This paper describes cooperative endeavors involving a team of researchers and the staff of two rural school districts. In early 1990, the researchers asked teachers and administrators in an economically distressed rural Tennessee district (pseudonym Iris) to participate in a study determining school, community, and family characteristics related to school success. Results revealed burned out and discouraged teachers and students, uninvolved parents, and families struggling economically and emotionally. A year later, school district personnel, parents, local businessmen, and one of the researchers collaborated to develop a 4-year K-12 dropout prevention program that included a longitudinal study of dropout characteristics. Iris also became involved in a five-county economic development initiative, becoming a site in a two-way interactive television and computer network. Meanwhile, personnel from a rural school district in Kentucky (pseudonym Goldenrod) asked if a study like the one at Iris could be conducted in their school. On the whole, the findings were positive. While economic conditions and school isolation were worse than at Iris, Goldenrod teachers and students believed that the school was working for them. Subsequent contacts and visits between Iris and Goldenrod personnel resulted in new enthusiasm among Iris teachers and a sense that they could improve their school. In rural schools, the involvement of teachers in research about school effectiveness may be more potent than involvement in classroom practice research. (SV)
EMPOWERING RURAL TEACHERS FOR SCHOOL CHANGE--
CONSEQUENCES OF INVOLVING TEACHERS
IN EDUCATIONAL RESEARCH

Strand: Leadership & Staff Development

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National Rural Education Association
1993 Research Forum
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October 14, 1993
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Introduction

Traditional educational research has been criticized as not asking relevant questions and being distant from the classroom (Beyerbach, 1989; Eaker, 1982; Neilsen, 1990). Generally, it has been done by university professors without their getting involved in the classroom (Neilsen, 1990) and disseminated by "telling" teachers or sending out printed materials (Eaker, 1982, 1984). How can educational research become an effective vehicle for rural school improvement? What are the appropriate roles of administrators, teachers, and professors in designing, conducting and applying research that addresses critical problems? How can the protocols of quality research be balanced with the daily realities of rural school life and integrated into the culture of schools? How can institutions of higher education justify the costs of research unless it leads to improved educational practices? These questions and their illusive answers begin to describe the void between the research community and rural schools. In an era when the input of teachers is being sought through site based decision making, the need for teachers to participate in research is critical.

Researchers discuss selection of experimental and control groups, issues of validity and reliability, and applicability of qualitative and quantitative models while searching for topics
which will further their professional careers. School practitioners grapple with questions of practice in localized settings while criticizing the "ivy tower" approach of many in higher education. How can professionals bring their research expertise to the investigation of real and pressing problems? How can practitioners help identify these problems and use research to find solutions? How can the barriers between schools and post-secondary education be penetrated to allow collaborative research that will lead to improved educational experiences for rural youth?

**Review of Related Literature**

Traditionally teachers have been viewed as technicians who implement the research findings of others concerning curriculum, instruction, and assessment. The valuable contributions that teacher knowledge can make to the research community have been largely ignored. Teachers, who have daily access, expertise, and a clear stake in improving classroom practice, have no formal way of making their knowledge part of the literature on teaching (Beyerbach, 1989). When research is reduced to an intellectual exercise with no natural audience, much of the work (even quality research) is likely to be unread and never reach those people who could make best use of it (Meara, 1985).

Teachers are beginning to conduct and report research themselves, to reflect on their own practice, and to use research to change the way they teach. As it sharpens their observational powers and critical thinking skills, they begin to trust their
own knowledge and become less likely to accept others' claims without questions. It challenges them to grow professionally and personally by giving them a sense of mission and releasing them from stagnation (Koepke, 1991; Nielsen, 1990). When supportive networks are available, teachers listen carefully to each other, become energized, feel invigorated by having their work respected and discussed, and are inspired by the work of others (Eaker, 1982; Evans, 1991). Learning-management skills depend largely on self-knowledge, which is the product of systematic self-assessment, and first-hand research gives back-up to generalizations (Agee, 1991; Blake, 1991).

Educational research should be a collaborative process involving teams of people with different skills, especially teachers, who need to determine what works best in any particular class (Beyerbach, 1989; Crow, Levin, & Nager, 1991; Meara, 1985; Shalaway, 1990; & Tornery-Purta, 1985). Beyerbach (1989) suggests that university researchers should work closely with one or several schools instead of teachers from a number of districts in order to utilize educational research as a process of human interaction. She describes the shift in researcher perceptions from teachers as subjects to teachers as decision makers.

Collaboration provides a support network that helps identify problems, design and implement experiments, encourage, discuss problems in data collection, and objectively analyze data (Secondary Perspectives, 1989). Eaker & Huffman (1982, 1984) implore teachers to legitimate research by putting findings to
the ultimate test--does it work in the classroom? They have found that teachers are more accepting of the ideas of other teachers than of the ideas of college professors. Classroom research may lead to the elimination of ineffective practices and the implementation of effective ones while fostering individual reflection, providing opportunities for professional conversation, and enlightening future generations of teachers (Shulman, 1991). Lionberger (1965) views teacher involvement in research as a means to legitimating research so that findings will be accepted.

Smulyan (1987) describes collaborative research endeavors which require understanding of the complex relationships among research, policy, and practice. This is consistent with Williams' (1981) findings that the motives and personalities of research participants determine their behavior in the research setting. The outcomes of research are different when teachers collaborate in the process. Stenhouse (Rudduck, 1988) states "It is teachers who, in the end, will change the world of the classroom by understanding it."

Iris and Goldenrod--A Case Study

In the fall of 1989, a group of professors representing several disciplines and studying rural schools and communities from different perspectives began to grapple with the inadequacy of aggregate data. Such data do not account for relationships among home, school, and community inputs and educational and economic outcomes in rural communities. A rural education
research team was formed to investigate factors related to school success among individual poor students in rural schools and resulting economic impact in selected rural communities. The cooperation of a rural school district was sought for access to individual student data. Approval to begin the study was a result of several years of cooperative endeavors between one member of the research team and a rural county school system in Tennessee. Now, four years later, the interactions among researchers and the professional personnel of that school system have evolved into several externally funded projects and on-going efforts by two districts in adjoining states to improve school outcomes by altering home, school, and community inputs.

**Phase I--Iris**

Beginning in early 1990, teachers and administrators in an economically-distressed rural Tennessee school system, pseudonym Iris, were asked to participate in a study to determine the school, community, and family characteristics which differentiate students who succeed in school from those who do not. The role of the teachers included:

* Input into the design of student and teacher questionnaires
* Administering the questionnaires
* Collecting a writing sample from each student
* Collecting student achievement and attendance data from cumulative records
* Insuring confidentiality of student data by assigning identifying student numbers to all data sets
*Interacting with the research team member who conducted the qualitative aspects of the study

*Responding to the findings to verify their validity

*Suggesting interventions to address needs identified through the research

Originally, the research team had envisioned this sequence of events would conclude teacher involvement. The team would continue to use the data in preparing a variety of research reports, but data collection would be complete in Iris.

All persons involved were unhappy with the outcomes of the study. On the whole, it revealed teachers and students who were burned out and discouraged, students whose parents were not involved in their education, and families struggling economically and emotionally. Many teachers were defensive and questioned the findings. Others, including several school administrators, privately agreed with the general findings but felt helpless to change things.

Phase II--Iris/LEarning Visions

In 1991, one member of the research team became aware of a request for proposals from the US Department of Education which was consistent with needs identified by the Iris research. The superintendent was contacted to determine his interest in developing a proposal. He convened a district-wide group of teachers, administrators, parents, and business leaders to discuss the program guidelines. For two months, problems and possibilities were discussed and debated within the context of
the guidelines, the local research findings, the larger research base on proven interventions, and the culture of the schools. The group achieved consensus on a proposal called LEarning Visions which was written by the research team member and submitted by the Iris Board of Education.

The proposal was funded and a four-year K-12 dropout prevention demonstration program was implemented. The program components were:

* Attendance monitoring/encouragement
* Academic assistance including teaching assistants, before/after school tutoring, and computer-assisted remediation/enrichment
* Staff development in cooperative learning, whole language, study skills, and working with at-risk students
* Career awareness and exploration for all students
* Linkages with social service agencies and businesses to identify resources needed by families to keep children in school
* Individual and group counseling services
* A longitudinal study of the characteristics of dropouts

The longitudinal study consists of following the original Iris students through high school. Data collection includes yearly achievement scores, grades, attendance records, and promotion/retention. Anecdotal records are maintained by the attendance monitor. School and community inputs are documented through periodic visits by the qualitative researcher. Dossiers are compiled on each student who drops out of school. To maintain
the linkages with the earlier research and to conduct the longitudinal study, two members of the research team became part of the dropout prevention program, one as project consultant, the other as project evaluator.

Concurrently, Iris County became a participant in a five-county economic development initiative. The Iris findings were used as a piece of the assessment to determine regional economic needs and justify external funding requests. Those efforts have resulted in the creation of a ten-site fiber optic computer and two-way interactive television network. While in some of the other sites, the integration of the technology into the total school program has been slow, Iris was able to incorporate the technology as an addendum of LEarning Visions and quickly provide student access. The two-way interactive television network has provided real-time, face-to-face linkage between Iris teachers and a member of the research team.

**Phase III—Goldenrod**

In 1991, preliminary findings from Iris were presented at a meeting attended by teachers and administrators from rural school systems in eastern Kentucky. Attenders from a school there, pseudonym GOLDENROD, asked if a similar study could be conducted in their school. Goldenrod teachers went through the same process as the Iris teachers except that rather than develop a new student questionnaire, the teachers and administrators took the Iris instrument and adapted it to their local setting. Data collection, analysis, and dissemination occurred during 1992.
On the whole, the findings were positive. While the economic conditions and isolation of the school were more severe than in Iris, Goldenrod data revealed teachers and students who believed that the school is working for them and have a high level of connectedness with the community.

Phase IV--Iris/Goldenrod

In the spring of 1993, a group of IRIS teachers and administrators traveled to Kentucky where the Iris middle school and high school teachers and Goldenrod teachers (7-12) heard for the first time a comparison of findings from the two sites. The presentation compared the schools using qualitative findings, statistical analyses, and slides portraying school and community characteristics. Following the presentation, the two groups met together for dinner and, the following day, the Iris group visited Goldenrod, interacting with students and teachers. One highlight of the visit was a videotape about Goldenrod prepared by Goldenrod students. The result of the visit was a decision by the Iris teachers to implement some Goldenrod programs in Iris.

Inspired by the report of the first group who traveled to Goldenrod, a second group of Iris teachers visited Goldenrod a few weeks later. They took with them a video tape prepared by Iris High School students. Out of this visit, came a commitment at Iris High School to create a Steering Committee to guide major changes. The Steering Committee was appointed by the principal and superintendent and met throughout the summer of 1993 to develop a school improvement plan for Iris High School. Several
of the meetings were conducted via interactive television in order to include a member of the research team.

**Phase V--Iris**

In the fall of 1993, life in Iris is different. The superintendent perceives "a reawakening of enthusiasm" among teachers and a "sense that they can improve their school and opportunities for children." He says that the contacts with Goldenrod have "rejuvenated" the district. Specifically, he cites the following changes:

* Teachers working together to improve the climate of Iris High in the absence of strong leadership from the principal
* A state-funded Family Resource Center modeled after the one in Goldenrod to further the work begun by LEarning Visions
* Improved attendance rates
* Productive relationships with other agencies, enabling the district to help families/students access available services
* Tutoring programs that prevent school failure
* Two new courses at Iris High School utilizing two-way interactive video technology
* Vocational exploration courses at Iris High and Iris Middle with a full-time teacher who began as a part-time resource person with LEarning Visions
* A new mathematics curriculum in grades 7-12 which is gaining wide teacher, parent, and student acceptance
* Increased community awareness about the schools and a developing sense of community responsibility for the schools
*Greater openness to outsiders to visit the schools
*Interest in pursuing regional accreditation for Iris High
*Closer working relationships between Iris and the nearby regional university

The superintendent added that while the district still has serious problems, the attitude of teachers and support personnel concerning their ability to handle the problems are more positive. Linkages and procedures are in place to respond quickly and effectively to family and student problems. He cited an example of a fifteen year old transfer student with a baby. The student was demanding to either bring the baby to school or to be allowed to stay at home. Appropriate child care arrangements were made quickly and the student placed in classes with academic support to meet her needs. The district is now in a position to use the increasing state funding more effectively because of more objective knowledge of their needs and awareness of available programs.

The supervisor of instruction notes that Iris is no longer isolated. The research team has become "a part of us." The advent of LEarning Visions, the computer and video network, and the "Goldenrod Connection" have connected Iris with the outside world and enabled Iris to begin addressing problems more objectively and with expectations of improvement. Not only are Iris High and Goldenrod High working together, but sister school and pen pal relationships are being established among several schools in Iris and Goldenrod districts.
The director of LEarning Visions sees progress in "little stories," the anecdotal records of the on-going interventions between the program and the children and families of Iris. She was able to write a winning proposal for a Family Resource Center because she had seen the Goldenrod Family Resource Center in action and realized it met needs existing in Iris. She recounts parental feedback ranging from the positive majority response, "The school district does care about my child!" to the negative minority, "It is none of your business if I don't send my child to school!" The court system is accepting input from LEarning Visions in cases involving children.

The Iris Middle School principal sees the greatest change in teacher attitude. Teachers feel better about themselves and are more optimistic about their ability to affect change in the lives of children and in their schools and classrooms. The tutoring program and the academic assistants are viewed as critical components of effective schools. Academic achievement is rising although some of the gains are not yet reflected in standardized assessments. Teachers are using cooperative learning and teaching students study skills. The use of Iris as a student teaching center by the nearby regional university is increasing as the district's reputation improves.

Phase VI--Iris/Goldenrod

In the fall of 1993, two vans of Goldenrod teachers and administrators made their first visit to Iris. From a late evening dinner to departure, the bonds between Iris High teachers
and Goldenrod were strengthened as they "showed off" their school and community. A video tape prepared by Goldenrod students was played over Channel One. The visitors also toured Iris Middle and Iris Primary where "These are the folks from Goldenrod," was adequate introduction.

The teachers and administrators from Goldenrod are particularly interested in the two-way interactive video network linking Iris High School with a university, two vocational schools, and six other high schools and are beginning to investigate sources of funding for such a system. Other Iris innovations which interest them are the middle school program, the daily attendance monitoring, and the academic assistance program.

Plans are currently being made for a weekend retreat for selected students from Iris and Goldenrod. Tentatively scheduled for the break between football and basketball seasons, this retreat will be held in a geographically central place and allow students to become acquainted and more personally responsible for the school improvement process.

Conclusions

What are the implications of what has transpired in Iris and Goldenrod for rural education researchers? The authors submit the following:

*In rural schools, the involvement of teachers in research about school effectiveness may be more potent than involvement in classroom practice research. The research team has seen
classroom practice and school climate change dramatically through focusing on school effectiveness and student needs. The collective approach reduces tendencies to isolate teachers who need to improve and maintain emphasis on the school and its clientele. The result is a climate in which many teachers are willing to try innovations to improve the total educational experience.

*The relationship between the researchers and the teachers must be one of cooperation, camaraderie, and open exchange. All participants must be equal in the process. The common goal must be improving educational experiences for children. The individuals involved must trust one another and perceive the situation as "win-win."*

*While researchers may have greater interest in complex statistical analyses of quantitative data, teachers will make greater use of descriptive quantitative data and qualitative measures. The use of research findings to influence and direct school practice is the desirable end, but the interventions must be teacher directed, not researcher directed. Local school personnel must be seen as the leaders of research efforts with other researchers viewed in a supportive role. The research questions must have meaning and value for the teachers. They should be active participants in the design of research instruments, particularly questionnaires.*

*A research team having diverse professional expertise and backgrounds is more effective than a single researcher. There
are roles for those professors whose interest is service as well as those who are primarily researchers. Having team members from distant sites increases the level of objectivity, opens the dialogue, and decreases the probability of personality conflicts and charges of university domination.
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