

Learning to Teach an Early Reading Intervention Program through Internet-Supported  
Professional Development

Barbara M. Taylor

St. Paul, MN

Ceil Critchley

Moundsview School District

Moundsview, MN

Kristine Paulsen, Kristin MacDonald, and Heidi Miron

Delta Schoolcraft Intermediate School District, Escanaba, MI

December 2002

### Abstract

Grade 1 teachers from 8 schools in an intermediate school district participated in a 9-month professional development program designed to teach them how to use the Early Intervention in Reading (EIR) program with their struggling readers. Teachers and students from 7 schools in the same intermediate school district served as controls. The professional development began with an on-site 4-hour workshop led by an EIR master teacher. This was followed by 9 monthly 2-hour sessions in which teachers used Internet-delivered modules to guide their learning. These meetings ended with a 30-minute conference call with the EIR master teacher. Students in EIR demonstrated greater growth in reading fluency and comprehension than students in control classrooms. Teachers' attitudes about the Internet-supported professional development and their ability to successfully implement the EIR strategies are discussed. The potential of Internet-supported professional development is discussed as well.

## Learning to Teach an Early Reading Intervention Program through Internet-Supported Professional Development

### Early Reading Intervention

In the last fifteen years the educational community has made excellent progress in the prevention of reading failure through the careful development and implementation of early reading intervention programs (Hiebert & Taylor, 2001; 1994; Pikulski, 1994). Based on research on these successful programs, we have been able to document that teachers can teach almost all first grade children to learn to read, including those who enter school with low levels of literacy and who in the past would have failed to learn to read in first grade.

One of the first early intervention programs which emerged in the 1980s was Reading Recovery (Pinnell, Fried, & Estice, 1990; Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994). Reading Recovery (RR) uses a one-one-one pull-out tutoring model, but other approaches have also been found to be effective. Success for All (SFA) (Slavin, Madden, Karweit, Livermon, & Dolan, 1990; Madden, Slavin, Karweit, Dolan, & Wasik 1993) is a school-wide program which provides one-one-one tutoring to children most in need but also provides restructured classroom reading instruction.

Other programs successfully use a small group approach to early reading intervention. Right Start in Reading (RSR) (Hiebert, Colt, Catto, & Gury, 1992) follows a small group approach in which the Title 1 teacher and an aide each work with 2-3 children at a time using a pull-out model for instruction. Early Intervention in Reading (EIR) is a small group approach in which the classroom teacher provides 20 minutes of daily supplemental instruction to a group of 4 to 7 within the classroom (Taylor, Short, Frye, & Shearer, 1992; Taylor, Hanson, Justice-Swanson, & Watts, 1997).

The examples of effective programs summarized here, along with many other early reading intervention programs which have been developed over that past ten years, share important components: repeated reading, systematic word recognition instruction, carefully selected texts, guided writing, one-on-one reading practice, and home connections. Also, in these programs explicit, fast-paced instruction and ongoing assessment are delivered consistently, and children spend extra time in meaningful reading and writing activities. Perhaps most importantly, teachers receive high quality, ongoing professional development and support in how to effectively teach children to read who have historically met with little success in learning to read in grade 1.

One limitation of many effective early interventions, however, is the difficulty of providing the ongoing professional development a program requires to a sufficient number of teachers to reach all grade 1 children who need a reading intervention program to learn to read. For example, Reading Recovery requires an intensive year of training for specially selected teachers who only work with a small number of children a year (Shanahan & Barr, 1995; Stringfield, et al., 1997). Never developed for national implementation, Right Start remained a successful program in only one school district.

### Effective Professional Development

Theorist and researchers studying teacher professional development have strong consensus about what makes it effective (Killion, 2002a; Lieberman and Miller, 2002). Teachers who receive quality, ongoing professional development stressing higher order thinking and concrete learning activities are more likely to use effective classroom practices associated with gains in student achievement (Wenglinski, 2002). Sustained and intensive professional development that is tied to active learning and daily school life is more likely to have an impact

than shorter professional development experiences (Garet, et al., 2001). External sources of support, whether subject matter collaboratives, reform networks, or school-university partnerships are also important (Lieberman and Miller, 2002);.

The collaborative nature of effective professional development has also been stressed (Killion, 2002a; Lieberman and Miller, 2002). In professional learning communities, teachers who share a common purpose for their students, and engage in collaborative activities to achieve this purpose, see improved student learning (Newmann and Wehlage, 1995). As Elmore eloquently postulates, “If professional development is to pay a role in sustained instructional improvement, it should probably be based on the premise that teaches learn to teach by teaching, and by engaging in new forms of practice in the presence of people who have some expertise in that practice, by observing others engaging in new forms of practice, and possibly by observing themselves on videotape and analyzing their practice with others. Professional development should probably be based on the premise that changing instruction requires coherence and focus in professional development – working, for example on a manageable set of new practices in a sustained way over time until they become part of a relatively stable set of repertoires with which a teacher is comfortable.(p. 118)”

The Early Intervention In Reading Program, described below, adheres to this approach to professional development (See also Killion, 2002a, for a review.) Teachers within a building and across neighboring buildings, if feasible, learn a new set of practices to help struggling first grade readers learn to read. Once a month, guided by an EIR Professional Development Plan and supported by an EIR master teacher, they come together to share successes, solve problems, reflect together on videotapes of their teaching, and refine their instruction.

## The Early Intervention in Reading Program and Modifications to Its Professional Development Component

EIR is a program built on the premise that almost all children can learn to read in grade 1 and can be reading on grade level by the end of grade 2. By working together to learn new strategies and by supporting each other, teachers can make a significant difference in many first grade children's lives.

Like most other successful early reading intervention programs (Hiebert & Taylor, 2000; Pikulski, 1992), EIR follows a daily routine and a balanced approach to reading instruction (National Reading Panel Report, 2000; Snow, Burns, & Griffith, 1998. ) During a fast-paced, relatively short lesson, children know what will happen on each particular day of a 3-day cycle, and this knowledge helps them to focus and be more efficient. The first-grade teacher works with a group of 5 to 7 lowest-achieving readers for 20-30 minutes a day throughout the school year. First each day, the group rereads books read in earlier weeks to develop fluency. Next, the group spends three days engaged in repeated reading of a short picture book. Then, the group does word work or guided writing for sounds. Phonemic awareness training, instruction and coaching in word recognition strategies to foster independence, and the answering of higher-level comprehension questions are important components of the program as well.

Across four initial studies on EIR, 67% of the EIR children could read on a primer level or higher by May. In contrast, only 39% of the control children could read on a primer level or higher by May. In the two studies in which standardized reading scores were available, the EIR children were found to score higher than the control children on these tests. Follow-up assessments of children in the grade 1 initial EIR research studies revealed that 77% of the children in EIR were decoding on grade level in second grade (Taylor, 1995).

Initially, teachers learning to use EIR received a full day of instruction from the EIR developer prior to the school year. They also met with the developer of EIR for three two-hour sessions after school to continue to refine their teaching of the EIR strategies and to deal with concerns about the program. This initial approach to professional development was lacking in structure, however, and it did not occur regularly enough to provide teachers with the kind of support they needed to implement the program well.

Consequently, and given that professional development is most effective when it is long-term and learners have the opportunity to discuss and reflect as well as receive coaching and feedback as they are trying out new strategies (National Staff Development Council, 2001; Snow, Burns, & Griffin, 1998), the professional development component of EIR shifted after several years. It included a half-day introduction to the program and eight monthly 2-hour sessions led by a master EIR teacher to provide teachers with more support to refine their teaching techniques during the year they were learning to implement EIR. A group of from 10-30 teachers would meet to discuss implementation issues, to share videos of their own teaching of a portion of an EIR lesson, and to refine or modify instructional strategies as their children increasingly developed into independent readers. This delivery model, nevertheless, was only used in the state in which the program had been developed.

Early Intervention in Reading, although effective, was not a program which could “go to scale” since it required in-person delivery of the professional development component. Recently, however, this problem was overcome for the EIR program when an innovative Internet delivery system, combined with support from an EIR master teacher, became available. The EIR Professional Development Program follows the National Staff Development Council recommendation that e-learning for teachers be combined with on-site professional development

and the creation of a supportive, face-to-face learning community (Killion, 2002b; National Staff Development Council, 2002).

This new professional development program was developed so teachers in various locations across the U.S. learn could learn to implement EIR with their struggling readers. Using the Internet-supported delivery system, a group of from 4 -30 teachers from a school or district would meet for a half-day session with an EIR master teacher. Then the group would come together for 2 hours a month over 8 months. This meeting was led by an EIR facilitator who was learning how to use the program along with the other teachers. The content of the meetings was delivered through modules on the Internet containing video clips of effective practice, audio clips highlighting particular points, and discussion questions and activities. Teachers engaged in video sharing after the first few months. Each month the group finished their meeting with a half hour phone call with their EIR master teacher who answered questions the group was not able to answer themselves.

Evaluations were conducted between 1998-1999 and 1999-2000 on 338 first grade children in EIR from 10 schools (4 rural/small town, 4 urban, 2 suburban) in which 46% of the students, on average, were on subsidized lunch. The teachers of these students participated in monthly 2-hour EIR professional development sessions led by an on-site EIR master teacher. Data revealed that 65% of the children in EIR were reading on at least a primer level by May with a mean of 41 words correct per minute (Taylor, 2001). Evaluations were also conducted between 1999-2000 and 2000-2001 of 159 first grade children in EIR in which teachers from 6 schools (all rural or small town in which 24% of the students on average were on subsidized lunch) participated in the Internet-supported EIR Professional Development Program. Data

revealed that 76% of the students were reading on a primer level or higher in May with a mean of 46 words correct per minute.

### Purpose of the Present Study

The evaluation data on the Internet-supported version of EIR Professional Development appeared promising in terms of teachers positively impacting children's reading growth in first grade. Children appeared to do at least as well in reading by May when their teachers engaged in the Internet-supported professional development for EIR as when teachers received instruction in EIR via an in-person delivery model. However, there was a need to go beyond evaluation data, and thus, the present study was conducted to further investigate the effectiveness of an Internet-supported professional development program designed to teach first grade teachers or reading resource teachers to implement the Early Intervention in Reading Program in first grade classrooms.

In the present study, teachers could not have learned how to implement EIR without the internet-delivered program since they were 400 miles away from the EIR trainers, making monthly on-site visits untenable. As pointed out by the National Staff Development Council (Killion, 2002), "Student success is the only measure of the value of professional learning (p. 18)." Therefore, to test the effectiveness of this new delivery medium for EIR Professional Development, the end of year reading performance, after controlling for fall phonemic awareness scores, of children who received EIR was compared to children whose teachers did not receive EIR internet-supported professional development.

### Method

#### Subjects

Ten grade 1 teachers from 8 schools in an intermediate school district in a rural area in the north central U.S. participated in the Internet-supported EIR Professional Development Program. The 8 schools were from 2 neighboring school districts and from 28-59% of the students at the schools received subsidized lunch (with a mean across the schools of 43% of the students receiving subsidized lunch.) Children in EIR came from 11 grade 1 classrooms since one Title 1 teacher worked with 2 classes. Teachers identified up to 7 students per class that they thought would benefit from the EIR instruction, with a total of 51 EIR students identified across the 11 classrooms.

Eight teachers and 35 grade 1 students from 7 schools from the same intermediate school district participated as control subjects. Two of the schools were from the same 2 districts as the experimental schools, and 5 schools were from 3 neighboring school districts. These schools had 42% of their students, on average, participating in their school's subsidized lunch program, with a range of 25-63% of students on subsidized lunch across the 7 schools. Teachers were instructed to select up to 7 students in their classrooms whom they felt would benefit from an early reading intervention program if one were available to serve as control students. Across the 8 classrooms, 35 students were identified as control subjects.

### Student Assessments

Three elementary teachers who worked for the intermediate school district conducted the student assessments. Across a three-week period in September, they went to each experimental or control school as a team and tested all grade 1 children individually who had been identified by their teachers as EIR students or control students. Each child completed a 12-item phonemic awareness test in which they were asked to blend the sounds in six 3- or 4-letter words and to segment the sounds in six 3- or 4-letter words (Taylor, 1990). Each child was

asked to give the upper and lower case letter names. They were then asked to give the sounds of the consonants with 2 sounds requested by the tester for “c” and “g”.

Experimental teachers were instructed by their EIR master teacher to place students in EIR if they scored 7 or lower on the fall segmentation and blending test (Taylor, 1990). These students were considered to be at risk of failing to learn to read in first grade based on previous research by the EIR developers (Taylor, 1990; 2001). Twenty-seven of the children identified by their teacher as in need of EIR scored 7 or lower on the fall segmentation and blending test, averaging 4.3 items correct out of 12. There were an additional 24 students placed in EIR by their teachers because it was felt they would benefit from the EIR instruction. These students averaged 9.7 on the phonemic awareness test. In control classrooms, out of the children identified by their teachers as in need of an early reading intervention program if one had been available, there were 14 students who scored 7 or lower on the phonemic awareness test, with a mean of 4.4, and 21 other students identified as control students who averaged 10.4 on the phonemic awareness test.

The three data collectors assessed all children individually again during the first two weeks of May. Each child was asked to read a primer-level passage from the Qualitative Inventory 3 (Leslie and Caldwell, 2001). The data collector timed the first minute and recorded the number of words read correctly by a child in this first minute. The child read to the end of the passage, and the data collector recorded the number of oral reading errors. The child was asked to retell the passage, and the data collector used a 4-point scoring rubric (Colt, 1997; Taylor, Pearson, Peterson, & Rodriguez, 2002) to score the retelling. Finally the child was asked to answer the 6 comprehension questions that went with the passage.

One of the authors of this paper read through a random sample of 25% the retellings and answers to questions. She achieved 90% agreement on the retelling scores and 93% agreement on the scores for answers to questions with the 3 data collectors who had scored the retellings and answers to questions. The means and standard deviations for students on fall and spring scores are in Table 2. As can be seen in Table 2, control students scored slightly higher than experimental students in the fall on phonemic awareness, letter names, and letter sounds, so analysis of covariance was used in the data analysis..

### Regular Classroom Instruction and Title 1 Instruction

Experimental and control teachers were asked in April to complete a questionnaire which asked about their regular reading program, interventions their students received, and their professional development opportunities over the past year. Information on the questionnaire was followed up by questions from two of the authors of the paper when responses to questionnaire items were incomplete. In all of the experimental and control classrooms, the regular reading program was similar. All classes had 90-120 minutes a day of literacy instruction. What differed was that in experimental classes struggling readers received 20 minutes of EIR as part of this reading block. EIR was not an additional 20 minutes of reading instruction for struggling readers in these classes, just a different form of instruction; instruction previously found to be effective in teaching struggling readers to read (Taylor, Short, Frye, & Shearer, 1992).

Experimental teachers reported using a basal reader program, leveled books for guided reading, and the Accelerated Reading Program. In 8 of the 11 classrooms the EIR program was taught to a group of 5 students on average for 20 minutes a day by the classroom teacher. In all of these classrooms there was also an aide for 1 1/2 to 2 hours a day during the literacy period. In 3 additional classrooms, the Title 1 teacher came into the classroom to deliver the EIR

instruction during the regular reading time. The EIR children received no other targeted reading intervention.

Control teachers also reported using a basal reader program, leveled books for guided reading, and the Accelerated Reading Program . The control children did not receive a targeted reading intervention. However, in 4 of the classrooms, a Title 1 teacher came in to the classroom for 30 minutes a day to provide small group instruction along with the classroom teacher; in 2 classrooms a Title 1 aide worked with small groups along with the classroom teacher for 1 and 1/2 to 2 hours a day, and in 2 other classes a Title 1 teacher pulled different children out of the classroom for 20 minutes 3 times a week during the regular reading time based on children's needs, but no targeted intervention program was used; rather these teachers reinforced what was being learned in the regular reading program.

#### Early Intervention in Reading Instruction

The EIR grade 1 instruction follows a 3-day routine with repeated reading of old stories, coached reading of new stories, higher level questioning on the stories, and word work (See Table 1). In addition to the 20-minute lesson children are to read their EIR story to an aide or volunteer each day. This person should have received training on how to coach students when they come to a word they don't know. The teacher does an oral reading check with each student at least once every other story. Students not making adequate progress require more individualized help, and ways to provide this are discussed at the monthly professional development meetings. At the end of 3 days students may take their story home to read. They also have take-home activities related to their stories to share with a family member that their parents sign off on.

### Professional Development Opportunities

Typical professional development opportunities. When asked about professional development on the teacher questionnaire, teachers indicated that they were required by their state to complete 15 days of professional development over 3 years if they were in their first 3 years of teaching. It was recommended that they complete 5 days of professional development per year otherwise. Experimental and control teachers reported that they regularly attended professional development opportunities provided by the intermediate school district. These offerings focused on the following: literacy assessment (3 days), early literacy instruction (3 1/2 days), new reading or language art series (2 days), literacy centers (1 day), guided reading (1 day), reading comprehension (3 hours).

The EIR Professional Development Program. The EIR Professional Development Program was unique in that classroom teachers and Title 1 teachers participated in 22 hours of professional development spread out over 9 months. The 10 grade 1 teachers received a half-day of initial instruction in how to teach the EIR first grade program from their EIR master teacher who met with them in person in August. They met along with 21 other teachers in their buildings from grades K, 2, 3, and 4 who were also taking part in the EIR Professional Development Program for their respective grade levels. Although there were multiple grade levels participating in EIR, this report is limited to grade 1 because it is the grade level at which we had the most teachers and students. Additionally, it was a grade level at which we were able to obtain an adequate control group.

During the initial EIR Professional Development session teachers were directed through the relevant Internet modules by the EIR master teacher who had traveled out of state to the intermediate school district for the first session. The August session covered research and theory

on beginning reading instruction and EIR for the first hour, and during this time the grade 1 teachers met with the larger group of K-4 teachers. Then they met as a grade 1 group and covered the grade 1 EIR routines on the Internet while the EIR master teacher floated between grade level groups. Teachers viewed video clips on the Internet of experienced EIR teachers teaching EIR lessons. Teachers also received guidance from the Internet and their EIR master teacher on how to assess students for placement in EIR.

After the initial session teachers met monthly at one of their buildings for a 2-hour meeting. Because schools were spread out across 2 districts, the 10 grade 1 teachers met in 3 different groups according to their home school. In one group, 2 grade 1 teachers from 2 schools met together, and there were 10 other teachers from grades K, 2, 3, and 4 meeting at the same time. In a second group, 3 grade 1 teachers and 1 Title I teacher from 4 schools met together with 4 other teachers from K, 2, 3, and 4 meeting at the same time. In a third group 4 grade 1 teachers from 2 schools met together, and 6 other teachers from K, 2, 3, and 4 met at this time as well. Teachers took turns facilitating the meetings.

At each of the 3 sites, the grade 1 teachers met with the larger group for about 20 minutes. On the Internet, there were suggested activities for the larger group to engage in each month. For example, in September, the whole group discussed steps to be taken to set up the one-on-one reading time for EIR students in which they read to an instructional aide or community volunteer. They reviewed the module in which the training for one-on-one coaches, complete with video clips, was presented. In October, they learned how to do video sharing together by working through the module on this topic. In November, they shared questions on video sharing before they were to do this for the first time in grade level groups.

After meeting in a large group, teachers met with grade level groups for 60-70 minutes. Teachers discussed their EIR instruction with support from information and questions on the Internet. Based on information in the monthly meeting modules, they modified teaching techniques as children progressed in their reading development. They revisited selected video clips to refine their teaching. For example, in November teachers were asked to discuss children's success in tracking at this point in the year. They then reviewed on the site the procedures for Making Words (Cunningham and Cunningham, 1992), viewed video clips on the site of teachers doing Making Words with their grade 1 EIR students, and practiced the procedures together since they should be making the transition between the Sound Box activity (Elkonin, 1973; Taylor, Short, Frye, & Shearer, 1992) and Making Words in their EIR lessons.

Beginning in November, at each meeting teachers shared video clips of their own teaching of a portion of an EIR lesson. They used the video sharing to learn from one another and to reflect on their teaching. A major focus of all sessions was addressing the following questions, "How are we improving in our ability to coach children to use strategies and to depend on themselves?"

During the last 30 minutes of the monthly 2-hour meeting, the EIR master teacher talked with all of the teachers on the phone to answer questions that teachers were not able to answer in their grade-level groups. At the last EIR session in April, teachers were asked to complete a questionnaire on the EIR Grade 1 Program and the EIR Professional Development Program.

Teachers' fidelity to the EIR instruction. Three elementary teachers who worked for the intermediate school district were able to conduct a classroom observation in eight of the ten grade 1 EIR teacher's classrooms during the time she was teaching EIR. They used the CIERA Classroom Observations Scheme (Taylor and Pearson, 2000) for their observations. They learned

how to conduct the classroom observations through the training kit which was developed for use with this observation scheme and through support from another observer from the intermediate school district who had received training in the use of the observation system by its developer. The observation system makes use of extensive note taking and coding of instruction.

A 4-point rubric was developed to evaluate teachers' fidelity to the EIR strategies and routines: 4 - excellent implementation; all parts observed were parts of an EIR lesson; 3 – good implementation; the lesson observed was an EIR lesson except that either one part was missing or 1 part observed was not an EIR strategy; 2 – fair implementation; some parts observed were segments of an EIR lesson but some parts were not or some parts were missing; 1 – poor implementation; the lesson was supposed to be an EIR lesson, but did not appear to be based on EIR strategies and routines. Eight of the 10 EIR teachers were observed teaching EIR lessons. Two teachers chose not to be observed. One of the authors used the rubric to score each observation. Out of 8 EIR lessons observed, 6 received a score of 4 and 2 received a score of 3. A second author scored the observations according to the rubric and had 88% agreement with the first scorer.

## Results

Fall phonemic awareness scores were used as a covariate since this was the primary variable used in EIR to identify children who would potentially benefit from the instruction. An analysis of covariance on spring words correct per minute scores, with fall phonemic awareness score used as covariate, revealed a main effect for treatment,  $F(1, 83) = 4.20$ ,  $p = .044$ ,  $ES = .34$ , with experimental students scoring higher than control students. An analysis of covariance on spring retelling scores, with fall phonemic awareness used as a covariate, revealed a main effect for treatment,  $F(1, 83) = 11.91$ ,  $p = .001$ ,  $ES = .69$ . Experimental students demonstrated higher

retelling scores than control students. The analysis of covariance on question scores was not significant,  $F(1,83) = .16$ .

To investigate children's decoding ability, we considered the percent of children who could read at a primer level or higher in May. We found that 82% of the experimental students and 67% of the control students could decode the primer level test passage in May with at least 93% accuracy. When considering only those students who scored 7 or lower on the phonemic awareness test in September, and thus considered to be those in the study most at risk of failing to learn to read in grade 1, we found that 81% of the experimental students and 50% of the control students could read at a primer level or higher in May. A Chi Square test found that more at-risk experimental students could read at a primer level or higher in May than at-risk control students,  $X^2 = 4.41, p < .05$ .

#### Discussion

This study investigated the impact of an early reading intervention program on students' reading growth. Although the intervention program had been found to be effective in earlier research, this study was unique in that teachers learned how to provide the targeted reading intervention through an Internet-supported professional development program. The model followed recommended components of high quality professional development (Killion, 2002a).

The analyses indicated that the experimental children showed more growth in reading fluency and retelling ability than the control children. Additionally, the finding that 81% of the experimental students most at-risk could read on a primer level or higher in May versus 50% of the control students most at-risk is similar to the initial research on EIR which found that 67% of experimental students could read on a primer level or higher in May versus 39% of control students. Additionally, results on the percent of experimental students reading on a primer level

or higher in May are similar to the evaluation results on the Internet-delivered EIR in which 76% of the EIR grade 1 students were found to be reading on a primer level or higher in May. Taken together, these findings suggest that the Internet-delivered EIR professional development model appeared to be at least as effective as an in-person delivery model in terms of students' reading performance. Furthermore, teachers learned how to provide a targeted reading intervention during the regular reading period, and their students showed more reading growth than students whose teachers were not using EIR.

Teachers were asked to rate on a 5-point scale how easy the EIR grade 1 program was to implement, with 5 being very easy. Teachers' ratings averaged 4.2 on this 5-point scale. When asked if they would implement the program the following school year, 8 of 9 reported that they would and 1 indicated that she might if she had support. When asked what were the positive aspects of the grade 1 program, 7 of 9 teachers mentioned the fact that the program helped the children read well. Five teachers mentioned that the books were excellent. When asked what other children were doing when they were teaching their EIR group, teachers consistently mentioned seatwork on phonics and spelling (n = 5) silent reading (n = 5), writing or journaling (n = 3), and centers (n= 4).

When asked about the most helpful aspects of the professional development sessions, 4 teachers mentioned the discussion with other teachers and 4 mentioned their telephone call with their EIR master teacher. Two mentioned the value of the Internet as something they liked having access to for the purpose of refreshing their memory on certain points. The two concerns mentioned by more than one teacher were that 1) they felt they needed a refresher session the following school year (n = 2), and 2) they would like to have continued access to the Internet site (n = 2). When asked if the EIR professional development improved their teaching, 8 of 9

reported that it did, with one teacher leaving this item blank. Comments included the following: “I do more rereading with the students, more work on strategies.” “ I give more wait time.” “ I use sound boxes and making words with my whole class.” “ It helped me realize that a classroom teacher needs to work intensively with struggling readers.” “ It made me aware of important reading components to teach and the sequence of those components as well as the ultimate goals of reading, comprehension and enjoyment.”

### Summary and Conclusions

Results suggest that a blended model for delivery of professional development for improving reading instruction can be effective. Without an internet component, the professional development opportunity would not have been available to the teachers in this study. However, their e-learning was combined with onsite, supportive, face-to-face meetings. Teachers were engaged in sustained, collaborative learning as they addressed a problem of mutual concern, helping their struggling first grade readers learn to read. They followed a researched-based intervention program, got support from an outside expert, and worked together to improve their practice.

In this study a master teacher who lived 400 miles away delivered the first professional development session in person prior to the start of the school year. After that, teachers met once a month for 2-hour professional sessions that were guided by multi-media, internet-delivered modules. Although the modules provided structure and content to the professional development sessions, the discussion, video sharing, and reflection on teaching which the teachers engaged in together were important parts of the program as well. Teachers also felt that their 30-minute conference call at the end of a professional development session was a valuable component.

This was an opportunity for them to get feedback on topic that arose about which they still had questions.

It is important to point out that this study was limited to 10 first grade teachers and 51 students from 11 classrooms in a rural area who were compared to 35 control students from 8 first grade classrooms in the same location. Clearly, more studies are needed on teachers and students at different grade levels and locations across the U.S and in urban as well as rural settings to further investigate the effectiveness of the professional development model combining the internet with in-person support as was used in this study.

While the experimental and control students received the same amount of reading instruction, the experimental students received a targeted reading intervention program while the control students did not. In an ideal study the internet-delivery model would have been compared directly to an in-person delivery model as well as to a no-treatment control group to further investigate the effectiveness of the internet-supported model used to provide the professional development for the EIR program. However, due to resource constraints, this was not possible.

In spite of its limited scope, this study confirmed that the Internet-supported professional development program pertaining to the Early Intervention in Reading Program for grade 1 students was effective for the teachers who participated in it. Teachers taught the grade 1 program accurately, were pleased with the progress of their students, and were pleased with the professional development sessions. Most importantly, the experimental students were performing better in reading in May than control students, as indicated by measures of fluency, and comprehension.

In summary, this study provides research support for a relatively new approach to professional development to improve reading instruction at a time it is greatly needed. In business and industry, face-to-face professional learning is rapidly decreasing as technology-mediated learning is increasing (Barge, 2001). Technology-supported professional learning will undoubtedly increase for teachers as well. Today, especially with the No Child Left Behind legislation ([www.nochildleftbehind.gov](http://www.nochildleftbehind.gov)), there is a tremendous need for high quality, research-based professional development which can be delivered to many teachers with good results.

The EIR Professional Development Program holds promise as an example of a high quality professional development experience that can potentially be provided to many teachers since it depends primarily on Internet delivery of course content to a community of learners with support from a master teacher. Although more research is needed, the initial evaluations of and research on the Internet-delivered EIR Professional Development Program suggest that it is one model which could be used to “scale up” quality professional development on effective reading intervention strategies for teachers to use with the end result of more students learning to read well in first grade.

## References

Barge, Z. (2001). The context of distance training: Predicting change. In Z. Barge (Ed.), Sustaining distance training: Integrating learning technology into the fabric of the enterprise. San Francisco: Josey-Bass.

Colt, J. (1997). A scoring rubric for children's story retelling. Longmont, Co: St. Vrain Valley School District.

Cunningham, P. M., & Cunningham, J.W. (1992). Making words: enhancing the invented spelling-decoding connection. The Reading Teacher , 46, 106-115.

Deno, S. (1985). Curriculum-based measurement: The emerging alternative. Exceptional Children, 52, 2199-232.

Elkonin, D.B. (1973). U.S.S.R. in J. Downing (Ed.) Comparative reading. (pp. 246-259). New York: Macmillan.

Elmore, R.F. (2002). Local school districts and instructional improvement. In W.D. Hawley and D.L. Rollie (Eds.). The keys to effective schools: Educational reform as continuous improvement (pp. 111-122). Washington, DC: NEA.

Garet, M.S., Porter, A.C., Desimone, L., Birman, B.F., & Yoon, K.S. (2001). What makes professional development effective? Results from a national sample of teachers. American Educational Research Journal, 38, 915-945.

Hiebert, E. H., Colt, J. M., Catto, S. L., & Gury, E. C. (1992). Reading and writing of first-grade students in a restructured Chapter I program. American Educational Research Journal, 29, 545-572.

Hiebert, E., & Taylor, B. (Eds.). (1994). Getting reading right from the start: Effective early literacy interventions. Boston: Allyn & Bacon.

Hiebert, E. H., & Taylor, B. M. (2000). Beginning reading instruction: Research on early interventions (pp. 455-482). In M. Kamil, P. Mosenthal, P. D. Pearson, & R. Barr (Eds.), Handbook of reading research, Vol. III. Mahwah, NJ: Erlbaum.

Killion, J. (2002a). What works in the elementary school: Results-based staff development. Oxford, OH: National Staff Development Council and NEA.

Killion, J. (2002b). Cited in Galley, M. E-training offers options. Education Week: Technology counts 2002, 21: 35, pp. 41-42, 44-45.

Leslie, L., & Caldwell, J. (2001). Qualitative reading inventory – 3. New York: Longman.

Lieberman, a., & Miller, L. (2002). Transforming professional development: Understanding and organizing learning communities. In W.D. Hawley and D.L. Rollie (Eds.). The keys to effective schools: Educational reform as continuous improvement (pp. 74-85). Washington, DC: NEA.

Madden, N. A., Slavin, R. E., Karweit, N. L., Dolan, L. J., & Wasik, B. A. (1993). Success for all: Longitudinal effects of a restructuring program for inner-city elementary schools. American Educational Research Journal, 30, 123–148.

National Reading Panel. (2000). Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Washington, D.C.: U.S. Department of Health and Human Services, National Institute of Health.

National Staff Development Council. (2001). NSCD's standards for staff development, Revised. Oxford, OH: author.

National Staff Development Council. (2002). E-learning for educators: Implementing the standards for staff development. Oxford, OH: author.

Newmann, F., & Wehlage, G. (1995). Successful school restructuring: A report to the public and educators. Madison: Center on Organization and Restructuring of Schools, Wisconsin Center for Education Research, University of Wisconsin.

No Child Left Behind (2002). Washington, D.C., U.S. Department of Education (www.nochildleftbehind.gov).

Pikulski, J. (1994). Preventing reading failure: A review of five effective programs. The Reading Teacher, 48, 30-39.

Pinnell, G. S., Lyons, C. A., DeFord, D. E., Bryk, A. S., & Seltzer, M. (1994). Comparing instructional models for the literacy education of high-risk first graders. Reading Research Quarterly, 29, 8-39.

Pinnell, G., Fried, M., Estice, R. (1990). Reading recovery: learning how to make a difference. The Reading Teacher, 90, 160-183.

Slavin, R. E., Madden, N. A., Karweit, N. L., Livermon, B. J., & Dolan, L. (1990). Success for all: First-year outcomes of a comprehensive plan for reforming urban education. American Education Research Journal, 27, 255-278.

Shanahan, T., & Barr, R. (1995). Reading Recovery: An independent evaluation of the effects of an early instructional intervention for at-risk learners. Reading Research Quarterly, 30, 958-997.

Snow, C. Burns, S. & Griffith, P., (Eds.). (1998). Preventing reading difficulties in young children: Report of the committee on the Prevention of Reading Difficulties in Young children. Washington, D.C.: National Academy Press.

Stringfield, S., et al. (1997). Special strategies for educating disadvantaged children. Final report. Washington, D.C.: U.S. Department of Educational Planning and Evaluation Services Office.

Taylor, B. (1990). An informal phonemic awareness test for classroom use. Minneapolis, MN: University of Minnesota.

Taylor, B. (1995). The Early intervention in reading program: results and issues spanning 6 years. Annual meeting of the American Educational Research Association.

Taylor, B. (2001). The Early Intervention in Reading Program: Research and Development Spanning 12 Years. Boston: Houghton Mifflin.

Taylor, B. M., & Pearson, P. D. (2000). The CIERA School Change Classroom Observation Scheme. Minneapolis: University of Minnesota, CIERA.

Taylor, B. M., Pearson, P. D., Peterson, D. S., & Rodriguez, M. C. (May, 2002). The CIERA School Change Project: Supporting Schools as they Implement Home-Grown Reading Reform. Research Report Ann Arbor, MI: University of Michigan, CIERA.

Taylor, B., Short, R., Frye, B., & Shearer, B. (1992). Classroom teachers prevent reading failure among low achieving first grade students. The Reading Teacher, 45, 592-597.

Taylor, B., Hanson, B., Swanson, K., & Watts, S. (1997) Helping struggling readers: Linking small group intervention with cross-age tutoring. The Reading Teacher, 51, 196–208.

Wenglinski, H. (2002). How schools matter: the link between teacher classroom practices and student academic performance. Educational Policy analysis Archives, 10(12),. On-line. <http://epaa.asu.edu/epaa/v10n12.2002>, February 26.

**Table 1****EIR 3-Day Routine for September-February**

---

**Day 1**

1. Group rereads old story for fluency. Teacher does oral reading check or coaches individuals as they reread their story.
2. Teachers reads new book and models sounding out and blending and other word recognition strategies for 3-5 words from the story. Children reread story chorally.
3. Teacher asks a higher level questions and coaches for comprehension.
4. Group does sound box or making words.

**Days 2 and 3**

1. Group rereads old story for fluency. Teacher does oral reading check or coaches.
2. Group rereads “new” story twice, chorally, with a partner, or individually, while the teacher coaches as needed.
3. Teacher asks a higher level question and coaches for comprehension.
4. Group writes a sentence about the story and teacher helps as needed. Each child should be engaged in hearing the sounds in the words and in trying to write the letters for these sounds. They should not be simply copying a sentence as the teacher writes it.

Table 2

**Students' Means and Standard Deviations (SD) for Fall and Spring Scores**

		N	PSB	LN	LS	Wcpm	Err	Retell	Qstn
Exp	low	27	4.26 (21.95)	47.48 (7.09)	17.22 (3.02)	58.74 (21.79)	5.63 (5.20)	3.33 (.88)	5.56 (.85)
Exp	loave	24	9.67 (1.40)	50.58 (1.95)	19.08 (2.59)	63.50 (24.01)	4.54 (6.06)	3.46 (.78)	5.67 (1.01)
<b>All Exp</b>		<b>51</b>	<b>6.80</b> <b>(3.21)</b>	<b>48.94</b> <b>(5.51)</b>	<b>18.10</b> <b>(2.92)</b>	<b>60.98</b> <b>(22.76)</b>	<b>5.12</b> <b>(5.59)</b>	<b>3.39</b> <b>(.83)</b>	<b>5.61</b> <b>(.92)</b>
Cntrl	low	14	4.36 (1.91)	48.57 (1.87)	17.93 (3.10)	47.79 (25.24)	10.43 (10.28)	2.71 (.83)	5.71 (.61)
Cntrl	loave	21	10.43 (1.50)	49.86 (2.46)	21.00 (2.26)	55.95 (16.00)	4.90 (3.62)	2.86 (.57)	5.67 (.80)
<b>All Cntrl</b>		<b>35</b>	<b>8.00</b> <b>(3.44)</b>	<b>49.34</b> <b>(4.47)</b>	<b>19.77</b> <b>(3.00)</b>	<b>52.69</b> <b>(20.26)</b>	<b>7.11</b> <b>(7.46)</b>	<b>2.80</b> <b>(.86)</b>	<b>5.69</b> <b>(.84)</b>