This paper describes and analyzes the relationship of research and practice and the goals and processes of staff development. It considers how a more clinical, developmental, and professional approach can help classroom teachers and staff developers use research on effective teaching and staff development in a reflective and analytical manner. It is pointed out that research findings can offer a teacher a framework within which an innovation may be adapted to meet the needs of specific classroom settings, becoming a tool to help the teacher rather than a prescription to be followed blindly. Research on inservice education is cited to illustrate the way teachers may be trained to implement changes into classroom practice. The training processes most effective in producing specific behavior changes in the classroom include the following five steps: (1) presentation of theory; (2) modeling of practices; (3) practice with new behaviors; (4) feedback; and (5) coaching in the classroom. With the perspective in mind of using research to help classroom teachers and staff developers to think more reflectively and analytically about their practices, a detailed description is given of a program in which classroom teachers and researchers on effective teaching were brought together. This program at the College of Education at Michigan State University, The Master of Arts-Classroom Teaching program (MA-CT), has been in effect for the past 15 years. (JD)
A shorter version of this paper appeared as "Using research to develop professional thinking about teaching" in the May 1985 issue of the Journal of Staff Development, 6 (1), 106-116. This paper contains greater emphasis on the appropriate use of research in thinking about and conducting staff development programs than the shorter published article.

"USING RESEARCH TO BUILD PROFESSIONAL THINKING & REFLECTION CONCERNING STAFF DEVELOPMENT & CLASSROOM TEACHING PRACTICES"

by
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We hear much of "putting research into practice," and that is, after all, one of the main reasons we do research: to improve practice. But in what ways do and should these changes in staff development and classroom teaching practice occur?

QUESTIONING THE CONVENTIONAL USE OF RESEARCH TO IDENTIFY PRESCRIPTIONS FOR EFFECTIVE PRACTICE

Over the past several years, the research on teaching has yielded insights concerning several teaching practices that have been shown to help students achieve large gains on tests of reading and math basic skills and to enhance their social and emotional development in certain specified ways (Gage, 1984). Partly as a result of this body of research, there has been an increase in rhetoric and a concentration of staff development resources spent on improving teaching practices in our public schools.

The predominant form this staff development movement has taken is to use this research as a source of prescriptions for what all teachers are supposed to do. Teachers are "given" training in the so-called "effective practices" and are then "expected" to use them in their classrooms. However, the form these so-called teacher improvement efforts takes can be seen as guilt-producing and not professionally enhancing for the classroom teachers involved. One of the more harmful abuses involved is the direct interpretation of a research finding into a prescriptive, "always do this" type of recommendation for classroom practice. Given the fact that often this type of research (or meta-analysis of research) is conducted with large numbers of classrooms that varied considerably from each other and that the main statistical analyses are often conducted with an emphasis on the average for the entire group of classrooms or teachers, such direct and absolute prescriptions are risky business. If you examine the scatterplots of data from almost any study of teacher behavior and student outcomes, you will find individual cases where desirable student outcomes are occurring but where the teacher behaviors don't fit the overall pattern of the larger group.
In addition, recent research syntheses of the effectiveness of such staff development programs (e.g. Joyce & Showers, 1983) paint a depressing picture. Although teachers can learn to display new teaching practices "on call", the more central problem remains in terms of the ultimate meaning of the word, transfer, i.e. in the teachers knowing when to use the new practices and how to use them appropriately for different students, settings, and curriculum goal structures. These are more complex goals and outcomes that have been sorely lacking in traditional staff development programs.

Caution must also be expressed from another point of view. Not that long ago, we tended to view "implementation" of a staff development program as a matter of teachers achieving or maintaining predetermined fidelity to a research-validated model of effective teaching. With the insights provided by the Rand study (Berman & McLaughlin, 1976), however, we found that innovations were not really adopted mindlessly, but rather, the new practices were adapted to fit the particular setting. Teachers tinkered with the teaching strategies they were learning until they discovered how they worked best for them. This process was called "mutual adaptation". Although the teacher did change his or her teaching practices, this occurred only after modifying the recommended practices to fit his or her setting, students, and content area goal structures.

We have come to think of "mutual adaptation" as a way of describing changes in the things---i.e. the teacher's classroom practices or the innovation from research---being adopted. But, it's not only these that change. More importantly we are beginning to have evidence that it is the classroom teacher's thinking about certain instructional elements and about him/herself and the students that has changed (Oja, 1980; Simmons, 1984a). In addition, this new way of thinking about a previously unexamined phenomenon can be seen as what drives and interconnects efforts to experiment with new practices and any subsequent changes in classroom behaviors. We could even go so far as to suggest that unless the teacher's way of thinking and looking at classroom problems is changed, little lasting improvement in actual classroom practice is likely to occur.

More recently, the conventional view of the relationship of research and classroom practices has begun to be questioned as the complexity of effective teaching/learning/schooling and staff development processes has been more adequately investigated and acknowledged. A concurrent, but somewhat less prominent part of the staff development movement has been a clinical approach (Berliner, 1978; Glickman, 1981; Acheson & Gall, 1980) which views the goals of teacher education in a more developmental and teacher-empowering way. In the teacher center movement, for example, teachers are encouraged to pursue their own meaningful learning opportunities and are made increasingly responsible for their own professional development. Other researchers have been focusing on better understanding and trying to influence teachers' level of cognitive development (e.g. Oja, 1980), teachers' preactive and interactive decision-making (e.g. Clark & Peterson, 1984; Shavelson & Stern, 1981). and teachers' sense of their own efficacy in the classroom (e.g. Ashton, 1984; Guskey, 1981).
necessary for professional practice in education, i.e. an improved knowledge base and increased autonomy for professional decision-making (Lanier, 1984, 1982).

**THE USE OF RESEARCH TO STIMULATE PROFESSIONAL THINKING & DECISION-MAKING**

This article represents an attempt to describe and to analyze how the more clinical, developmental, and professional approach referred to above can be used to help classroom teachers and staff developers use research on effective teaching and staff development in a reflective and analytical manner. The goal of this process is for teachers and staff developers to become more professional and competent decision-makers rather than blind users of prescriptions from research.

Let us examine for a moment the use of a finding from one research study to illustrate our point that the goal should be to enhance teachers' reflective and analytical skills and habits rather than to prescribe and monitor implementation of specific practices. Let's focus on a study which reported that teachers who called on students in the reading group in a predictable order had greater average student achievement gains than did teachers who did not use this practice (Anderson, Evertson, & Brophy, 1979).

The obvious prescription that might be drawn from this study would be to always call on students in a predictable order. Let us take Mr. Jones, a middle school teacher, who is told by a person who knows of this research to use this technique in his social studies class. We can assume that he will do one of three things: (1) he will use the technique mechanically and be blind to its effects on his students; (2) he will use the technique, find that it didn't work to keep students' attention, and drop it; or (3) he will try it, observe its effects on his students, reflect on why it did or did not work, create his own rules about when it works and when it doesn't, and use it appropriately when it helps him meet his curriculum goals better.

Let us contrast the approaches taken in cases one and two with that taken in the third case. In the first two cases, the technique is regarded as a cure all that will work under any circumstances. It's hard to say which loss is greater—the person who uses the practice inappropriately or the person who misses out on good technique because he/she wasn't willing to experiment with it. In the third case, the research was used as a stimulus for trying something new and figuring out why it works and why it doesn't work in certain situations. This kind of analysis takes the teacher's thinking to a higher level (Bents & Howey, 1981; Oja, 1980) than does the blind application or rejection of a practice. In the third case, the teacher has a broader framework into which the new technique is adapted and assimilated.

In order to be clearer about how the individual thinks about research in this way, let's examine a possible internal dialogue that might have occurred as Mr. Jones tried out a practice of using order turns. At first, there probably was some appeal to the technique—i.e. the teacher "bought it" and thought it could make sense. Without this initial openness—a
perceived congruence (Doyle & Ponder, 1977) between the new practice and the teacher's hunches about teaching—most research never makes it across the classroom threshold.

Next, the teacher thought about the practice in terms of his larger "map" of teaching knowledge and experience with questioning techniques: "I know it's important to get everyone involved. This technique offers a way to do that." But, as the teacher tries it out the next day, he observes that the students are not listening to one another's responses or trying to come up with the answer to each question because they are all busily counting ahead to where their question and answer will be. So then the teacher thinks, "Well, maybe it's not the technique per se that is valuable, but the effect it produces—getting all students a chance to respond." So, he tries other techniques for making sure all students have a chance to respond by using a systematic order but one that is not obvious to the students.

In this way, the research finding becomes not a prescription but a tool to help the teacher think about whether all his students are actively participating in the lesson and about ways that he can guarantee that participation. This piece of research becomes one other factor that helps enrich this teacher's thinking and "map" of effective interaction.

INSIGHTS PROVIDED BY THE RESEARCH ON EFFECTIVE INSERVICE EDUCATION

Before considering how a particular staff development program can encourage professional reflection and decision-making, let us first examine the research on effective inservice education and relate it to this new view.

The most widely cited authors of reviews of research on inservice education are Bruce Joyce and Beverly Showers (1980, 1983). The studies they have reviewed tend to view teacher improvement simply as behavior changes—a more limited view than the one taken in this article. The model of training processes which they propose as being most effective in producing specific behavior changes in the classroom includes five steps: (1) presentation of theory, (2) modeling of the practices, (3) practice with the new behaviors, (4) feedback, and (5) coaching in the classroom to be sure the practices are used as intended.

Following what has been said about "mutual adaptation" and the more ambitious staff development goal identified earlier, it becomes possible and necessary to adapt Joyce & Showers model for staff development. First, the staff developer would describe the research on effective teaching (PRESENTATION) in enough detail to enable teachers to understand the concepts, research questions, methodology, and findings of studies related to a particular facet of the teaching learning process. These would not be presented in an already reinterpreted or generalized form, but rather, could be presented in their original forms for teachers to consider.

In this view of staff development, MODELING can be broadened to include demonstrations of the use of research concepts, questions, and data collection methodology in relation to actual classroom practices and instructional decision-making as well as demonstrations of the research findings of a particular study. In this way, a reflective and analytical instructional problem-solving
process (Schmuck, Chesler, & Lippett, 1966; Hopkins, 1982) or action research process (Simmons, 1984a) is what is being modeled and learned.

PRACTICE and FEEDBACK would occur as classroom teachers reflectively apply, analyze, and evaluate their classroom practices in light of the research they have studied. Research concepts, question posing, data collection and analysis methods, and findings are all components of the instructional problem-solving process which can be practiced and used, first in an isolated step-by-step fashion and then in an integrated and cyclical whole. Similarly, the staff developer's feedback can be carefully directed first at the isolated steps and then at the use of the whole process of reflectively analyzing classroom practices in light of research. This is quite a bit more complex than simply providing feedback in terms of the fidelity of teaching behaviors with certain research findings.

COACHING, in this view, is not an activity which aims at helping a teacher to reproduce a given classroom behavior described in research findings. Rather, it is a time of collegial discussion (Little, 1982) concerning teaching and its effects on students. In this way, insights and further questions emerge from the experience of using instructional problem-solving processes to reflectively and analytically consider teaching practices in light of research.

With this perspective in mind of using research to help classroom teachers and staff developers think more reflectively and analytically about their practices, let us turn next to an example of such a staff development program in order to explore and analyze how this process can occur.

BRINGING CLASSROOM TEACHERS AND RESEARCH ON EFFECTIVE TEACHING TOGETHER

Overview of Program Focus. For nearly 15 years now, the College of Education at Michigan State University (MSU) has offered a field-based, individualized masters degree program designed specifically for classroom teachers. The program has grown from its initially small, experimental status in 1972 involving classroom teachers in only the Lansing area schools to today when it is available in six, regional MSU off-campus Teacher Education Center sites serving educational personnel in approximately 30-35 counties throughout the state.

The Master of Arts-Classroom Teaching (MA-CT) program has been designed to meet the recognized need of the K-12 classroom practitioner today for continuing professional development in terms of individually identified, teaching improvement goals derived for the specific classroom and school context and the diverse learner needs with which he/she works. The various learning experiences of the MA-CT program are designed to assist participants to:

1. relate educational research and their classroom practices,
2. identify and analyze instructional problems related to classroom practice and use appropriate resources to work toward instructional improvements,
3. acquire professional self-analysis and goal identification skills and habits,
4. pursue their professional interests on an individual and collaborative basis, and
5. improve their overall teaching ability and professional competence throughout their careers.

In a rapidly changing and expanding society and with an increased understanding of the complexity of the teaching/learning/schooling process, the need for classroom teachers to be lifelong learners and committed and capable professional has never been more apparent than today. The MA-CT program contains many
elements---e.g. emphasis on teaching as a profession and on teachers as instructional decision-makers, participants' experiences of doing increasingly more sophisticated action participants from diverse backgrounds and between participants and their own building colleagues---that correspond closely to what staff development leaders and educational researchers are emphasizing today.

Currently, nearly 400 classroom teachers are enrolled as participants in the MA-CT program in the various sites throughout the state. One of the greatest strengths of the program has been the personalized staff development opportunities, advising, and consultation provided to program participants by the field-based teacher education faculty. Because of the availability of these on-site staff developers/advisors and the emphasis on enabling teachers to use professional development resources which are available to them in their own area (through other educational personnel, school districts, intermediate school districts, community resources, the MSU regional Teacher Education Centers, etc), there is no main campus residency requirement for participants in this degree program. This policy also reflects the unique field-based, integrating research with practice philosophy of the MA-CT program.

Components of the MA-CT Program Curriculum. An individualized plan of study is developed for each participant involving individual and group action research projects, special seminars, and traditional graduate courses. Instructional resources are utilized from across the MSU College of Education and the other departments of the University to respond to the varied needs of the MA-CT program participants as they pursue their individualized professional development goals. University policy allows masters degree students to transfer up to a maximum of 12 credits from other institutions, so participants are also able to pursue other professional development opportunities in their local areas on an even broader scale when appropriate.

Each person's MA-CT program plan is developed collaborative with a faculty advisor to include experiences in the following areas:

- **Perspectives on Curriculum & Teaching** (3 credits)---research, observation, and introspection are used to stimulate teachers' professional growth about contextual features, goals, and participants in education; teacher knowledge, beliefs, and practices bearing on educational problems are addressed.

- **Foundations of Education Area** (at least 6 credits)---courses are selected which develop knowledge in social/historical/economic/legal/political/philosophical/psychological foundations and/or educational assessment.

- **Research Methods Area** (at least 3 credits)---course(s) selected to provide a basic understanding of research and evaluation methodology which is consistent with individual needs.

- **Classroom Teaching Emphasis Area Core Courses** (15 credits)---the required courses are Classroom Analysis, Instructional Development (action research project), and Classroom Synthesis.
• **ELECTIVES AREA** (at least 15 credits)---courses are selected on the basis of individual professional needs and interests, e.g. to strengthen knowledge in a content area specialty; to add an additional endorsement to the teaching credential, to expand professional expertise through courses in instructional methods, specialized teaching skills, or whatever areas are relevant to the individual's situation.

Program participants are expected to complete a minimum of 45 term (i.e. quarter) credits beyond the bachelor's degree.

**Background of the MA-CT Program Faculty.** The Professional Development core faculty/advisors are MSU faculty members who are field-based teacher educators working in the regional Teacher Education Centers in staff development, teacher training, school improvement, and instructional research activities. Their professional experience over the years in each Center location has brought each of them into dozens of local schools and hundreds of classrooms in a variety of consulting and instructional roles. The Professional knowledge and the Special Interest courses are taught by MSU faculty from a variety of departments. In this way, MA-CT participants are exposed to a wide variety of points of view concerning learning, instruction, and schooling today.

**Exploring the Relationship Between Educational Research and Classroom Practice.** A key feature of this program, compared to many other staff development and/or masters degree programs, is to provide the opportunity for participants to study the processes and products of educational research related to teaching, learning, and schooling and, in collaboration with other classroom teachers and a staff developer/instructor, to reflectively consider their present classroom practices in light of that information.

Although the entire program has this thrust, the MA-CT Professional Development core courses---(1) Classroom Analysis, (2) Instructional Development, and (3) Classroom Synthesis---particularly focus on providing a supportive and yet challenging and reflective atmosphere in which classroom teachers with varied backgrounds can thoughtfully explore the world of educational research. They consider this research in relation to the diverse learner and community needs with which they work, their professional knowledge and beliefs, their current classroom practices, the school workplace conditions, and current issues facing educators today.

The program is now designed so that participants typically take two terms of Classroom Analysis and two terms of Instructional Development in direct or close sequence with generally the same group of people. The one term Classroom Synthesis course is taken very near the end of their masters degree program. Thus, a strong group identity with a common frame of reference and a deep sense of sharing, trust, and support can be developed during the Classroom Analysis and the Instructional Development experiences. At the same time, the relative luxury of a year's worth
of professional development time with the same group of classroom teachers allows for in-depth exploration of ideas and for the gradual development of complex analytical and instructional problem-solving skills, expanded professional vision, and increased self-confidence and communication skills in participants.

The Classroom Analysis Component. The Professional Development sequence begins with two terms of Classroom Analysis. For many classroom teachers, this is their first concentrated exposure to educational research, so the first few sessions are spent talking and reading about teaching as a profession and the teacher's role as an instructional decision-maker. The need for teachers to be lifelong learners and to make instructional decisions using the most comprehensive and accurate information possible are emphasized. Finally, the use of instructional problem-solving skills (actually very similar to action research methodology) is explained and demonstrated using several examples from everyday classroom teaching events. The value of engaging in professional self-analysis and in identifying professional development goals and resources is further supported by briefly considering the rapidly changing nature of society itself and recent adult development research.

Participants begin early in their Classroom Analysis experience to also conduct their own research by completing a survey methodology project that involves them in identifying the eight most important knowledge, skills, and/or attitudes which they believe a teacher should possess if he/she is to effectively instruct pupils at their grade level or content area. They ask the same question of two other classroom teachers at their grade level or in their content area and of one administrator and then analyze the answers in relation to what is being discussed and read.

This project as well as some other integrative and reflective exercises done during the first few sessions are designed to develop a sense of individual readiness, group support, and a professional climate to thoughtfully analyze our work as classroom teachers. This use of the word, "our", is not dishonest for the staff developer/instructor is also (among other things) a classroom teacher, and his/her analytical modeling of actual instructional decisions made in relation to the group's sessions lends an element of immediacy, mutual involvement, and specificity to the discussions.

The remainder of the 22 session Classroom Analysis experience is designed to provide participants with the necessary knowledge, skills, and attitudes as well as actual experience in analyzing specific aspects of the teaching and learning process occurring in their classrooms in the following categories:

- curriculum design, implementation, & evaluation
- organization & allocation of instructional resources
  (e.g. time, space, materials)
- teacher & learner expectations
- classroom management
- classroom & school learning climate
- teacher & learner verbal communication
  (e.g. verbal flow, questions, reinforcement, directions)
- teacher & learner non-verbal communication
In each case, current as well as previous research on effective teaching and learning in diverse K - 12 classroom teaching situations is read, discussed, and used as a basis for collecting and analyzing actual data from the participant's own teaching situation in order to identify each person's professional development strengths and needs.

These readings (Simmons, 1984-85) and group sessions are designed to acquaint participants with several things from the world of educational research (Clark, 1984)—e.g. (1) constructs or names for important variables in the teaching/learning/school process, (2) research questions which can be asked about those variables, (3) theoretical models which show hypothesized or established relationships between variables, (4) research methodology or processes of inquiry in order to determine answers to the research questions, and (5) research findings or answers to those questions which have been asked. In addition, (6) the names, places, and historical contribution various researchers themselves as individuals and as members of a large network of educational inquirers and (7) the limitations and assumptions of various methodologies and the researchers who use them become familiar to Classroom Analysis participants.

In organizing these readings, group sessions, and data gathering and analysis exercises for each topic, care has been taken to use a progressively more integrative recall-comprehension-application-analysis-synthesis-evaluation structure so that participants' understanding as well as confidence and skills are gradually developed and strengthened. Two examples are provided below to give the reader a clearer idea of how this is done:

one of the CURRICULUM unit exercises: Examine your school or classroom curriculum to identify examples of the recent influence (if any) of either (a) multicultural, (b) gender equity, or (c) futurism concerns and issues in the curriculum. Write a short (i.e. 1 - 2 page) paper in which you summarize what you understand this issue to be and describe and analyze the examples you have identified. Be prepared to verbally share your examples and analysis with others in the class. Refer to one or more of the unit readings in developing your paper.

one of the VERBAL COMMUNICATION unit exercises: Plan, carry out, and audiotape a lesson in which teacher and/or student questions will be a predominate feature. Write a 1 - 2 page report comparing and contrasting the patterns of questions for the lesson in terms of: (a) the type of questions which you intend will occur in the lesson, (b) the observational data showing the questioning patterns which actually occurred during the lesson, and (c) your assessment of the effectiveness of the questioning patterns in the lesson in relation to your intentions (i.e. a plus/minus professional self-analysis). You should focus on whichever of the analysis categories for types of questions which is appropriate for the objectives of your lesson. Refer to one or more of the unit readings in developing your paper.
As several of these types of exercises are done for each of the Classroom Analysis units mentioned above, participants are gradually expanding their understanding of the teaching/learning/schooling process while gaining experience and confidence in a new role (i.e., action researcher in their own classrooms) and acquiring a more ambiguous and profound view of themselves as professionals rather than classroom technicians. At the same time, they are gradually accumulating a professional self-analysis mosaic of themselves, of their genuine strengths as classroom teachers and of their needs and future goals and resources for professional growth.

Quotations from various program participants express the types of changes in themselves which they have noticed.

- One way I've been influenced by systematically analyzing my professional practices is in the area of planning. I have found less dependence on teacher manuals and far less guilt when I've chosen to opt for a method that I feel better meets students' needs than what the textbook consultants propose. I feel greater depth of thought goes into my planning/reviewing than previously---kindergarten teacher with six years experience

- A simple and yet unhappy realization that I first learned was the number of decisions a teacher makes on a daily basis. Not only was the number surprising, but then to look at the quality of those decisions further underscores their importance. After becoming aware of these decisions, it was hard to make any statements in my classroom without thinking---why did I choose to say that? Could I have said that another way? Was it a good decision? (.....) In light of this information, it's a wonder anyone has even questioned the idea that the teaching profession is not a profession!---second grade teacher with six years experience

- One thing that comes immediately to mind is that now, after only one year, I am talking about educational issues, trends, and research with fellow teachers. Prior to this, I wouldn't have dreamed of doing this. Educational jargon, etc., was boring, but because (I now see) the research relates to my classroom, I know its value. I wouldn't have had anything of value to contribute as a support person before this class. (.....) The change agent information is really affecting me. I have to do alot more thinking on that.

In my classes, I am now aware, so aware, of classroom management strategies, verbal flow charts, effective oral and written praise, wait time, cuing, etc. These are so a part of my teaching it is now almost second nature to me. It really seems I am at least two jumps ahead of potential discipline problems. I am very aware of the "T" zone of interaction and the low-achievers' participation in class.
Professionally, I've grown tremendously. It doesn't matter if anyone else knows this, I know my value as an educator has increased. My self-concept has expanded. The (action) research project itself is doing good for me. Getting together with fellow teachers and discussing research is great. I no longer fear the library. You don't know how traumatic it was for me to go to the library at the nearby college. I dragged my husband along for moral support. Now I enjoy it.---senior high school teacher with 17 years experience

The Instructional Development Component. The focus of the next two term experience Instructional Development is for the participants to carry out an action research project in order to develop practical solutions and increased understanding of specific classroom problem which they have identified as salient in their particular classroom and learner situation. After the Classroom Analysis experience, participants usually can identify several possible areas which they would like to investigate in further depth, but to provide some focus and to be realistic in terms of the practical limitations of change theory, one area is eventually selected by each person. Doing this project involves further use of the information and conceptual skills acquired in Classroom Analysis.

Instruction and supervision for these action research projects are provided by the staff developer through group sessions, individual conferences, written feedback, and classroom site visits as appropriate. In order to organize ideas and to improve communication skills with other educators, participants prepare a written project proposal and a final report which are made available to others through the local Center library. These reports include: (1) a description of the designated instructional problem and its context and the research questions which the project has been designed to explore, (2) a review of related research and other appropriate resources, (3) explanation of the methods used to investigate the problem, (4) summary and analysis of the data gathered, and (5) conclusions and any possible recommendations resulting from the project. In addition, they are asked to comment on the impact of the project on their own professional development and work as a classroom teacher.

The diversity of instructional problems which are addressed by these action research projects is quite amazing, but reflects the fact that participants are to identify something which is relevant to their particular situation. Examples of some problems investigated are:

- career education and selection for junior high girls
- moral reasoning development in pre-adolescents
- classroom management rules, procedures, & consequences
- intensive feedback and praise for low achieving adult students
- reorganization & expansion of language arts curriculum
- cooperative learning strategies
- increased communication between teacher & parents
- strategies to enhance adolescent self-concept
- reading comprehension
- listening skills
- pre-vocational curriculum for handicapped students
Often, these projects relate to other professional development experiences the participants have had or can now identify to pursue. A strong emphasis is placed on networking among group members and other building and district colleagues who can function as valuable resources on a particular topic. They go back and reread things which are on their own book shelves and seek out new information in outside sources including ERIC, the local Teacher Education Center library, and community resources.

This additional experience of reading, discussing, thinking, using and assessing things from research---i.e. the constructs, questions, methodology, theoretical models, findings, researchers' examples, and limitations and assumptions which were mentioned earlier in this article---further expands the professional analytical skill development process which was begun during Classroom Analysis. Rather than providing specific prescriptive "right answers", the staff developer's use of phrases such as, "what does that suggest to you?", "can you think of another way of seeing that?", and "what other important factors influence this situation?", are all intended to empower teacher participants to see connections, deepen their understandings, and seek out resources in their own environment. Indeed, when talking with participants, it is possible to realize (as they do) that, on one hand, they have obtained more "answers" from this experience, but on the other hand, they have an expanded horizon, and they now see both more and different instructional questions and problems than before.

As before, quotations from some program participants reveal their perspectives on this experience.

- Change and growth are on-going processes. As I look at my development, I continue to recognize areas that need further refinement. It seems that once something is mastered, another thing comes to the surface. Through my growing awareness of research, I realize that this is true of many people---thus making the need for ongoing research vital.

  I find that as I read professional articles and talk to other professionals, I do so more analytically and with more confidence. When reading, I look at these more critically and am not as likely to accept them literally as I might have in the past. As I talk with others, I feel more confident that I have worthwhile things to say. ---first grade teacher with eight years experience.

- My activities helped me to become more in touch with what I was doing and saying and to understand why. They also ultimately gave me the confidence to change behaviors I felt were undesirable as a result of the research I had read. (.....) I finally have been able to step back from the immediate needs of my classroom and look at the kinds of things I want to do on a long-term basis.

  I have learned how isolate various types of problems. (.....) Through the past nine months, I have learned that I must not worry about every little thing but rather be systematic and organized and take one step at a time. Sure enough, progress does take place. I have gained confidence in my abilities to locate research material in an area of my interest. I don't believe it will be over my head, and if it is, I don't panic---there is always another journal I can locate.
I find myself excited to share interesting research from journals and the action research projects with my staff and can see their interest in keeping up-to-date growing. I now look forward to reading journals and finding ways to use them in improving my profession.----fourth grade teacher with four years experience

The Classroom Synthesis Component. The third part of the MA-CT Professional Development core experience is a one term course, Classroom Synthesis, which is taken very near the end of their masters degree program. Compared to the other two courses described here, the focus is less directly on considering research and practice. Rather, this course is designed to assist participants in examining and synthesizing their professional knowledge, beliefs, and practices in light of both current and historical issues which influence education and classroom teaching. A strong emphasis is placed on the participants' future professional development plans the role of the classroom teacher as a professional and as a change agent striving for instructional improvement, and strategies for communication and collaborative networking with other professional colleagues. Out of this experience, participants develop a more articulated individual philosophy of education to which they are committed, a clearer professional identity, and a set of long range professional development goals for their own continuous growth.

Two final comments from program participants illustrate teachers' reactions to the overall MA-CT program:

- The study of professional literature expanded my professional growth. It confirmed that other educators had had similar frustrations, ideas, and plans in planning and working with curriculum. Their attempts resulted in successes and failures. They were able to give good advice concerning dead-ends and new horizons. Many aspects I would never have considered or connected without their leading.

The overall impact (...) on my growth as an educator is a personal thing. I heartily recommend that others get involved in a program like this. Many of the results (...) I can't recognize yet because I'm too close to the situation, but with the passage of time, I see that I spent two years working on something that was important to me. I could have chosen some "high-brow" study that would have given me esteem in the eyes of (educators). Yet for me, the greater praise is one from a child that made a new discovery or received a new joy in learning from my classroom. I set out to change attitudes toward language arts from a negative to a more positive one. It happened. I am content. I am challenged to press on. ---sixth grade teacher with six years experience

- While many aspects of this experience have proven valuable in the classroom, I have felt most excitement in terms of my personal feeling about myself as a professional. (...) Last night, I had the opportunity to represent 55 elementary teachers in our district in a workshop designed to bring together long/short term goals of school board members, administrators, and the teaching staff. This is the first time our district has included teachers in their goal setting. What happened during the evening was a real education for all of us! Different goals, viewpoints, and depths of understanding were prevalent. What amazed me was how CURRENT I am when it comes to relevant issues in education. I found the administration and board both listening as I spoke.
I always had assumed they were up-to-date and I was trying to catch up...not so!!! I felt a sense of pride in myself and in my ability to give a favorable and even impressive representation of the entire elementary staff. (.....) (I see now that) I am a decision-maker, not only for what takes place in my own classroom on a given day, but of my professional growth (also). ---kindergarten teacher with six years experience.

OUR OWN QUESTIONS AND HOPES FOR THE FUTURE AS STAFF DEVELOPERS

Although it is always admirable to be consistent in an article such as this, we must admit that we are also driven by honesty to state that what has been discussed here as an approach to relating research and practice for classroom teachers and staff developers leaves us more filled with questions, hunches, and dreams than with certain prescriptions that we can offer to others. This, indeed, is one of the main messages we wish to convey in this article. To be more specific, we list some of these ideas below for others to also consider:

- how can staff developers themselves become more comfortable and confident regarding research which is relevant to their practice?
- how can current incentives, rewards, and school workplace conditions be modified to stimulate (rather than to punish) thoughtful self-analysis, risk-taking, and increased collegiality among all educators, regardless of role group?
- how can we better study the process as well as the direct and indirect changes which occur in classroom teachers as well as in staff developers engaged in this type of reflective and analytical process described here?
- how can professional literature become more available and better written and packaged to meet the needs of the classroom teacher and staff development practitioner audiences (e.g. Sparks & Sparks, 1984)?
- how can the value of such staff development programs which are long-term and focus as much on a professionalizing process as on classroom outcomes be defended by school leaders to a public which emphasises straight-forward fiscal accountability and budgets directed at services for students (Harper, 1983)?

To quote from the sixth grade teacher mentioned earlier in this article, we are challenged to press on.....
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