand Corporation study makes a point of that. It is one of the more cost-effective systems they encountered. The budget for our program the first year was only $80,000, and we didn't spend that. This was to cover the cost of the consultants' substitutes and to provide the money for the in-service, etc. To give you an idea, the total contract that we'll settle pretty soon will probably be worth about $5 million or more, so $80,000, or even $100,000, is not very much to devote to as important a thing as the growth of first-year teachers.

What are you doing to obtain appropriate assignments for beginning teachers?

That has been a problem. Do we have as part of our program a reduced assignment for that first-year teacher—perhaps an extra hour off for evaluations of their work? Unfortunately, we do not have this time. Also, union-negotiated contracts will often have strong seniority-based rules; we have those. This means that the so-called least desirable classes often go to the person with the least seniority. Very often new teachers have three preparations, perhaps across a couple of disciplines such as two separate biology preparations and a physical science preparation. That makes their job tough and makes the presence of the consultant even more important to these people.

Would you comment on how you use this program with experienced teachers?

There is another aspect that has gotten a lot of attention, especially from our fellow union members. It's called "intervention." A teacher is placed in intervention when the union faculty representative and the principal agree that a teacher demonstrates problems that are so severe either something is going to have to be done or the teacher will be terminated. If the union and management do agree, a third-party arbitrator (a law professor at the local university) scrutinizes the identification process and makes sure that the due process was followed. If that process is completed, the teacher must accept the help of a consultant. We've already gone through one case where the teacher challenged intervention and where the judge ruled, "Yes you will accept that help as part of keeping your job." It has been a rather successful program. We've been able to raise the level of teaching for a number of teachers to one that's acceptable, and put them back on an unsupervised basis. We've also had a number of people who, as a result of the program, left the profession—a couple were terminated and several took disability retirements for which they qualified. In some instances we've been able to help teachers take a step that they really wanted to take and were unable to do themselves. In one instance, we had a classic case of teacher burn-out. After working with him for three or four weeks, we asked him what he really did want to do. He said, "I want to cut grass, work outdoors, and be in the sunshine." But, he had 22 years of experience, and he couldn't just quit. We were able to sit down with our union and the personnel office and the president of our "non-ed" union, and arrange a transfer for him to get out of teaching, but keep his retirement benefits. We got him a job cutting grass and working in the sunshine, and he's perfectly happy now.

Who initiates "intervention"?

It has to be initiated within the school building. In three years, we've had 26 cases out of 2400 teachers, so the witch-hunt that some people thought we were conducting at the beginning has not been true at all. For 18 of the 26 the process was initiated by the teachers in the building—not the administration, as you might have thought. It's the teachers in the building who feel the pressure from a colleague who is not doing his or her job. For example, when the third grade teacher is getting children who are not reading up to grade level because a teacher is not doing a good job, or when, as a science teacher, I have kids turned-off from physics because somebody in their freshman course told them they didn't want anything to do with science, that kind of thing makes us very unhappy; it affects our job. The teachers are willing and, at least in our system, are now able to do something about that.

What are the criteria by which you, as a consultant-evaluator, say this is or is not a successful teacher in a classroom?

In the observation instrument we use the desired skills and abilities are very clearly outlined and defined. They are broken down into a number of observable teacher activities dealing, for example, with levels of interaction with children or knowledge of subject matter. We use those identifiable criteria and definitions to point out to the intern what we are evaluating.

Did someone base these skills and abilities on research of what constitutes successful teaching?

Yes, it is something that was developed within the school system over a long period of time. This is the same instrument that was being used before the current intern/intervention program. We've used it in our system for probably 15 or 20 years. Now that we have become somewhat nationally known, questions like yours are asked. We do need to sit down and analyze our evaluation system relative to available research. It was not our intention to develop a program that would be adopted by other systems, but we see now that others are interested in what we are doing: Some of us are going to be in Florida next year to help one of the counties adapt our system there. They could take our idea and our system and use their own evaluative tool or their own criteria; they don't have to take the whole thing.

The Teacher Education Center Program in Florida

Constance C. Bergquist, President
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Teacher Education Centers (TECs) are organizational structures at the school district level rather than buildings. Councils, which govern the TECs, are appointed by the school district, and at least half of the Council's membership must be teachers. The purpose of the TECs is to deliver staff development services that meet teachers' needs (as determined locally by prior "needs assessments") as well as district educational objectives.

TECs decide what kind of service they wish to purchase from providers, including the University System, and sign contracts with such providers. Since TECs are "in the buyer's seat" in purchasing services, these services are apt to be more relevant to teacher and school district needs than would be the case in the absence of such an arrangement.

The State of Florida appropriates $5 per student to local school districts for staff development. Of this amount, at least $3 per student is to be used for Teacher Education Centers. The state also appropriates $2.5 million to the State University System to be expended by colleges and universities as they provide faculty services to TECs.

As part of the sunset review required periodically for legislation, the Florida legislature mandated in 1982 that the Education Standards Commission (ESC) conduct an evaluation of Teacher Education Centers (TECs). This evaluation was to include recommendations for changing statutes and procedures related to Teacher Education Centers, staff development, certification, and certification extension. The Education Standards Commission contracted with Evaluation Systems Design, Inc. (ESDI) of Tallahassee, Florida to conduct the study. This paper presents an analysis of the benefits and problems of Teacher Education Center programs in Florida.

Key to an understanding of the TEC programs was the statement of philosophy included in the initial legislation. This philosophy stated that:

> The most important influence the school can contribute to the learning of any student is the attitudes, skills, knowledge and understanding of the teacher. If any change is desired in the nature or quality of the educational programs of the schools it will come about only if teachers play a major role in the change. Teachers can best assist with improving education when they directly and personally participate in identifying needed changes and in designing, developing, implementing, and evaluating solutions to meet the identified needs.

It is apparent that this philosophy emphasizes the professional nature of teaching and the need for teacher responsibility for in-service training. This view is contrasted in Florida with the responsibility of the superintendent of schools for all educational programs in the school districts, including in-service education.

Governance

The degree of influence of teachers on the Council varies considerably. Although they represent a majority on the Council, there is a tendency for teachers not to express their honest views in the presence of immediate supervisors and others in a position of power over them. Administrators express concern about the dominance of teachers in a setting where the administrators understand better how and what decisions should be made. Frequently expressed is the statement that teachers cannot discern their own training needs. The issue is further complicated in districts where the TEC provides services to administrators and school service staff. In these circumstances, other groups resent dominance of teachers on a council determining the training of groups other than teachers.

The role of the collective bargaining agent in TEC governance is of concern to different groups associated with TECs. School boards frequently resist the efforts of collective bargaining agents to control funding allocation recommendations. In districts where there is dissension between the school board and the collective

bargaining agent, TECs become one of the issues. In some districts, inclusion of union members on the Council and direct nomination of Council members by the collective bargaining agent has evolved as an acceptable method for representing teacher interests.

In specifying the duties and responsibilities of the Council and the school districts, the law does not address the role of the superintendent. At issue is whether the Council should submit recommendations directly to the school board or whether recommendations should be submitted to the superintendent for recommendation to the school board through established organizational lines.

Collaboration

Based on the premise that teacher education is best carried out through collaborative efforts, the statute establishing TECs jointly assigned the responsibility of teacher education to the colleges and universities, the district school boards, and the teaching profession.

"Change . . . will come about only if teachers play a major role in the change."

TECs were viewed as the vehicle for facilitation of collaboration and for ensuring appropriate involvement of teachers in the process.

Each TEC has one or more universities with which it works on a continuing basis. A TEC contact person has been designated within each of the universities.

Collaboraton between the TECs and the universities primarily occurs through the representation of the university on the TEC Council, communication between the university TEC contact and the TEC director, and assignment of university TEC activities. TEC directors indicated that public universities are involved in all major aspects of TECs, including needs assessment, program planning, program development, program delivery, and evaluation.

Each university reported that it has a faculty representative on two or more TEC Councils. Which TEC a university will serve is determined primarily by district requests. Informal meetings and mini-workshops are used to explore possibilities for the development of service agreements, and some universities provide written information to encourage use of their services.

Concern was expressed that no real incentives exist for university faculty to participate in TEC activities. The data indicate that no consistent method for recognizing TEC service of faculty members is established. Whether TEC service is part of the professor's assigned teaching load or is an "over-load" assignment varies from professor to professor. Only one university reported that it has specific guidelines for the consideration of TEC service as part of the promotion and tenure process. A majority of the faculty

". . . there is a tendency for teachers not to express their honest views in the presence of immediate supervisors and others in a position of power over them."

respondents disagreed that TEC participation improves chances for promotion and tenure. In some instances, it is felt that participation in TEC activities detracts from promotion and tenure potential. Lack of incentives and inconsistencies in incentives provided to faculty for participation in TEC activities is perceived as a critical constraining factor to collaborative efforts and in need of resolution.

Needs Assessment

The methods currently used by TECs to develop and conduct needs assessment activities vary, as do the persons involved in development, time schedules for implementation, analysis methods, and reporting formats. Approximately half of the Centers rely upon either the TEC Council or a subcommittee of the Council to generate needs assessment instruments.

Surveys. The format and content of needs assessment instruments vary among TECs. A majority of the surveys reviewed were to establish priorities or indicate level of need. A limited number of surveys contained only open-ended items in which the respondents were to list from one to three areas of need. The surveys ranged in length from one to six pages; most were two pages.

TEC directors report that formal needs assessments are conducted most frequently with instructional personnel (teachers). Teachers surveyed indicated that over three-quarters of them have an opportunity to express their needs for in-service at the school or district

"TECs were viewed as [facilitators] of collaboration [between higher education and the schools] and for ensuring appropriate involvement of teachers."

level and have opportunities to help design or plan in-service components. A majority of the administrators indicated that they are provided opportunity to express needs (usually through less formal mechanisms) but have less opportunity to design or plan components. A large majority of the teachers and administrators also stated that the needs they expressed are reflected in the in-service programs provided.

Do teachers know their needs? Concern was expressed about the ability of teachers to discern their own needs for in-service training. Teachers have received little guidance in determining areas of their own strengths and weaknesses, but are provided with feedback regarding their performance through formal evaluations conducted by their supervisors. The issue is complicated by the unwillingness of teachers to reveal areas of weakness in the presence of persons who ultimately determine their employment. Teachers responding to structured needs assessment may not feel as threatened as those having to describe areas of need through open response surveys. Voluntary participation of teachers in skill-building sessions indicates a level of ability and willingness to identify some areas of need.

"A large majority of the teachers and administrators . . . stated that the needs they expressed are reflected in the in-service programs provided."

District needs? Another issue identified was the impact of district-level needs upon school-based needs assessments and service delivery. In some instances, no district-wide goals and objectives are in existence and, therefore, schools are responsible for developing their own systems of needs assessments and training components. Where district-level goals, objectives, and needs are identified, an interface is usually made possible with school needs through provision of in-service at both the school and district levels. In-service days are reserved specifically for both levels so that a rounded program of training can be provided to school personnel.

Program Offerings

Analyses of survey data, review of programs, and on-site interviews substantiate that programs offered through Teacher Education Centers are many and varied—program offerings can best be typified as having "something for almost everyone." The offerings span:

- district function, (i.e., instruction, instructional support, general support and community services);
- program areas (e.g., general education, exceptional student education, vocational education);
- content areas (e.g., language arts, mathematics);
- organizational level of school (e.g., elementary, middle, senior high);
- grade levels or development levels;
- other special programs having state or federal specifications;
- district-specified programs.

Program offerings were also found to vary greatly in the degree to which they were: attached to an overriding, comprehensive plan for staff development; based upon assessed needs; adequately specified utilizing the Master In-service Plan component format; implemented as planned; evaluated to determine effectiveness of training and intensity.

"One-Shot" Workshops

The issue of the provision of more intense and long-range in-service education through TEC program offerings was identified in the study. A majority of the TECs spent one-quarter or less of the 1981-82 training time in long-range training (5 days or more). Less than 10 percent of the TEC directors reported that more than one-half of the 1981-82 training time was spent in extended training (2-4 days). A majority reported that more than one-half of the training time was spent in training of one day or less.

The survey data indicate that a majority of teachers and TEC Council members agreed that the programs offered through the TEC should include more extended training sessions instead of one-day workshops.

"Teachers have received little guidance in determining areas of their own strengths and weaknesses, but are provided with feedback regarding their performance through formal evaluations conducted by their supervisors."

There was no consensus among administrators on this issue. The TECs provide many program offerings which meet the practical needs of teachers. Examples of such program offerings include:

- preparation for the teacher certification examination for teachers who are on temporary certificates;
- orientation of new teachers;
- training in the use of district-adopted curriculum and instructional materials;
- opportunities for teachers to meet with other teachers assigned to similar subjects or classes for the purpose of sharing ideas and resources;
- orientation and skill training for participants in the Beginning Teacher Program.

Funding Allocation and Utilization

To encourage collaboration between school districts and the universities, the funding for the Teacher Education Center program has been split between these two groups. Figuratively speaking, the TEC dollar was split in half, with each party holding one half that could not be spent without cooperating with a party holding the other half. Thus, the law attempted to establish a financial incentive for collaboration between school districts and universities.

"In-service days are reserved specifically for [needs of] both [school and district] levels so that a rounded program of training can be provided . . ."

The process for determining the allocations to universities begins by prorating the total amount of university allocations to each TEC based upon the unweighed FTE for the area served by the TEC plus a base support. Each TEC director is notified of this allocation and is then asked to transform this amount into service agreements with the universities/colleges amount. These amounts then are summed for each university and released following receipt of signed service agreement forms. The basic rate for translating dollars into service hours is $30 per hour.

Universities employ varying methods for estimating service hours and costs per training session. One formulation is 50 percent presentation time, 50 percent planning time, plus travel time. Thus, a two-hour TEC training session conducted 50 miles away from the university would cost $60 for presentation, $60 for planning, and $60 for travel time or $180 for the six hours of faculty time. It was noted in some instances that travel time may be charged even when the university is co-located with the TEC.

Impact

Although the law specifically mandated internal and external evaluation of the TEC programs, very little evidence of impact evaluations for TEC programs was identified by this study.

Interviews conducted on-site with teachers, administrators, and support staff indicated that the impact of the in-service training programs varied considerably. Some programs were perceived to be extremely effective, such as the training on Assertive Discipline, Beginning Teacher Program, Newspaper in the Classroom, and Transportation workshops.

". . . no real incentives exist for university faculty to participate in TEC activities."

Classroom observations documented use of the programs through charts of discipline rules, stacks of newspapers, and corroborating interviews with other school staff. Other programs were perceived to be a waste of time, poorly organized, unsuited to participant needs, or ineffective. An example was a course on use of computers in a school where no computer existed.

Summary

Based upon the data collected in this study, the primary participants in TECs—teachers and faculty members—are pleased with the current quality of the TEC programs and express support for continued implementation of the program. There is virtually no conclusive evidence, however, of the impact of the program on improvement of teacher skills or changes in student behaviors.

The current governance structure includes a 51 percent majority representation on the TEC Council by teachers. Frequently, however, teachers do not have a direct opportunity for determining the representatives on the Council. Council membership often, but not always, includes a representative of the collective bargaining agent for the district. Although some TECs appear to have developed conflicts revolving around labor-management issues, many councils work cooperatively, with all groups successfully collaborating in the interest of better education for the students.

". . . needs assessment activities vary, as do the persons involved, in development, time schedules for implementation, analysis methods, and reporting formats."

Collaboration with faculty members of colleges and universities occurs primarily through the TEC Councils. In some instances, a clinical in-service model is employed, which increases faculty-teacher interactions. The primary function of faculty members within TECs, however, is as the delivery agent for in-service programs. There is some involvement of TEC directors in planning of university education programs.

Needs assessment procedures vary, but are primarily teacher-based. In some districts, however, the process begins with dissemination of district goals and objectives to schools and teachers for use in determining school-based training needs. This type of system can be implemented only in districts employing active long-range planning functions to generate viable district goals and objectives. There is no systematic method for determining state-level goals and priorities for in-service education.

Program offerings in TECs are extremely varied both in content and structure. The organization of TEC programs is controlled through the Master In-service Plan. Each component contains an objective description of the activities to be presented, and a method for evaluating outcomes. TEC programs may be either short-term, extended, or long-range in duration. The most frequent length is one day or less. Participants appear to be well-informed of the availability of the programs and indicate that the programs reflect the needs they have expressed in the needs assessment process.

". . . program offerings can best be typified as having 'something for everyone.' "
". . . a majority . . . agreed that the programs offered through the TEC should include extended training sessions instead of one-day workshops."

Currently, approximately half of the teachers prefer to use TEC programs as a method of extending their certificates or adding a new area to their certificates. It is apparent, however, that a considerable amount of resources is needed to keep track of points awarded and eligibility for certificate extension.

Funding for the TECs has been generated at a fixed dollar amount per FTE since the Attorney General's opinion that the program is mandatory. Due to inflation, the actual dollars available to TECs has constantly been reduced. Revisions in the funding formula are essential to stabilize the funding for in-service programs.

Teacher Education Centers in Florida represent a compromise between a traditional district staff development program and teacher centers as operated nationally. Although the compromise represents benefits to school systems and to the education profession, improvements in the model can and should be implemented. These improvements include greater coordination of all in-service training programs offered in a district, increased availability and dissemination of professional resources and materials to teachers and other school system staff, and increased emphasis on a suitable facility for TECs to improve collaboration among the university faculty, teachers, and district staff.

"There is virtually no conclusive evidence . . . of the impact of the program on improvement of teacher skills or changes in student behaviors."

Overall, TECs appear to be a viable functioning method for provision of in-service for Florida's educational personnel and worthy of continuation and refinement.

Discussion

Does university participation in the TEC programs include arts and sciences departments as well as the colleges of education?

We did find some participation, but more than 80 percent of faculty participation was accounted for by the colleges of education.

In the evaluation, did you make a connection between TEC programs and student achievement?

Some of the ongoing, long-term, in-service training programs were structured enough so that kind of study could have been conducted, but when the length of the program was less than a day, it seemed ridiculous to consider impact on student performance. Legislative changes recently have encouraged the TECs to conduct program evaluations and see what the impact has been.

Comment by James Parris, Florida State Department of Education: Student achievement changes are part of the evaluation process built into the summer institutes.

Do you find any kind of over-arching premise, either in backdoor provisions or regulations, to indicate that this polyglot of TEC programs is based on definitions of effective teaching?

From my knowledge of the Florida legislation, I'm not aware of that kind of definition for the TEC program.

Would it, in your opinion, have been helpful?

Yes. What has occurred is the development of the Florida Performance Measurement System, which is a structured observation system of teachers to determine the effectiveness of the teaching process. It is based on research and is used as part of the Beginning Teacher Program to review the effectiveness of the beginning teachers and the need for in-service training to alleviate skill deficiencies. In-service packages have been developed keyed to those skills. That's an operational definition of the effectiveness program that we have in the state of Florida, but is it not connected to the TEC program.

How do the TECs communicate with each other?

The networking of the people involved in staff development on TEC was really quite impressive. One of the things that we didn't find, and where the state should have taken the initiative, is in forecasting in-service training needs that are coming down the pike.

How much graduate credit is given for participation in TECs?

I didn't really address the interaction of this program with the program for teacher certification or extension for the certification. Florida currently requires teachers to have six hours of in-service training credit, which can be provided through TECs or through university courses, and there is a mechanism for translating TEC hours into credit.

May TECs contract with consultants outside higher education?

The TECs are able to contract with other organizations, but less than 20 percent of the dollars that were allocated went to organizations other than the universities. However, we did find programs that were developed locally, not using university staff.

What were some of the incentives offered to university faculty and what were some of the recommendations for changes in that regard?

The dollars came from the state budget to the Board of Regents of the State University System, and then down to each local university, based on the anticipation of what kinds of TEC programs each university would have the following year at the request of the local school districts. The university allocations went into the school of education budget at each of Florida's nine state universities. From that point forward the system was less accountable. Each university had its own method for rewarding faculty. In some instances, the rewards were direct supplements to their salary. In some instances, a fund was built up to finance professional conferences. In other instances, it was difficult to tell what happened to the money. Our recommendation was that there be a strict accounting procedure with those funds so that we could tell where, who, why, and how the money was spent; I believe there have been changes in how the funding is tracked.

What were instances in which the money that went to a college or university could not be clearly accounted for?

We had faculty members that were supposed to be providing services for the Teacher Center program full-time. Sometimes that happened on paper but the services were not actually performed. A problem also arose with professors who were spending a great deal of time in in-service activities for the TECs, but that was not counted in the promotion and tenure system. So there was a factor of discrimination against those professors who were actively involved; but, that did not occur in all the universities.

Comment: I think a most interesting feature of the 1984 legislation in Florida is a law which directs the Board of Regents to rank service to public schools on the part of any professor on a par with writing for publication.

Were you able to determine ways whereby colleges identified faculty for TEC programs?

It was done on an informal rather than a formal basis. As a request came in from a local district, the TEC may have contacted directly an individual with whom they had worked before. In other cases, this was done on a much less precise basis. There was an attempt to match up the skill-level and expertise of the faculty members with a request for in-service. By and large, that was done fairly well, although it could have been much more structured.

Are there administrators on the board of the TECs?

There are administrators on the board, but the majority has to be teachers. In some instances, that majority was actually appointed by the collective bargaining agent; but, the rest of the members were usually appointed by the superintendent, and included administration representatives, university faculty members and the staff development director. We found that in some of the TECs the superintendent was controlling the selection process.

There was some criticism that "content" was not stressed as much as it might have been. Why is that so if the teachers have a voice in selecting the program that they wanted? The second question: Do you have any data that would indicate whether those teachers who are most in need of in-service actually attend?

Results on the survey indicated that by and large teachers felt that they did get what they wanted. There were certainly instances where the teachers felt that they didn't; that was more predominant in the specialized areas—in secondary education as well as in vocational and special education. As to your second question, I don't have any firm data to say, "this person needed in-service education, but didn't go." My own perceptions were that those who needed it the most didn't go. That's a problem with this program, but it is offset by the benefits received by the teachers who want to improve professionally.

How comfortable are you with the findings that professors are not receiving rewards for in-service work?

I felt comfortable with that evidence, which is based on answers from the professors themselves, from the TEC directors, and analysis of the structure for rewarding them. It was a fairly unanimous conclusion. A large proportion of the professors felt that although they enjoy working with the school district, the university is not going to give them a reward for TEC service.

Can in-service work by faculty generate scholarly research?

I wish I could say that is true. The services provided were straight in-service training, without providing the data base for writing articles. By and large, we didn't find good examples of published articles as a result of TEC activity.

I wonder if you could comment on the intriguing idea that the summer institutes on math and science training for teachers will be evaluated on the basis of student achievement changes.

Comment by James Parris, Florida State Department of Education: One of the things that came out of the recent legislation is that the person must be evaluated by tests or some other means to determine what he or she has learned as a result of being in an in-service program. The State Board has ruled that to count toward the extension of teacher certificates, in-service must be at least 10 hours long and the individual must pass at least 80 percent of the objectives of that in-service activity. The local districts have the responsibility to determine what impact the summer institutes for teachers have on student achievement. By and large, they say that they're going to look at achievement of students beginning this year and at the end of '85 and use that as a determining factor for whether or not those students whose teachers went through the summer institutes have higher achievement than those who did not. This includes elementary teachers as well as secondary teachers in math and science. I don't know how it's going to turn out.

How would you grade Florida's Teacher Education Centers—"A," "B," "C," "D," or "F"?

In terms of potential I'd give them an "A minus"; in terms of actual implementation, a "C plus."

Further Comments on In-service Issues

- One additional issue that might be identified on in-service is state vs. local control. How come the people in the state capitol always think they're so smart?

- There's another aspect of in-service that is worrisome—to a great extent in-service is remedial because of pre-service deficiencies. We shouldn't have to live with that as an everlasting problem, but rather, we should correct the baccalaureate preparation programs. Voluntary versus mandated in-service is one of the most intriguing issues that has surfaced here. Listening to the description of the Arkansas program, I happen to feel there are a lot of problems with that. Listening to the description of the Florida program, I get an uncomfortable feeling that a lot of money is being spent with an uncertainty about the results. Thus, I reached the conclusion that if the mandated program was one that I believed in, that's where I'd be. If, on the other hand, I'm not sure about the results, I'd rather it be voluntary. One thing we do need is what's happening here. We are at least raising issues and talking about them. People at both the school and college levels and from the state departments of education are all looking at problems and issues together to try to figure out what makes sense.

- Most of our legislatures have approached the selection, preparation, and continuing education of teachers in one way or another. But I think that some dangerous things are being written into law in some states—things that I'm uncomfortable with. How can we insure that local school districts are going to be involved in the decision process about the in-service needs and programs in their districts?

- My concern is that a sizable portion of the teachers have in-service needs in mathematics. These are not teachers who are motivated by an advanced degree or graduate program. Where I come from, they are mostly females, have been in and out of the classroom for the past 15 or 20 years, hold baccalaureates, and don't ever intend to hold higher degrees. Whatever the graduate course—I don't care if you offer it 120 miles away or near the school—it is not the vehicle for a lot of teachers who need training in the basic mathematics to be taught to youngsters in our schools.

- I'd like to add another issue. There's an unspoken posture that teachers toe the line, and that they must participate in continuing staff development if they are to maintain certificates. Yet in many states we do not require our leadership people to participate in staff development on a continuing basis.

- One of my concerns about "needs assessment" is that it is generally conducted through some sort of a survey. A more important problem than teachers not knowing what they need is that the instruments imply teachers are failing in certain areas when you ask them, "What are your problem areas?" Why not use a positive approach that asks the teacher to identify *what works* in the classroom? In the Writing Project we start by asking the teachers what works in their own teaching of writing. Thus, teachers are moving toward professionalism. They are

respected, because you are asking them to delve into their teaching styles, while also giving them an opportunity to talk about what doesn't work. This is the right direction for defining in-service.

- The issue of how much "structure" is necessary has surfaced here, and that term always bothers me. There's a teacher who always says to me, "You're a very good teacher, but I could never operate with so little structure." The fact is that I'm probably one of the most organized and structured of teachers. Everything has a structure—it depends what the instruction is about. A classroom is structured in the sense that from 9:05 to 9:30 this was done, from 9:30 to 10:00 something else took place. It may entail a totally different kind of structure to encourage teachers to think about what they do and what they think. When you walk into an in-service summer institute, it may look unstructured to you, if your idea of structure is that everyone should be doing the same thing at the same time in some orderly fashion. Yet the approach used in the institute has a method, even if it is not evident from a surface view.

- On the issue of whether in-service should be voluntary or mandated, I've learned from working in the schools to keep up with the teacher lounge. Listen to what teachers say. In-service is frequently designed around some lack that the school system has seen in some teachers, to which all teachers are then submitted. I don't like the idea that my school system sets up in-service based on what they consider to be the lowest common denominator. I think that in-service should appeal to the good teachers. Voluntary in-service does that.

- I want you to look at what we're doing with principals now. Problems are dealt with rather than the innumerable regulations the state has imposed for the teachers. Part of it is because we look at how industry is doing it. We're talking now about "guidelines" for performance, rather than, "You do it this way. This is right!" I'm concerned about the rigidity of evolving state policies which do not recognize teachers as real human beings but view them as factory workers operating on a production line. We've got to make a decision on this. How do we view classroom teachers—with dignity as professionals, or as a labor force to be improved via regulations?

- I think teachers have to have some choice; we are professional. For teachers who have to earn so many credits in a two-year cycle, there should be a variety of opportunities, and choices.

- We have to be concerned with where policy is established. Frankly, I'm very critical of legislative policy, because once something is law then it is set in concrete. I'm not as critical of Department of Education mandates—those can be changed over a period of time. When legislators says "All secondary education majors must have six hours in reading," that's very difficult to change if no longer relevant. The point here is that if we, as educators, fail to take initiatives, someone else will. Legislation is set in concrete; it will be with us 20 years from now. That is the risk we run with legislative mandates coming down the pipe that are trying to deal with subtle sorts of problems, like this pedagogy/content issue. I'm very critical of legislative means in that regard. For example, my experience with staff development (as well as teaching pedagogy courses) suggests that teachers of biology don't necessarily require core biology. I find that teachers of biology cannot conceptualize science beyond the teaching of a series of facts. I have some background in science, and only until I can get them to rethink and restructure their concepts of biology in a clinic, can I be very successful in the area of pedagogy. This issue—the dichotomy of pedagogy/content—is one of the most subtle and complex areas faced by education today.

- One nice thing about the Writing Project is that we had no trouble getting funding. I have heard legislators say this is the only in-service project they've heard of that teachers wanted themselves. The teachers liked it—it was useful to them. When legislators are convinced that the school people are acting professionally and know that something works, the lawmakers are not diagnosing writing, but are saying "We will support you . . . ."

(Jerome P. Bauch of Vanderbilt University, who attended the Conference, submitted a statement in writing, parts of which are reproduced here.)

Suggestions for the reform and improvement of in-service education of the nation's teachers can be roughly divided into two camps. One proposes that teachers should be better prepared in the content or subject matter they teach. The other would have the teacher master a set of instructional and management skills to improve student achievement. Both are vital to excellence as a teacher; but the missing ingredient in the mix is theory.

When there was a vacuum in the theory department, content preparation and skill development were safe bets. But theories about learning and teaching are now available. They can be learned, adopted, adapted, and revised to become the foundation for the complex decisions that each teacher makes every day. To disregard theory in the present version of in-service reform is a fatal mistake.

There can be no question that teachers must be broadly educated and have content expertise in their teaching area(s). But content competence by itself is a hollow victory if the theories that allow for selecting content, understanding children, analyzing problems and needs, deriving instruction, and evaluating effects are not already in place. A liberal arts or science degree does not come with an instruction booklet telling what to do with the knowledge—that decision can come only from comprehensive theories about learning and teaching.

As to instructional skills, teachers can learn and perform these "improved" skills and be evaluated on criteria derived from them. Yet a repertoire of particular skills that is not guided by a theory can be technically right, but theoretically wrong.

Why theory? Theory is both the guide and the explanation of why the teacher does what he or she does. Theory is the framework that gives the answers to teachers about what to teach and how to teach it. We all know the terrible stories about the teacher who taught a wonderful year 30 times or who always taught a favorite unit the same way regardless of the class or group. If teachers are not equipped to observe, analyze, interpret, invent, experiment, evaluate, revise, and grow, their contribution to their students is likely to be very limited.

A new plan for in-service education of teachers that does not help teachers acquire a theoretical framework is as short-sighted as handing out booklets that are guaranteed "to work on Monday morning." Investments in quick-fix workshops, advanced academic training, or acting lessons alone are not likely to reach the potential of a system of in-service education that is based on theory and teaches theory as the framework for learning everything else. The durability and adaptability of theory as the basis for teaching and learning is the way to help teachers improve, to participate in intelligent change, and to make a long-lasting contribution to the education of our children. Content mastery, excellent instructional skills, and a theory to guide their utilization—that is the winning team of principles for the improvement of in-service education.

Persons Attending SREB Conference on What Works in In-service Education?

December 6-7, 1984
Atlanta, Georgia

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Bauch, Jerold P., Professor of Early Childhood Education and Education, George Peabody College for Teachers-Vanderbilt University (Tennessee)

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Carnine, Les, Superintendent, Texarkana (Arkansas) School District #7

Carothers, Mary Lou, Coordinator, Teacher Education Center, Leon County (Florida) Schools

Cleere, W. Ray, Vice Chancellor, University System of Georgia

Crews, Alton C., Superintendent, Gwinnett County (Georgia) Schools

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Fuller, Chuck, Director, Educational Development/Standards, Atlanta (Georgia) City Schools

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Goldman, Elizabeth, Associate Dean, George Peabody College for Teachers-Vanderbilt University (Tennessee)

Graham, Jim D., Superintendent, Wise County (Virginia) Public Schools

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Leach, Bill, Director of Staff Development, Georgia State Department of Education

McLean, Leon, Superintendent, Mansfield (Arkansas) Schools

McLean, Lois, Teacher, Mansfield (Arkansas) Schools

Miller, N. Andrew, Superintendent, Buncombe County (North Carolina) Board of Education

Noe, Alden J., Professor and Chairman, Education Curriculum and Instruction, Louisiana State University

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Parris, James, Program Specialist, Beginning Teachers Program, Florida State Department of Education

Prince, Julian D., Superintendent, Tupelo (Mississippi) Public Schools

Roselle, David, Provost, Virginia Polytechnic Institute and State University

Sandefur, J.T., Dean, College of Education, Western Kentucky University

Saunders, Robert L., Dean, College of Education, Memphis State University (Tennessee)

Towslee-Collier, Janet, Associate Dean, College of Education, Georgia State University

Walker, Carolyn B., Assistant to the Dean, Graduate School, Louisiana State University

Wright, James, Education Specialist, Alabama State Department of Education

Panelists

Bergquist, Constance C., President, Evaluation Systems Design, Inc., Florida

Garrison, Claude, Superintendent, Fort Smith (Arkansas) School District

Graves, William H., Professor of Mathematics and Associate Dean for General Education, The University of North Carolina at Chapel Hill

Mohr, Marian M., Teacher and Co-director, Northern Virginia Writing Project

Parks, Paul Franklin, Dean of the Graduate School, Auburn University (Alabama)

Rowls, Michael D., Professor, College of Education, University of South Carolina

Wyatt, Terry, Teacher-Consultant, Toledo (Ohio) Intern-Intervention Program