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## ABSTRACT

This evaluation summary synthesizes the results of the first year of the Wisconsin Rural Reading Improvement Project (WRRIP), a project aimed at helping small, rural schools improve reading instruction by teaching reading as thinking (also termed "strategic reading"). The means used is staff development: specifically, a leadership team composed of a school principal, the reading specialist, and the media specialist work together to support targeted teachers in reading instruction while information is delivered to the team and the teachers through an assortment of telecommunications strategies that allow distance learning to take place. Following a brief general overview, the summary begins with 10 general findings based upon case study data, data from two surveys, meeting observations, and other sources. The findings are sorted into four categories: Reading Instruction, Staff Development, Distance Learning, and Project Organization and Delivery. This is followed by eight findings from two surveys. The next section describes generally the evaluation methodology used. The final section provides a description of the project at the end of year 1. (SR)

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## EVALUATION SUMMARY

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## EVALUATION SUMMARY

### Wisconsin Rural Reading Improvement Project

The year-long evaluation of 18 school districts involved in the Wisconsin Rural Reading Improvement Project (WRRIP) involved several kinds of studies. The two most formal studies were a pre and post survey of project participants and case studies at 5 of the 18 school districts. In addition, evaluators attended and observed a number of project meetings, and worked with project staff to build a document file--or audit trail--that could help keep track of all the project did over the year.

Evaluators had a good deal of contact with school districts and with project staff. In January, the evaluation team briefed WRRIP staff on what they had found through the survey and the first round of site visits. This report, and the WRRIP staff response to it, are part of the full evaluation report. Formative feedback, or exchange of information from evaluators to project staff, was an important part of the evaluation process. Some changes in the project were made based upon this exchange along the way.

This evaluation summary begins with ten general findings sorted into four categories: Reading Instruction, Staff Development; Distance Learning; and Project Organization and Delivery. This is followed by eight findings from the Fall and Spring surveys. The next section in the summary describes generally the evaluation methodology used. And, the final section provides a description of the project at the end of year one. The full evaluation report includes copies of the five case studies, detailed results of the Fall and Spring surveys, the mid-year formative evaluation report, and the response to the mid-year report by the Wisconsin project staff.

General Overview. In September, 5 sites were selected for maximum variation--that is, school districts that represented the possible variations of resources. We had sites with no reading specialist, sites pretty sophisticated about telecommunications, sites close to a larger city and others not so close, and so forth. Each case study evaluator, experienced in collecting descriptive information, was given a general list of "probes" or things to look at. Each was asked to visit their site three times. Each was asked to let each member of the district leadership team and the target teachers review his or her case study before submitting it. Every case study evaluator handled their site slightly differently. Finally, each submitted a 30 page report which is part of the full evaluation.

The Wisconsin Rural Reading Improvement Project (WRRIP) is a school improvement project aimed at helping schools do better at reading. The project was developed especially for small, rural

districts. The North Central Regional Educational Laboratory (NCREL) funding this project has a major purpose of learning as much as possible about school improvement in reading. Their objective is to share this information with other states in the region, and other regions.

WRRIP focuses on reading instruction. Teaching reading as thinking, or strategic reading, is defined by a set of materials produced by the Wisconsin Public Radio and Television Networks and the Wisconsin Department of Public Instruction and supplemented by other commercial and academic resources. The means for achieving improved reading instruction in WRRIP is through staff development. Specifically, a leadership team composed of a school principal, the reading specialist, and the media specialist work together to support targeted teachers in reading instruction. The reading specialist provides role modeling and mentoring. Information is delivered to the team and target teachers through an assortment of telecommunication strategies that allow for distance learning. These strategies include televised videotapes for teacher training, videotapes for in-class student use, radio broadcasted training programs, teleconferencing on reading issues, and electronic bulletin board exchanges. These distance learning strategies were supported in 87-88 with a number of face-to-face project meetings, site visits by project staff, and written materials.

WRRIP was defined a little differently at each site--that is, it was tailored for and by district personnel to fit their capabilities and meet their needs. In its first year, then, there was not a uniform common construction of WRRIP. While this is not unusual for a project in its first year, evaluators are challenged by evaluating a project that may be different across sites or not yet fully defined even within a single site. The project came a long way in defining itself during 87-88. This year's external evaluation helps describe the first year of WRRIP along with assessing it according to its intents.

Major findings based upon case studies, survey information, observations of meetings, discussions with project staff, and audit trail follow.

### Reading Instruction

WRRIP helped target teachers improve their effectiveness in reading instruction. Case studies, survey responses, and project staff observations documented changes in the way project teachers and reading specialists teach reading. Not only did teachers demonstrate and talk about changes in their reading instruction, for the most part they believed these changes to be improvements. That is, they felt that teaching reading as thinking, or strategic reading, helped their students become better readers.

Teachers and leadership teams acquired new reading instruction knowledge from distance learning strategies supported by collegial interaction. There was evidence that strategic reading was being used in classrooms, in teacher planning, in learning centers, and in the language used to describe reading instruction. In most sites, this information came to teachers from taped training programs, written materials, teleconferences, and radio programs. Once the information was in the district, many teachers worked together or with their reading specialist to apply the strategic lessons in their classrooms.

Teachers and reading specialists generally believed students benefited from the strategic reading approach. At most sites, leadership teams and target teachers welcomed the added resources to be used for reading instruction, believed that these resources had changed reading instruction for the better, and further believed that students were helped by the strategic reading approach. The amount of perceived change or improvement varied. Some sites saw the new approach to reading as similar to their present approach, others saw it as markedly different. Some sites involved whole teaching staffs, others only two teachers. Some sites anticipated comprehensive and enduring changes in their reading program based on strategic reading, others had more modest goals. However, in all sites reaction to strategic reading generally was positive--WRRIP was a successful school improvement project.

### Staff development

The "leadership team" used shows promise. Of all the project elements that varied across sites, the use of the leadership team and its role in supporting target teachers probably varied the most. Principals typically helped organize, handling paperwork and getting substitutes for example. Reading specialists in some districts observed and modeled, in other districts they did not. This appeared to depend upon their own teaching responsibilities. Media specialists played key roles in some districts passing information to teachers and specialists, organizing books and materials for their use, and hosting meetings in their centers. In other districts they merely cataloged materials.

Survey responses show positive regard for the team concept and case studies document the development of more specific roles and responsibilities over the duration of a year in most districts. This team of three puts many important school resources and networks together for the purpose of helping teachers. These teams need further definition and practice this year before their long-term effectiveness can be evaluated.

WRRIP increased dramatically the amount of time spent on staff development in reading instruction for project classroom teachers. Based on the amount of reading instruction training teachers reported getting in the past, this project provided much needed and wanted inservicing for teachers. Further, use of in-district teams and distance learning strategies increased the amount of training time for teachers. In comparison to the more typical one-shot workshop or conference, or even a semester-long college course, teachers and reading specialists appeared to spend more time learning (contact time) and applying new information within the WRRIP model.

WRRIP could benefit from clearer role definitions for leadership team members and more direction regarding their role in staff development. To institutionalize this "leadership team," and to study its transportability to other rural school districts in the region, it would be helpful to see further development of the "team" model. That is, a better understanding of the role of the media specialist and the principal, and their relationship to the reading specialist would be helpful. This defining process undoubtedly will evolve at the district level, but can be aided and even guided by project staff along the way.

### Distance learning

The use of technology-supported staff development for rural classroom teachers seems both feasible and promising. The most controversial aspect of WRRIP in 87-88 was the debate over whether technology aided or burdened the project. This was unfortunate and due to problems unrelated to the project--for example, late funding, competitive bidding procedures, and late deliveries. Nonetheless, it frustrated district staff and increased their responsibilities. Likewise, it frustrated and compounded the responsibilities for project staff. Given these mishaps, once the technologies were in place their use seemed promising. Teleconferencing, for example, was used for project calls and for other district purposes. VCRs were being used in greater numbers. District staff were at least trying to master the electronic bulletin board. And tapes of radio programs were being exchanged. While the technology created problems for the project this year, on the other hand the information used by teachers successfully in their classrooms essentially came via distance learning strategies.

Teachers and leadership team members need training as adult learners to optimize their use of distance learning strategies. Learning via television, radio, electronic bulletin board and telephone is new to many teachers. Some districts and their staff were more familiar with the technology used by the project, others were uncomfortable with the technology, frustrated in using it, and uneasy when interacting with it. To take advantage of teleconferencing and electronic bulletin boards, for example,



users must feel comfortable enough to ignore the technology and concentrate on substantive issues. In many districts this had not yet happened. Before distance learning strategies can be evaluated for their effectiveness in teaching, users should be comfortable with them.

### Project organization and delivery

Overall WRRIP staff were successful in meeting project objectives in their first year. 18 school districts received several kinds of technology, got on line for training information, received site visits, received materials, and documented changes in their reading programs. While success was uneven, a great deal was accomplished in each district in the first project year. The strategic reading "message" got out, the technology was put in place, the leadership team was formed, the reading specialist was informed, and at least a few teachers in each school implemented to some extent strategic reading principles. The 88-89 year begins with a solid foundation and lessons learned from the previous year.

Project objectives and expectations need to be reasonable and shared at the district and project level. If anything, this is a project staff that attempts to go beyond its stated mission and objectives to meet client needs. Generally, district staff, particularly reading specialists, evaluated highly the effectiveness of the project staff on surveys. In discussions, they were critical at times of project organization. Ironically, this criticism stems from the project staff's desire to meet more needs and objectives than were initially planned. This sometimes led to what was seen as an ad hoc approach. A shared and reasonable set of project plans can help district teams anticipate their investment, prevent project staff from overinvesting, and keep project delivery reasonable. Should the project become too "expensive" in terms of time, money, or effort, it is less likely to be replicated or maintained.

### Survey Results

A survey was conducted in the 18 WRRIP participating school districts in Fall of 1987 and Spring of 1988 as part of the evaluation. Across the districts 48 teachers in the reading project (target teachers) were surveyed in the Fall, 42 in the Spring. 37 teachers not in the project (comparison teachers) were surveyed Fall, 40 Spring. 19 reading specialists and 17 administrators were surveyed Fall and Spring.



A summary of some information the survey provided follows.

The WRRIP teacher. A profile of teachers in the 18 districts--both comparison and target teachers involved in the Wisconsin Rural Reading Improvement Project--indicates they tend to have about 15 years experience, 9 at their present grade level, 11 in their present school. Most have a BS or BA (90%), graduated from a UW college (40% from UW Eau Claire), and obtained their degrees between 10 and 15 years ago. Target teachers most likely teach grade 3 or 4, comparison teachers are spread across grades 3 through 6.

Staff development in reading. About half of the target and comparison teachers haven't had any reading-related staff development for at least 2 years. But some have had coursework (13%), attended conferences (13%), or had inservices (9%). A majority (about 90%) do not belong to the Wisconsin Reading Association. Most (about 60%) would like to spend more time on staff development in reading. The preferred kind of staff development is working with colleagues, particularly observing other classrooms, and attending workshops.

Attitude about reading instruction. Teachers surveyed agreed that reading in their districts was a high priority. They reported spending about 3 hours (target teachers) to 4 hours (comparison teachers) a day on reading. A majority report that they like to teach reading. The hardest problems they encounter when teaching reading are lack of time, knowledge about specific instructional processes, and evaluating student cognitive problems. On the whole, both sets of teachers report that their schools are doing a pretty good job in the area of reading.

Actual reading instruction. Teachers report about three quarters of their instruction is based on the basal reader (78% Fall and 70% Spring). They spend 4 and a half to 5 hours a week preparing for reading lessons, and report spending between a half hour and an hour a week with their reading specialist and their teacher aides. About half the reading instruction time their students spend as a class, one third of the time in smaller groups (usually 2) formed by ability.

Perception of student reading. Teachers report that a majority of their students enjoy reading. They evaluate reading in their schools as about 40% good readers, 40% average readers, and 20% poor readers. They consider the most serious reading problems of poor readers to be comprehension and word problems. They perceive that poor readers have problems at the passage level.

Reactions to Strategic Reading Principles. Target and comparison teachers were in agreement, in theory, with principles of strategic reading outlined in the survey. This was true in Fall and Spring. In Spring some differences between the two groups occurred as the target teachers reported spending more instructional time on strategic reading activities such as semantic mapping making predictions, and talking about the reading process. Also by Spring, target teachers were in closer alignment with responses of reading specialists than were comparison teachers.

Reaction to WRRIP. Both target and comparison teachers had positive remarks to make about the involvement of their school in the reading improvement project. In particular, target teachers evaluated highly the responsiveness of the Wisconsin Project staff, their helpfulness and the quality of their support. Teachers rated leadership team effectiveness as good, noting that teams were committed to the project and supportive of teachers.

Survey responses indicate that the average number of videotapes seen by project teachers was 7, and most had been involved in 3 to 4 conference calls. Teachers, on the average, had listened to 4 to 5 radio programs, and few had been on the electronic bulletin board. Teachers rank ordered project resources as follows: Storylords, leadership team, videotapes, written materials, curriculum guide, teleconferencing, and radio broadcasts. Almost every teacher had used Storylords and rated the series as effective.

Reading Specialist's perspective. Most reading specialists (over 80%) have their master's degree. They average 9 years experience as reading supervisors, 19 years as teachers, and 11 years in their present school. Reading specialists see about 20% of students in their schools as good readers, 50% as average, and 30% as poor. While some specialists spend up to 25 hours a week supervising reading, almost half report no time supervising as their time is spent teaching. This group tends to have more reading-related professional activities and recent coursework. Almost 70% belong to the Wisconsin Reading Association.

Reading specialists tend to believe schools could do more in the area of reading curriculum, assessment, and instruction. They are more concerned about the effectiveness of the reading program for poor and good readers than for average readers. Like teachers, reading specialists consider

reading to be a high priority in their district supported by principals and teachers. They, too, think more staff development time should be devoted to reading.

Reading specialists saw an average of 9 videotapes, were involved in an average of 7 teleconferences, and listened to about 6 radio programs. About a third of the specialists had been on the bulletin board an average of 6 times. Specialists rated Wisconsin project staff as very helpful with good or excellent quality professional support. Reading specialists were rated, themselves, as highly effective team members by teachers and administrators. They rank ordered project resources as follows: Storylords, curriculum guide, videotapes, written materials and leadership team, radio broadcasts, and teleconferencing.

On the whole, reading specialists more closely aligned themselves with strategic reading principles and processes, diagnosed reading problems more specifically (e.g. metacognition and affect), and often expressed higher expectations for their district in the area of reading.

### METHODOLOGY

The evaluation of the Wisconsin Rural Reading Improvement Project was guided by an Evaluation Design Advisory Team. This team consisted of Robert Stake, University of Illinois, Egon Guba, Indiana University, and Wayne Welch, University of Minnesota. Together, the Design Team members have considerable experience and expertise in evaluating education in the north central region and beyond. The Design Team met with the project evaluation team twice--first in September to review and refine the evaluation design, and, second, in May to review evaluation results, guide reporting, and evaluate the evaluation.

Survey. Work began during the summer of 1988 to develop a survey that would collect descriptive information about district personnel involved in the project. Additionally, the survey was to describe reading instruction practices and assumptions, and background staff development experiences of respondents. Several drafts of the survey were constructed by a team including Wisconsin Project staff, NCREL staff, and evaluation team members. Once the content of the survey was negotiated and finalized, it was sent to approximately 40 target teachers, 40 comparison teachers, 20 building principals and 20 reading specialists. This same group was surveyed the following Spring. Results are summarized in another part of this report.

Partner evaluators. Survey packets were sent to partner evaluators in each school district. These partners were volunteers from the leadership team who agreed to help in distributing and collecting surveys, and coordinating the site visits in the case of the five case study school districts. Both Fall and Spring there was a 100% survey response rate. Case study evaluators reacted positively to the help given them at their sites in scheduling visits and interviews and touring facilities.

Project monitoring. Evaluation team members attended most of the face-to-face meetings held for WRRIP district team members. Additionally, Wisconsin Project Staff provided copies of all materials to principal investigator, Jeri Nowakowski. These materials included but were not limited to: transcripts of teleconferences, tapes of radio broadcasts, reading instruction materials, memos and letters to district staff, schedules of meetings to be held and subsequent write-ups of results, and so forth. This "audit trail" permits internal and external evaluation of much of what transpired during the first project year. Conclusions drawn in the executive summary have supporting evidence in the communications and documentation in this extensive audit trail.

Case studies. Five districts were the target for more extensive study. These districts were visited by a case study evaluator three times during the project year. Case study evaluators included Tom Faase, St. Norberts College, Thomas Schwandt, Northern Illinois University, Gordon Hoke, University of Illinois, Dennis Gooler, Northern Illinois University and Jeri Nowakowski, Northern Illinois University. Each of the case study evaluators received a set of probes or questions to address at their respective site. These questions helped evaluators focus on common project variables or dimensions, including: aspects relating to the effectiveness of the leadership team and each of its respective members; dimensions of the reading instruction intervention--strategic reading--and its effective implementation by target teachers and reading specialists; and, the delivery of staff development using distance learning technology including T.V., radio, teleconferencing, electronic bulletin board, and print materials. However, the general objective was to observe and document how successfully the project was being implemented at each site, and to note what problems, if any, were occurring that Wisconsin staff might be able to rectify. That is, there was a strong emphasis on providing actionable feedback for project improvement.

Each case study evaluator collected information slightly differently, and collected slightly different kinds of information. For example, Nowakowski provided transcripts of actual classroom lessons in strategic reading; Hoke permitted

district personnel to portray their own project by using interview comments from them and their students to characterize what was happening; Schwandt focused on the dynamics of the communities and their impact on rural education--and this project; Gooler was asked to focus specifically on technology and its use in his district; Faase characterized the general style and philosophy of teachers involved in project implementation. All case study evaluators depended upon observation and interview. Some collected portfolio information or artifacts from their settings, others requested and received videotapes of actual teaching. All case study evaluators tried to be attentive to the delivery of this project in a rural setting--each tried to capture what in such a setting effected the opportunities or obstacles to this kind of project. These variations on information collection were seen as desirable and successful, just as we came to see the variations on project implementation across sites.

Mid-year feedback. In January, case study evaluators met with NCREL and WRRIP staff to provide feedback on information gathered to date. This information included Fall survey results, the first round of case study site visits, and observations of project meetings. Midterm reports are included in the full technical report. Response to the midyear report by WRRIP staff is also included as it provides explanation of events from Wisconsin staff perspective as well as action steps taken based upon feedback.

Before case studies were submitted, each case study evaluator provided a copy of his or her case study to the district leadership team and the target teachers. District personnel were asked to provide feedback to the evaluator at several different levels. First, did they have editing refinements to help provide more accurate information. Second, was information left out that they would add. And, third, and most important, did they feel the case study was adequate and accurate in telling their story. In the third case, district staff were invited to provide feedback, recommendations, or even a letter expressing another or an opposing viewpoint. In each site, case studies were successfully reviewed, refined, and generally endorsed by project staff as accurate portrayals.

Metaevaluation. The final step in evaluation was submission of all reports to the Evaluation Design Advisory Team, NCREL staff, and WRRIP staff. In May, 1988, a two-day meeting was held to review the results of the evaluation, to address specific questions from WRRIP staff, and to consider the most appropriate way to package and deliver the final report for NCREL use and for use by the 18 districts in Wisconsin. At the same time, information produced for 1988-1989 was assessed to determine the most cost effective evaluation design for the subsequent project



year. Based on this meeting, the decision was made to continue surveying, to continue four of five case studies, and to collect, if possible, specific student assessment data in 1988-89.

#### PROJECT DESCRIPTION: Year One

Describing the Wisconsin Rural Reading Improvement Project probably reveals as much about the perspective of the person describing as it does about the project. That is to say, many key stakeholders see the project slightly differently. Most would agree on the features that are described below, but the balance of those features is perceived differently. For example, some would emphasize the distance learning component of the project, others the reading instruction strategies, still others the staff development dimensions. Among those who see it as all three, there still might not be total agreement regarding project purpose and methodological roots. WRRIP can be interpreted along a number of different lines or themes in part because it is a multifaceted project whose creators understand its complexity. And in part, its different storylines are the result of an evolutionary process that has not yet seen the project strands coalesce into an easily labeled whole.

The overall evaluation found many promising dimensions in WRRIP. Other states may want to follow their progress and consider the project's relevance to their rural settings. For that reason, this description of the project attempts to portray, for those outside the immediate project team, what the project looked like this first year. The project is described here using evaluation information and considering alternative perspectives. While ultimately it provides an evaluator's perspective of the project, it attempts to be sensitive to multiple perspectives.

The Wisconsin Rural Reading Improvement Project is the product of a collaborative effort across a number of organizations including the Wisconsin Public Radio and Television Networks, the Wisconsin Department of Public Instruction, the North Central Regional Educational Laboratory, and 18 rural Wisconsin school districts with K-12 enrollments of 900 or less. The project is co-directed by staff from Wisconsin Public Radio and Television Networks and the Department of Public Instruction. It has been influenced as well in design and implementation by staff from its funding source, the North Central Regional Educational Laboratory. In implementation, it has been tailored by and for the 18 school districts involved in the project. It has been influenced as well by evaluation information provided by yet another organization, the Office of Research, Evaluation, and Policy Studies, Northern Illinois University.



Staff development. WRRIP is a staff development project which targets, in this case, elementary school teachers, school administrators and reading specialists. (It could be applied to teachers at other grade levels.) There is much evidence that rural educational settings often do not have access to resources for ongoing staff development. This project is attempting to meet that need in the rural setting by using several unique strategies. The staff development approach is described by Wisconsin Project staff as evolutionary and natural. By this they mean that new information and strategies are introduced, and the group of teachers understanding and using them grows incrementally. There is no assumption that the training will create a new way of teaching reading, overhauling over-night more traditional methods.. (See Stake, 1987).

NCREL staff refer to the staff development approach as a trainer-of-trainers model to underline its planned sequencing of dissemination. In this case, the reading specialist models and works with several target teachers, who then work with each other and subsequently new teachers, and so forth. Through this process, the number of "experts" within each district grows. Evaluation information from surveys indicates that in the 18 project districts, time spent in staff development increased dramatically this year for those involved in the project.

Leadership team. One of the most interesting aspects of the staff development delivery is the construction of a leadership team within a project school. Influenced by a four-year staff development study by Ogle (1986), Wisconsin Project staff attempted to build in the involvement, support, and training of some key building personnel. The leadership team consists of the building administrator (usually the principal, but not always), the reading specialist and the media specialist (if they have one, and in most cases in these districts they did).

WRRIP provided some training for all three members of this team and, most importantly, helped members see themselves, sometimes for the first time, as a team. This brought about changes in organizational roles that in turn brought opportunities and challenges. The principal played a key role in facilitating the project, providing released time, passing information to key players, promoting the adoption of the reading instructional material, and in some cases observing and providing feedback to teachers on reading instruction. (This last role was promoted by Wisconsin staff, but many principals the first year did not feel comfortable at it.)

The media specialist became the conduit for information flow. The library or media center often housed project information (videotapes, audiotapes, the bulletin board, materials, and so forth). The media specialist came to know the materials, monitored their use, communicated with Project staff,

materials, and so forth). The media specialist came to know the materials, monitored their use, communicated with Project staff, and, in some cases, came to understand the reading instructional materials well enough to supply guidance to teachers for reading selections and class materials. This was seen as important because the media specialists in rural schools often have influence if not control over the resources--books, software and hardware--that become a part of the school library. Some media specialists went to the Wisconsin Reading Conference to hear more about this instructional approach and its supporting materials.

The reading specialists had their role formalized in this project. In many schools, they traditionally provide backbone support to the reading program--teaching Chapter 1 students, supporting teachers with individual students, selecting and interpreting reading achievement tests, influencing choice of reading series. The project made their role more visible in many districts, provided for released time to collect and organize staff development materials, and created a setting in which their expertise was used. At each project school, the reading specialist became the resident expert, interpreting for others the Wisconsin Project materials and objectives. The challenge was that many specialists spend all day in the classroom teaching. Some could not free themselves up to take on Project responsibilities. And others, at least this first year, felt most comfortable in the classroom. In all cases, however, the support of the reading specialist was a fundamental part of project implementation.

These teams functioned differently at project sites. In part the differences were due to personalities, historical roles, and areas of expertise. As the year went by, the Wisconsin project staff attempted to help clarify what team members should be responsible for, and how they might work together. WRRIP introduced the notion to these school personnel that they were a "team."

Distance learning. For many states and rural settings, one of the most intriguing aspects of WRRIP is its connection with the Wisconsin Public Radio and Television Networks and delivery of information through this and other telecommunications systems. It is undoubtedly the most challenging part of the project and potentially of great importance for rural education settings. It is impossible to separate the effectiveness of the telecommunications systems that brought information to rural schools from the information the system brought. Reading instruction, particularly the reading as thinking approach described in the Wisconsin project materials, was interesting, valued, and accepted by most district personnel. They listened, watched, and talked by phone about the project not because the telecommunications were there, but because there was good reason to use them.

Installing distance learning mechanisms is surprisingly complex. The problems begin with statewide resources (like the telephone system or narrowband radio accessibility) and run to school buildings where wiring glitches prevent reception. Troubleshooting becomes an art form, and having an experienced team (staff from the Wisconsin Public Radio and Television Network (WPRTN) as well as Department of Public Instruction and CESA staff responsible for statewide technology efforts) is terribly important. The effort is statewide, as much of the educational telecommunications system development is limited or defined by state resources, policies, and politics. Guiding the effort in Wisconsin is the underlying belief of a critical mass that television, radio, computers, and telephones can and should be used to assist public education.

The five technologies used included: broadcast public television (in Wisconsin there is a state public television and radio network), narrowcast FM public radio (called SCA instructional radio, a service of Wisconsin Public Broadcasting Network), narrowcast television (called ITFS and also a Network service), telephone conferencing (called WisLINE, a service of the University of Wisconsin Extension, Instructional Telecommunications Systems), and electronic mail and forums (called LEARNING LINK, another service of Wisconsin Public Broadcasting). More information about these technologies and how they were installed at project schools is available through Dr. Margaret Wilsman, Wisconsin Public Radio and Television Network. (See also, Wilsman, 1988).

At the school level, these technologies usually translated into the following activities. Media specialists taped the narrowcast television programs for use by teachers later. The videotapes became part of a library used for faculty inservices or individual teacher viewing. Similarly, the narrowcast radio broadcasts were taped by media specialists and audiotapes became part of the school library. Teachers listened to them as a group or checked them out to play in cars or at home. School project members gathered around a speaker phone for conference calls that involved as many as seven other districts and Wisconsin project staff. Teachers checked out Storylord videotapes and used them with students on VCRs in their classrooms. Students used Storylord discs on computers in the classroom or media center. The media specialist got on the Apple, used the modem, and accessed electronic messages every few days. Wisconsin staff began sending important information via the bulletin board, slowly districts began communicating back to staff, and sometimes with each other, using the bulletin board.

Five of the 18 project school districts received microwave dishes used to receive ITFS (instruction Television Fix Services) programming. Beamed off of a public television broadcast tower located on Rib Mountain in Wausau, programming is sent from

either the University of Wisconsin-Stevens Point Telecommunications Center or the North Central Technical College Communications Center (NCTC). In the Winter, narrowcast television sent from NCTC was used to distribute a PBS/NCREL satellite television conference called "Teaching Reading as Thinking." Project participants from 13 school districts traveled to one of the five sites to participate in this national satellite conference introduced and summarized by project-produced programming. In Spring two more ITFS programs were produced for district leadership teams. Video tapes preproduced at the public television station in Milwaukee were used, and four 20 minute programs were produced by the project with Donna Ogle, National College in Evanston, Illinois and the leadership team from Zion School District. The ITFS program focused on the leadership team--especially the principal's role in bringing about change in the reading program. During the Spring television programs participation was primarily people at the five sites with microwave dishes.

What did not happen is traditional lecturing, classroom style, from expert to students. This was not a college coursework format. It was extended staff development, information was passed via telecommunications, and implementation was defined and monitored at the school level by school staff.

Reading instruction. The heart of WRRIP is the substantive message it brought to target teachers and leadership team members in the 18 project districts. Described using different terms, it is a method of teaching reading to students. In the project schools, it was most often referred to as "strategic reading," with corresponding instructional activities called "strategies." This instructional process is also referred to as "reading as thinking."

Research-based reading instructional materials made up the staff development package. They included a DPI curriculum guide, a set of 14 video lessons entitled "Teaching Reading Comprehension," and a set of videotapes and discs entitled "Storylords." While this was the core of the information provided to districts, many supplementary materials were provided. For example each district received a commercial reading series kit, a copy of A Nation of Readers, and literally hundreds of pages of research reports, lesson aides, example applications, and discourses on problems involved in learning and using the new instructional strategies. The latter were prepared by the project staff.

Evaluation indicates some noticeable patterns of change for target teachers using the new strategic reading approach. For example, there was more student talk, particularly more talk about what students were thinking about stories, what they knew about the content of a passage before they began reading, what

they thought would happen in a story they read, how they interpreted a book, how they "understood" what they read, how they came to understand an unfamiliar word, and so forth. A series of key terms, such as "prior knowledge" helped them talk about these new exercises in reading.

This new approach to reading instruction is beginning to take hold in other statewide efforts, for example, in Michigan and Illinois. State testing of reading also is beginning to reflect a strategic approach to reading. This is to say, at least in the NCREL region the reading materials used in this project are probably transportable, with reasonable modifications, to other states. Additionally, they are applicable to secondary as well as elementary education.

District investment. This is not an external project with staff who come in and deliver inservices, thereafter leaving. To be successful, districts had a considerable investment in the project which was, in the truest sense of the term, collaborative.

Districts received from the Wisconsin project \$1600 to provide for released time for participating staff. They also received varying amounts of equipment to ready their district for receiving telecommunications systems. In turn, they provided a leadership team which worked during the year, a partner evaluator, and target teachers. How the project was operationalized and sustained throughout the year, while supported by Wisconsin staff, was greatly determined by their own initiative.

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