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**Educators' Views of Implementing Direct Instruction Curricula:
Connections to Students with Disabilities**

Brenda Wilson

**Dissertation Submitted to the
College of Human Resources and Education
at West Virginia University
in partial fulfillment of the requirements
for the degree of**

**Doctor of Education
In
Special Education**

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**Morgantown, West Virginia
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ABSTRACT

Educators' Views of Implementing Direct Instruction Curricula: Connections to Students with Disabilities

Brenda Wilson

The purpose of this study was to examine the process of the first year of implementation of Direct Instruction curricula as seen through the eyes of the educators implementing it. The study also attempted to determine if general educators' knowledge and use of Direct Instruction techniques while implementing a published curriculum would translate into more effective practices toward students with disabilities in the general education classroom. Seventeen teachers at a small rural elementary school were studied as they implemented Direct Instruction curricula for the first time. The teachers used the *Reading Mastery*, *Corrective Reading* and *Language for Learning* programs published by SRA. Data collection consisted of interviews, classroom observations, document analysis, and journaling. Qualitative methods were used for data collection and analysis. The Attitude toward Inclusive Education Scale and the Teacher Efficacy Scale were also used to corroborate the findings. The study found that teachers had overall negative attitudes toward Direct Instruction for the following reasons: Direct Instruction stifled teachers professionally, teachers were not fully informed about Direct Instruction before implementation began, scheduling of Direct Instruction was disruptive, Direct Instruction was inappropriate for use with certain students, and teachers felt devalued as professionals. The first year of implementation of these language arts programs was troubled by logistical problems and lack of clear demonstration of student achievement gains. Overall, teachers showed no changes in efficacy beliefs or attitude toward inclusive education. It was concluded that the reform of implementing Direct Instruction to improve reading achievement test scores clashed with other previous and on-going reforms: Whole Language and teacher empowerment through Site Based Management. Further, it was judged to be unfortunate that the requirement that Direct Instruction take place in relatively small homogeneous groups based on placement tests resulted in students with disabilities being taught in less inclusive settings than usual.

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CHAPTER I

INTRODUCTION

This dissertation is a report of a qualitative study of the first year of implementation of Direct Instruction curricula at an elementary school in rural West Virginia. The study was based primarily on interviews and observations conducted during the 1999-2000 school year. The study explored teachers' attitudes toward specific Direct Instruction curricula and the process of implementing these curricula, and asked whether the implementation process influenced educators' views of themselves as teachers or their attitudes toward the inclusion of students with disabilities in the regular classroom.

This first chapter presents the background of the study, the problem explored by the study, the purpose of the study and the research questions. The chapter concludes with an overview of the methodology of the study, a statement of the limitations of the study and definitions of special terms used.

Background to the Study

Special education is being challenged today to improve the quality of instruction in the classroom. While at one time special educators might have confined themselves to the study of instruction in the special education environment, national emphasis on least restrictive environment (IDEA, 1998), the regular education initiative (Will, 1986), and inclusion (Karagiannis, Stainback, & Stainback, 1996) has brought the issue into the regular education arena for many educators. Myriad problems and questions arise from the very broad topic of improving the quality of instruction in inclusive classrooms. This study focused on educators' opinions of the implementation of a particular curriculum noted for its effectiveness with students with and without disabilities and how this

implementation affected educators' views - including their attitudes toward inclusion of students with disabilities in their classrooms.

Direct Instruction curricula have been used to improve the achievement of low achieving students and students with disabilities since the 1960's. Direct Instruction was first described in the book *Teaching Disadvantaged Children in the Preschool* (Bereiter & Englemann, 1966). The DISTAR Reading, Math and Language programs that were popular in Head Start Centers and in special education programs in the 1970's use the Direct Instruction approach. Many studies have shown Direct Instruction to be effective for students with and without disabilities (Adams & Englemann, 1996; Bereiter & Kurland, 1981-1982; Gersten, 1985; Gersten & Keating, 1987; Meyer, 1984). Although the highly structured, behavioral approach of Direct Instruction has been overshadowed by cognitive, developmental or sociocultural approaches in the past decade, more recently there has been a resurgence of interest in Direct Instruction. Recent articles in the popular press (Chaddock, 1999; Nadler, 1998) have praised Direct Instruction for its ability to raise reading test scores. A well-known reading journal, *The Reading Teacher*, declared that Direct Instruction was "very hot" among the hot topics in reading research and practice for 1998 (Cassidy & Wenrich, 1998-1999). The American Federation of Teachers lists Direct Instruction among the seven promising practices for Reading and English Language Arts on its web site (American Federation of Teachers, n.d.). A recent article (Lloyd, Forness, & Kavale, 1998) comparing 18 strategies used in special education found Direct Instruction to be fourth among the top seven strategies, all of which are highly effective. Even critics such as Heshusius (1991), while decrying segmenting of skills and "teaching to the test," do not deny that Direct Instruction is

effective in raising test scores on norm-referenced and curriculum based tests. Clearly Direct Instruction is effective and growing in popularity.

Despite the fact that educators agree that Direct Instruction is effective, several studies of the attitudes of teachers toward Direct Instruction show that significant numbers of teachers are not enthusiastic about using Direct Instruction curricula. For example, two studies done in the mid-1970s (Ogletree & Dipasalegne, 1975; Ogletree & Ogletree, 1976) showed that a majority of teachers judged Direct Instruction to be effective, but over half of the teachers said they would use another reading method if given a choice. In a more recent study (Proctor, 1989), 97% of those surveyed agreed that Direct Instruction increased students' achievement, but 33% said they did not plan to use it in their classrooms. This surprising finding leaves open to question what causes significant numbers of teachers to dislike Direct Instruction so much that they will use it only if required.

Problem

Direct Instruction is a powerful tool for educating students with and without disabilities (Adams & Englemann, 1996; Bereiter & Kurland, 1981-1982; Gersten, 1985; Gersten & Keating, 1987; Meyer, 1984). The teaching techniques learned through the successful teaching of Direct Instruction curricula can be beneficial for including all students in the academic life of the classroom. However, teachers sometimes find learning Direct Instruction techniques challenging (Englemann, 1988; Gersten, et al., 1986; Gersten, Morvant, & Brengleman, 1995), and many teachers reject these curricula and methods after exposure to Direct Instruction (Ogletree & Dispasalegne, 1975;

Ogletree & Ogletree, 1976; Proctor, 1989). The few studies of the process that teachers go through as they learn to implement Direct Instruction have been silent about the reasons teachers reject Direct Instruction after using it. Furthermore, studies of implementation of Direct Instruction curricula have not adequately addressed the question of what steps staff developers and teacher educators can take to ease the learning process for teachers.

Purpose of Study

The purpose of this study was to examine the process of implementing Direct Instruction curricula as seen through the eyes of the educators implementing it. The study was undertaken to examine the effects of this program on the implementers' classrooms and to gauge their views of the benefits and drawbacks of the implementation process.

Research Questions

The primary and overarching research question is: What are educators' views of the process of implementation of Direct Instruction curricula and the changes that process brings about? Specific questions that this study attempted to answer are:

1. What are educators' opinions of Direct Instruction materials and techniques and how do they change during the course of the first year of implementation?
2. Do educators' perceptions of their teaching efficacy change during the course of the first year of implementation?
3. Do educators' attitudes toward inclusion of students with disabilities change during the course of the first year of implementation?

4. What factors do educators identify that help or hinder their implementing Direct Instruction curricula?

Responding to these questions forms the structure of the study. The following section gives an overview of the methodology used.

Overview of Methodology

A qualitative approach was used to study the school as a whole, with an emphasis on examining the views and behaviors of four teachers selected to be the focus of the study. I collected data primarily through semi-structured interviews and classroom observations. I also collected documents on site and made field notes from spontaneous conversations, school meetings and other school events. These documents and field notes were examined to provide verification of themes. I used *Ethnograph v.5.0* computer software (Seidel, 1998) for data management and data analysis. Using this software, I identified and coded idea units, clusters of units and themes. To ensure trustworthiness of the data, I consulted with another researcher for verification of the coding process and I did “member checks” (Hycner, 1985), soliciting comments from selected teachers on some of the data pertaining to them. Through this data analysis process, the story of the implementation of Direct Instruction Curricula at a rural elementary school emerged.

Limitations of the Study

This qualitative study examined one site at which teachers implemented Direct Instruction curricula. The site was selected because it received a grant from the State of West Virginia to implement this curriculum. The study may not generalize in the usual

way to other curricula or to other sites, even within West Virginia. Individuals reading the study need to analyze how closely this case corresponds to their own situations, and infer from that the extent that the study is applicable to their own case.

This study was intended to provide insight to the attitudes of teachers implementing a Direct Instruction curriculum for the first time. It was not intended to define the attitudes of all teachers implementing such curricula, but rather to give insight into the reasons that some teachers have negative reactions to these curricula. Further, the study attempted to find connections to teachers attitudes toward students with disabilities when such curricula were implemented. Again, the attitudes of teachers toward students with disabilities are the attitudes of teachers in this particular setting. I leave it to the reader to decide to what extent the results may generalize to their own situation.

Definition of Terms

The following are operational terms defined for use in this study.

Direct Instruction

Direct Instruction (with capital D and capital I) is a comprehensive system of instruction that integrates effective teaching practices with curriculum design, monitoring of student progress, and staff development (Stein, Carnine, & Dixon, 1998). Throughout this document, Direct Instruction means instructional programs developed in the tradition of Bereiter and Englemann (1966), including commercial programs

based on the techniques and sequences established by Englemann and his colleagues.

direct instruction

The term direct instruction (with lower case d and lower case i) refers to a system of instruction that is teacher directed and employs teacher modeling, but which does not use all the instructional design characteristics espoused by Bereiter and Englemann (1966).

inclusion

Inclusion refers to the instruction of students with disabilities in general education settings for all or part of the school day.

inclusive setting

An inclusive setting is a setting in which students with disabilities are educated with students without disabilities.

regular educator

A regular educator is a teacher or aide who teaches students in the regular education classroom. This person teaches students without disabilities, but may also teach students with disabilities in the regular education environment.

special educator

A special educator is a teacher or aide who teaches students with disabilities. The special educator's primary responsibility is adapting and modifying instruction to meet the needs of students with disabilities, both in the special education environment

and in the regular education environment. In inclusive settings, the special educator may sometimes teach students without disabilities, but this is not their primary responsibility.

student with a disability

A student with a disability is a student " (i) with mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance..., orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities; and (ii) who, by reason thereof, needs special education and related services" (IDEA, 1998).

For the purposes of this study, students with disabilities are those who have an Individualized Educational Plan or a Section 504 Plan for any part of the 1999-2000 school year.

CHAPTER 2

REVIEW OF RELATED LITERATURE

This study examined the implementation of published Direct Instruction curricula for reading instruction. It looked at the way the educators implementing the curricula viewed it in terms of their attitude toward Direct Instruction, their self-appraisal of their own effectiveness and their attitudes toward inclusion of students with disabilities. This chapter includes reviews of research related to the effectiveness of Direct Instruction, to teacher attitudes toward Direct Instruction, to teacher efficacy research, and to teacher attitudes toward inclusion. It also includes descriptions of some of the issues around staff development and teacher change.

The Research on Direct Instruction

Because this study starts with the assumption that Direct Instruction is effective for increasing student achievement of students with and without disabilities, this section begins with a review of research on the effectiveness of Direct Instruction. The research linking teacher behavior and student achievement under Direct Instruction conditions is included as an important aspect of the effectiveness research. Lastly, the research on teacher attitude toward Direct Instruction is presented in depth because the rationale for the proposed study springs from gaps in that research.

The Effectiveness of Direct Instruction

The Direct Instruction model for reading instruction has been shown to be effective through many studies. An early study that evaluated the effectiveness of Direct Instruction was the Project Follow Through study (Bereiter & Kurland, 1981-1982). The

Follow Through study was conducted in some of the poorer communities in the United States, where students typically start school without the language and literacy experiences that help them succeed academically. The U.S. Department of Education hired two independent evaluation agencies to evaluate the effectiveness of nine different models, one of which was the Direct Instruction model, using DISTAR Reading, Math and Language curricula. Each model had been implemented at four to eight sites, and each site was matched with a non-Follow-Through site as a control group. Initial differences in groups were controlled for through a covariance statistical analysis. Student achievement was assessed in the areas of basic skills, cognitive skills, and affective skills. The Direct Instruction model produced the greatest gains of any model in all areas and it was the only model that produced gains in all areas.

Longitudinal studies (Gersten & Keating, 1987; Meyer, 1984) that followed the Project Follow Through students who had been taught with a Direct Instruction curriculum showed long term positive effects. Fewer Direct Instruction Follow Through students were retained in a grade, fewer dropped out of school, and more applied to and were accepted into college, when compared to non-Follow-Through control students.

Many studies have been conducted that verify the effectiveness of Direct Instruction that was originally found in the Follow-Through studies. Recently, a meta-analysis was conducted of studies of student achievement under Direct Instruction (Adams & Englemann, 1996). In this meta-analysis, only studies that included a control or comparison group and documented unbiased assignment of subjects into groups were examined. Adams and Englemann (1996) found 34 studies of Direct Instruction practices that met their criteria. They compared these studies using effect size as a measure of the

strength of effectiveness of the Direct Instruction group as compared to the non-Direct Instruction comparison group. Effect size was calculated by dividing the difference in the means of the two studies by the standard deviation of the control or comparison group. They found that 19 of the 34 studies had a large effect size, defined by them as an effect size of .75 or larger, and that the mean effect size for the 34 studies was also greater than .75. Effect size can be understood as the amount that the experimental group exceeded the control group in student achievement expressed in standard deviation units. So an effect size of .75 means that the performance of the experimental group exceeds that of the control group by three-quarters of a standard deviation unit. If, for example, the comparison group a mean of 100 and a standard deviation of 16 on a certain achievement measure, and the Direct Instruction group had a mean of 112, this would yield an effect size of .75.

The researchers (Adams & Englemann, 1996) found that effect sizes were large, defined as greater than .75, for students both with and without disabilities. In the 13 studies that assessed performance of students without disabilities, the mean effect size was .82. In the 21 studies that assessed performance of students with disabilities, the mean effect size was .90. When effect sizes were calculated for different content areas, the effect size for reading was .69 and was in the medium effect size range, from .50 to .74. Adams and Englemann also found a mean effect size of .84 for the 21 studies that used classroom teachers in typical school settings, and a mean effect size of .92 for the 13 studies that used experimental teachers in laboratory settings. This suggests that Direct Instruction appears to be effective for reading instruction for both regular and special

education students, and it appears to be effective in "real" classrooms as well as in experimental classrooms.

In a review of six studies that used Direct Instruction with students with disabilities, Gersten (1985) found that Direct Instruction resulted in higher academic gains than did traditional approaches with these students. For example, one of the studies that Gersten reviewed was by Lloyd, Cullinan, Heins and Epstein (1980, cited in Gersten, 1985). They used carefully controlled experimental design and randomly assigned students with learning disabilities to two experimental groups and a control group. In the two experimental groups Corrective Reading, a Direct Instruction Reading program, was used to teach word attack and comprehension skills. In the control group individual and small group instruction in reading as well as training in psychological processes related to learning were used. The control group instruction was typical of instruction for students with learning disabilities in the late 1970's. At the end of 8 months the experimental groups showed significantly higher achievement than the control group, and there was no significant difference between the two experimental groups, which received instruction from two different teachers using the same materials and techniques. This study and the other studies reviewed by Gersten (1985) demonstrate that Direct Instruction is effective with students with disabilities.

A more recent meta-analysis compares many different methods that have been developed to remediate problems of students with disabilities. Lloyd, et al. (1998) used effect sizes to compare 18 different methods that are identified in the literature for use with students with disabilities. They found only a few methods to be clearly effective with students with disabilities, that is, to have effect sizes more than .67. An effect size

of .67 means that the students with disabilities who were instructed by this method had a mean gain that was at least 2/3 of a standard deviation unit more than the control group. The top seven strategies, all of which met this criteria were: Mnemonic Training, Reading Comprehension Instruction using a Learning Strategies Approach, Behavior Modification, Direct Instruction, Cognitive-Behavior Modification, Formative Evaluation and Early Intervention. These are listed from highest (Mnemonic Training) to lowest (Early Intervention), and Direct Instruction falls squarely in the middle of these highly recommended strategies with an effect size of .88.

In the meta-analysis done by Adams and Englemann (1996) described previously, the researchers calculated the effect size for 21 studies using Direct Instruction with students with disabilities at .90. The effect size found by Lloyd, et al. (1998) for students with disabilities was .88, very close to the .90 effect size found by Adams and Englemann. The consistency of these results may give users of Direct Instruction more confidence that they are using an intervention that is effective with students with disabilities.

Linking teacher behavior to student achievement.

The studies reported in this section link specific behaviors used by teachers who are implementing Direct Instruction published materials, such as making corrections, signaling, requiring 100% responding, and pacing, to student achievement (Gersten, Carnine, & Williams, 1982; Gersten, Carnine, Zoref, & Cronin, 1986; Siegel, 1974; Siegel & Rosenshine, 1973). The final study in this section (Phillips, Fuchs, Fuchs, & Hamlett, 1996), which examined a highly effective teacher using curriculum based measurement and one whose students' achievement is more typical, found that the highly

effective teacher used many of the teacher behaviors that are structured into Direct Instruction materials, such as rapid pacing and frequent student response. These findings support the idea that teacher behaviors learned in order to implement Direct Instruction are effective in improving student achievement.

Siegel and Rosenshine (1973) reported on two studies that they conducted linking teacher behavior and student achievement during Direct Instruction. In the first study, ten learning groups were observed during instruction with Distar Language I, a Direct Instruction program that teaches language behaviors such as identifying and using adjectives and their opposites, using complete sentences, using plurals correctly, and classifying objects. Each group was observed on four different occasions using an observation instrument that rated each of the following variables on a scale from five (excellent) to one (not acceptable): Follows the format for group tasks, Follows the format for individual tasks, Corrections, Requires 100% responding, Signals, Praise and Feedback, Pacing within tasks, and Pacing between tasks. Correlations calculated between the ratings on the eight categories and student achievement on a posttest (adjusted by regression for the mean pretest score) ranged from .68 to .89 and all were statistically significant at the .05 level. The authors believed that the fact that the two teachers who received the lowest ratings on teacher behaviors were the two teachers whose groups had the lowest achievement scores might have created the strong positive results. Therefore, they calculated the correlations again using standard scores instead of raw scores, finding that the following teacher behaviors all had highly significant correlations with student achievement (.69 to .85): format, corrections, requiring 100% responding, and signals.

Siegel (1974) again studied teacher behavior and student achievement during Direct Instruction. From a large pool of teachers implementing the DISTAR Language program, he randomly selected 50 teachers whose implementation was classified as moderate or low. He retrained them in the skill of correcting students' mistakes on an individual activity until all were responding without error. He found that the retrained teachers performed significantly better on the correction task than control teachers and their students also scored significantly better on a measure of language achievement than students of the control teachers.

Almost a decade later a group of researchers (Gersten, et al., 1982) studied teacher behavior while implementing a Direct Instruction curriculum. Trained observers made formal observations where they recorded rates and frequencies of five critical behaviors: (1) accuracy of formats; (2) use of hand signals to ensure unison of responses; (3) use of corrections; (4) pacing of lessons; and (5) student accuracy rate during the lesson. Twenty-one teachers and 21 aides who were implementing the Direct Instruction curriculum were involved in the study. All were observed at the beginning, middle and end of the first school year of implementation. Interobserver reliability was calculated at $r=.80$ to $r=.92$ for a random sample of seven teachers observed by two staff members in the fall and winter. Analysis of trend data showed that all educators increased in skills on the behaviors studied over the course of the year. A contrasted groups study was used to compare how two of the teachers who ranked highest on implementation of the curriculum compared to two teachers who ranked lowest on implementation. The two high ranking teachers had groups whose Total Reading Percentile Ranking on the Comprehensive Test of Basic Skills (CTBS) were 52 and 59, while the two low ranking

teachers had groups who scored 27 and 22 in percentile rank. Examination of teacher behavior scores along with student achievement scores revealed that three teacher behaviors (correction procedures, student accuracy, and, to a lesser extent, pacing) appeared to be most highly related to student achievement.

Gersten, et al. (1986) reported on a more intensive study of seven teachers implementing Direct Instruction Curricula in reading and language. In the schools in this study, 95% of students came from minority populations and their reading and language achievement was very low compared to national averages. The seven teachers studied all volunteered for the study. They were evaluated using the observation scale used in the 1982 study, an Implementation Rating Form (IRF) that was filled out by trained supervisors, an assessment of implementation based on supervisor's global ratings, and Level of Use (LOU) interviews conducted by an independent research agency. Researchers calculated correlations between each of the four measures and CTBS total reading scores. Pearson r correlation of CTBS scores with the observation scale was $r = .59$; with the IRF was $r = .90$; with the Supervisors' global ratings was $r = .93$; and with the LOU interviews was $r = .61$. All correlations are in the moderate to high range. These results suggest that the extent to which teachers adhered to the prescribed components of the Direct Instruction program affected the level of achievement of the students.

A study of all the first and second grade teachers implementing Direct Instruction in the selected schools was conducted at the same time (Gersten, et al., 1986). In this study data was collected from 15 teachers using IRF ratings and global supervisors' ratings for teacher behavior and CTBS and Wide Range Achievement Test (WRAT)

Reading scores for student achievement. The Pearson correlation of IRF ratings and student CTBS achievement was $r = .58$. The Pearson correlation of IRF ratings and student WRAT achievement was $r = .94$. The Pearson correlation of global supervisors' ratings and student CTBS achievement was $r = .63$. The Pearson correlation of global supervisors' ratings and student WRAT achievement was $r = .94$. Because WRAT Reading score measures word identification achievement only, higher correlations with WRAT scores may indicate that there is a stronger link between accurate teacher implementation of the program and the development of word attack skills.

A qualitative study by Phillips, et al. (1996) did not focus on the use of Direct Instruction by teachers, but rather compared two teachers who were participating in a larger quantitative study monitoring the use of curriculum-based measurement in mathematics instruction. One of the teachers was selected to represent those teachers whose students demonstrated achievement that was consistently higher than the average achievement of the whole group. The other teacher was selected to represent those teachers whose students demonstrated achievement that was close to the average of the whole group. Classroom observations of the two teachers revealed that the teacher who had the higher achievement gains had a faster pace of instruction, had more varied instructional activities, provided six times as many reinforcements for good work, and had students more actively involved in the classroom activities. Even the students with learning disabilities and the low achieving students in her class had higher achievement gains than the average student in the average class in the district. Most of the instructional variables identified by Phillips and his colleagues as effective are part of the

structure of Direct Instruction curricula. This is further evidence that teacher behaviors required for Direct Instruction are related to higher student achievement.

Limitations of Direct Instruction

While the research presented above seems to indicate the clear superiority of Direct Instruction techniques for teaching basic skills, especially to students with disabilities and students from backgrounds that make them at risk for school failure, some voices can be heard that speak to the limitations of Direct Instruction. For example, Freppon and McIntyre (1999) found that beginning readers taught with a whole language approach had a more positive attitude toward reading were more motivated to read, and made more persistent attempts at reading than beginning readers taught in a skills-based program. Heshusius (1991) voiced a strong objection to the positivistic orientation of Direct Instruction. In her opinion, Direct Instruction is manifestly successful at increasing achievement on standardized and curriculum-based tests because it fragments knowledge into small, testable segments and then "teaches the test." Heshusius would prefer that more holistic measurements of achievement were valued: "Indicators of learning need to reflect real reading, real writing, and real math, that is learning for real purposes, not exercises in learning (p.325)."

These objections to Direct Instruction and skills-based instruction show that while Direct Instruction has been very successful at increasing achievement test scores of students, even for students who traditionally have difficulty learning, it is not without critics. Those criticisms help to explain the results of some of the studies of teacher attitude toward Direct Instruction in the next section.

Teacher Attitudes toward Direct Instruction. One of the goals of the proposed study is to explore educators' attitudes toward Direct Instruction materials and techniques and how they change during the first year of implementation of Direct Instruction curricula. Several studies over the past 25 years have addressed different parts of this question. Early studies addressed the question of whether educators liked using Direct Instruction and whether they found it effective (Ogletree & Dipasalegne, 1975; Ogletree & Ogletree, 1976). Later studies addressed the concerns of educators implementing Direct Instruction for the first time (Gersten, et al., 1986), changes in attitudes toward Direct Instruction under different time periods and conditions (Proctor, 1989), and attitudes of educators about certain components of Direct Instruction materials and techniques (Cossairt, Jacobs, & Shade, 1990).

Ogletree and Dipasalegne (1975) studied the attitudes of inner city teachers toward the DISTAR Reading curriculum. A 26-item questionnaire was completed by a random sample of 105 Chicago teachers who were implementing DISTAR in their classrooms. The questionnaire revealed that the overall impression of the teachers toward DISTAR was positive. Sixty-five percent of teachers said that DISTAR was a good method of teaching reading, 62% saw the structured format of DISTAR as positive, and 83% said they felt confident teaching DISTAR. On the other hand, 37% said they would not choose the Direct Instruction approach for another subject area and 57% said they would not use DISTAR if given an option. In terms of student achievement, the results were also mixed. Eighty-eight percent felt that most children learned the material presented, 78% were confident that DISTAR could be used effectively in any classroom, and 68% felt that DISTAR was effective with slow learners. On the other hand, only

42% felt DISTAR was as good as or better than other reading methods, only 10% felt DISTAR was effective with all children, and 56% modified the presentation of DISTAR materials because of perceived deficits.

A second study (Ogletree & Ogletree, 1976) focused on the attitudes of Chicago teachers who were using DISTAR Reading in their classrooms. In this study, a 36-item questionnaire was distributed to a random sample of 100 teachers. Seventy-two teachers returned the questionnaire. The results indicated that most teachers (56%) thought DISTAR was effective with slow learners. In addition, 68% said they liked the format, and 64% said they liked teaching with DISTAR. However, only 14% thought it was effective with all children, and only 28% believed that it was effective with average learners. In general, these teachers found DISTAR to be effective at teaching word attack skills, but not effective at teaching comprehension, and most said they would prefer using another method to teach reading.

A study by Gersten, et al. (1986) reported on the perceptions and concerns of 21 teachers and 21 aides who were implementing a Direct Instruction curriculum for the first time. They found that the educators' early concerns were about miscommunication and misunderstanding. In the early stages, teachers and aides expressed concerns about feeling that the program was forced on them. Also, some felt that they had inadequate training before the program began (2 days of inservice training). Some felt that the university supervisors were critical and rarely helpful. A number, especially kindergarten teachers, were concerned about the emphasis on academics which left little time for "fun" activities. An early conflict centered on the uneasiness many teachers felt about unannounced visits from university supervisors. However, by late winter most teachers

had come to accept the monitoring. Some even said that the in-class assistance was more beneficial than the group training sessions. By the end of the year, even educators who had expressed concerns initially were impressed by the achievement gains of their students and felt much more positively toward Direct Instruction. Nevertheless, most agreed that the first year had been a difficult time for the staff.

One study (Proctor, 1989) surveyed undergraduates and recent graduates of a special education program that led to certification in teaching students with mild mental impairments, learning disabilities, and behavior disorders. The program had a significant Direct Instruction component. Forty-one undergraduates from three courses were surveyed about their attitudes toward Direct Instruction. In two of these courses Direct Instruction pedagogy was taught and the field experience of the third course incorporated Direct Instruction. Most students had a favorable attitude toward Direct Instruction. Ninety seven percent agreed that Direct Instruction helped learning, and 87% agreed that student achievement made Direct Instruction worth the effort. However, only 67% said they planned to use Direct Instruction when they teach. This interesting result indicates that some users might find Direct Instruction to be difficult or to violate in some way their beliefs about teaching and learning, so that they do not want to use Direct Instruction even though they know it is effective.

When Proctor (1989) compared the attitudes of undergraduates to those of teachers who had been teaching from between 1 1/2 to 4 years, he found that there were significant differences in their responses to two items: "DI is primarily beneficial in 1:1 and small groups" and "Regular use of DI has increased my appreciation of it." In both cases the undergraduates agreed significantly more with these statements than did the

practicing teachers. Proctor believed that the first result, that the practicum students had a stronger belief that Direct Instruction was primarily beneficial in one-to-one teaching and in small groups, may be because practicum students only experience Direct Instruction in small group settings so their opinions about its usefulness in large groups may be limited by their experiences. He believed the second result, that undergraduates felt more appreciation of Direct Instruction with continued use more than practicing teachers did, may be because the undergraduates use Direct Instruction in ideal settings, teaching homogeneous groups, using adequate materials, given an adequate amount of time, and with helpful feedback from college supervisors, while the practicing teachers might have been contending with scheduling and grouping problems, inadequate materials, and little feedback. Proctor's mixed findings leaves open to question what factors influence teacher changes in attitudes toward Direct Instruction.

Cossairt, et al. (1990) studied pre-service teacher satisfaction with components of Direct Instruction. They collected data from interviews and verbal feedback during a course on Direct Instruction techniques and also had prospective teachers rate each of 18 components of Direct Instruction using a Likert-scale both before and after field based experiences using Direct Instruction. The prospective teachers' satisfaction with three components of Direct Instruction showed significant increases after field-based experiences. The study indicates that, in general, satisfaction with Direct Instruction components increases after field-based experiences.

The studies in this section indicate that teachers appreciate some aspects of Direct Instruction, but also have strong reservations. For example, in the Ogletree and Dipasalegne (1975) study and the Ogletree and Ogletree (1976) studies, a majority of

teachers found Direct Instruction to be effective, especially for slow learners and especially for word attack skills, but over half of the teachers in both studies said they would use another reading method if given a choice. Similarly, in the Proctor (1989) study, while 97% of the undergraduates agreed that Direct Instruction helps learning, about one third said they did not plan to use it in their own classrooms. The teachers in the Gersten, et al. (1986) study and the undergraduates in the Proctor (1989) study found that their appreciation of Direct Instruction increased with regular use of it, but this was less true of the practicing teachers in the Proctor study. Taken together, these studies indicate a need for further research into the factors that affect teachers' attitudes toward Direct Instruction.

Teacher's Attitudes toward Inclusion

A 1991 study by Semmel, et al. surveyed 381 special and regular educators on their opinions about the regular education initiative. They found that the regular educators did not feel they had the skills for adapting instruction for students with mild disabilities. The regular educators also felt that the regular classroom would not meet the needs of students with mild disabilities. However, both regular and special educators agreed that students with disabilities have a basic right to an education in the regular classroom. The authors concluded that there is "need for further study of the status and needed modifications of the perceptions and skills of service providers before any substantive reform of current practices is mandated" (p.21).

Scruggs and Mastropieri (1996) reviewed the research on teachers' perceptions of inclusion (or mainstreaming) from 1958 to 1995. They found that overall most (65%)

teachers supported the concept of inclusion; however, there were different levels of support indicated when teachers were asked about including a student with a specific disability. For example, while 74.9% of teachers in one study supported inclusion of students with mild mobility or sensory disabilities, only 32.3% supported inclusion of student with moderate intellectual or behavior disabilities, and only 11.9% supported inclusion of students with severe intellectual or behavior disabilities. In addition, about half (54.4%) of the teachers agreed with generally worded statements that inclusion would benefit students with disabilities. However, fewer agreed with more strongly worded statements, for example, that the regular classroom was the "best" placement, or that full time inclusion provided more benefits than part-time inclusion. When asked if they had enough time, expertise or resources to provide instruction for included students with disabilities, general educators were much less positive. Overall, only about one-fourth to one-third of the teachers agreed that they had sufficient time, training, or material/personnel resources to implement inclusion successfully.

In a 1996 study, Villa, Thousand, Meyers, and Nevin surveyed 680 general and special education teachers and administrators about their opinions of full inclusion of all students, including students with moderate and severe disabilities. They used a revised version of the Regular Education Initiative Teacher Survey first used by Semmel, et al. in 1991 and supplemented it with another survey that primarily addressed inclusion of students with moderate and severe disabilities. They surveyed teachers from schools that had high levels of inclusion of students with disabilities in regular classrooms. They found that both general and special educators had significantly more positive views of inclusion when they had higher levels of training, administrative support, and

collaboration. In addition, general educators had significantly more positive views of inclusion when they had more time to collaborate and when they had more students with IEPs in their classrooms. The authors inferred from their results that the teachers' experiences with integrating students into their classrooms resulted in a higher level of acceptance of inclusion than was found in the Semmel, et al. (1991) study.

In two studies, Wilczenski examined changes in attitudes toward inclusion over time, and attitudes toward inclusion of students with different types of disabilities. In the first study, Wilczenski (1992) gave the Attitudes toward Inclusive Education Scale to 301 teachers and 144 education students and found no significant differences between teachers and undergraduates. Both practicing and pre-service teachers were more accepting toward including students with social deficits (such as shyness) than physical disabilities, more accepting toward students with physical disabilities than those with academic difficulties, and more accepting toward students with academic difficulties than those with behavior problems. Another study using a similar measure (Wilczenski, 1993) found that preservice teachers who were assessed at the beginning of their education coursework and then later after learning about students with disabilities in their college classes showed a trend toward being more accepting of inclusion of students with disabilities after learning more about them. Following student teaching, however, they experienced a significant decrease in acceptance of students with disabilities in the regular classroom. This may be another manifestation of the findings of Scruggs and Mastropieri (1996) that most teachers are generally accepting of the idea of inclusion, but apparently feel that they do not have the materials, training, or support to implement it effectively. However, this result may also be because the beginning teachers were

exposed to negative attitudes or practices in the schools. The Wilczenski (1993) study did not include information about the reasons for the change of attitude.

In a study of regular educators teaching in grades 6, 7 and 8, deBettencourt (1999) found that only 39% of teachers supported the concept of inclusion of students with disabilities in their classes and 29% did not feel that inclusion had been successful in their school. However, 54% of the teachers surveyed agreed that inclusion was beneficial to students with disabilities. About 20% of the students in the average classroom in this study had disabilities. So this was a case of a group of general educators whose high level of exposure to students with disabilities did not result in a more positive attitude toward inclusion. There was no mention in this study of supports for inclusion, such as training, materials and additional personnel. It could be that this difference in level of support affected teacher attitudes. DeBettencourt also surveyed the teachers' use of individualized and metacognitive instructional strategies and found that the use of both types of strategies increased slightly with number of special education courses taken by the teachers and with the number of hours spent collaborating with special educators. However, a statistical analysis of significance was not performed on these comparisons. Overall, this study showed that while the teachers had a relatively negative view of inclusion, they reported some use of both individualized and metacognitive instructional strategies. DeBettencourt believed that educators should be expected to implement more and varied instructional strategies and that more training in instructional strategies, and more time spent collaborating with special educators, would promote effective inclusion of students with disabilities.

In a study that examined regular educators' assumptions about learning and learning disabilities (Simmons, Kameenui, & Chard, 1998), 29 teachers divided 100 points among five different factors to indicate their assessment of the importance of these factors on the achievement of students with learning disabilities. Then they analyzed the adequacy of a language arts lesson for these students and made suggestions for modifications in the lesson. Descriptive analysis of the results indicated that teachers assigned about half of the points to learner-based factors (student academic ability and student motivation). They assigned most of the rest of the points to teacher ability to present and modify instruction and amount of time spent teaching or practicing the task, and less than one tenth of the points on quality and design of instructional materials. However, teachers overwhelmingly found the text book language arts lesson to have inadequate quality of instructional design for students with learning disabilities and were able to suggest modifications for instructions. This finding aligned with the results obtained from a questionnaire given to the teachers, where 75% of them indicated that they had an excellent or good sense of how to alter instruction for students with learning disabilities. However, while this study indicates that teachers believe they are able to make adaptations of instruction to make it more effective for students with disabilities, it stopped short of actually assessing whether they incorporate such changes into their lessons. In fact, a previous study by Schumm, Vaughn, Gordon, and Rothlein (1994) of the relationship among teachers' beliefs, skills, and practices found that while teachers reported that they had skills for making adaptations for inclusion, they did not actually do so. In the similar vein, a recent study by deBettencourt (1999) found that of the 59 general educators responding, 45% indicated that they frequently varied instructional

materials for students with disabilities in their classes, but 40% indicated that they only occasionally varied materials.

A study by Soodak, Podell and Lehman (1998) attempted to clarify the factors that contribute to the conflicting findings regarding teachers' perceptions of inclusion. They explored teacher instructional practices and teachers' attitudes toward different types of disabilities (cognitive, behavioral, sensory, and physical) through a survey of 188 general educators. They found that the type of disability was strongly related to the teachers' responses to inclusion. Teachers were more hostile toward including students with mental retardation, learning disabilities, and behavior disorders than those with hearing or physical impairments. Of these five disabilities, teachers were only anxious about the inclusion of students with mental retardation and physical impairments. The researchers also found that less experienced teachers who use differentiated instructional practices were more receptive to including students with disabilities, but with more experience, teachers became less receptive to students with disabilities regardless of instructional practices.

The common thread through most of these studies of teacher attitude toward inclusion was a generally positive attitude toward the concept of inclusion or toward the belief that students with disabilities have a right to be educated in the regular classroom (deBettencourt, 1999; Scruggs & Mastropieri, 1996; Semmel, et al., 1991; Villa, et al., 1996). There was also support for the notion that experiences with inclusion resulted in a more negative attitude toward inclusion (deBettencourt, 1999; Soodak, et al., 1998; Wilczenski, 1993). Two studies (Scruggs & Mastropieri, 1996; Semmel, et al., 1991) pointed to the lack of time, training, material support or personnel resources as possible

reasons for teachers' lack of enthusiasm for the practice of inclusion (as opposed to the ideal of inclusion). More support for the finding that lack of resources to support inclusion efforts may be related to negative experiences with inclusion and corresponding negative attitudes toward inclusion was found in the Villa, et al. (1996) study in which teachers with more administrative support or more time to collaborate had higher levels of acceptance toward inclusion. In summary, the studies of teacher attitude toward inclusion reviewed here indicate that teachers' attitude toward inclusion is unlikely to become more positive unless there is sufficient support for inclusive practices.

Teacher Efficacy and Attitudes toward Inclusion

The idea of self-efficacy has been traced to Bandura (1977). He believed that a person's outcome expectations are related to locus of control beliefs, that is, the belief that one's actions will or will not lead to a certain outcome. However, he also identified self-efficacy as an individual's belief that he or she can successfully produce the desired outcome. Gibson and Dembo (1984) developed a teacher efficacy scale whose two subscales correspond to Bandura's outcome expectations and self-efficacy expectations. The first subscale might be referred to as personal teaching efficacy or the "teachers' evaluation of their abilities to bring about positive student change (Gibson & Dembo, 1984, p.570)." The second subscale might be referred to as teacher outcome expectancy, or "the extent to which students can be taught given such factors as family background, IQ, and school conditions (Gibson & Dembo, 1984, p.570)." High teacher outcome expectancy reflects the belief that teaching can overcome the effects of influences beyond

the control of the teacher. High personal teaching efficacy reflects the belief that an individual can bring about positive outcomes for his or her students.

In a pilot study to investigate the differences between high- and low- efficacy teachers, Gibson and Dembo (1984) found through classroom observations that low- efficacy teachers spent almost 50% of their time in small group instruction while high- efficacy teachers spent only about 28% of their time in small groups. High- efficacy teachers spent more time in whole group instruction and more time monitoring and checking seatwork than did low- efficacy teachers. In addition, high- efficacy teachers followed a student's incorrect response with additional hints and questions to elicit the correct response while low- efficacy teachers called on other students or went on to another question after a student responded incorrectly.

Soodak, et al. (1998) explored the relationship between teacher efficacy, instructional practices, and attitudes toward inclusion. This study found an interaction between use of differentiated instructional practices and teacher outcome expectancy. Teachers with a high sense of teacher outcome expectancy who also used differentiated instructional practices were most likely to be receptive to inclusion. Teachers with a low sense of teacher outcome expectancy were unreceptive to inclusion regardless of their instructional practices. This study found that the higher the personal teaching efficacy, the lower the anxiety about inclusion. It also found that high personal teaching efficacy was related to greater receptivity toward inclusion. However, teachers with low personal teaching efficacy who reported few opportunities to collaborate were less receptive toward inclusion than teachers with low personal teaching efficacy who had more opportunities to collaborate. These results suggest that teachers with high teacher

efficacy have a more positive view of inclusion, but that the support of a collaborative relationship can help teachers overcome their fears and hostility toward inclusion regardless of their feelings of efficacy.

A study by Fritz, Miller-Heyl, Kreutzer and MacPhee (1995) assessed the effectiveness of staff development in developing teacher efficacy. The researchers studied teachers who were trained in a curriculum that stressed that the teacher is the key factor in student achievement. The study measured teacher efficacy using the Gibson and Dembo (1984) Teacher Efficacy Scale before and after training and at a follow-up time nine months after training. While teachers who were trained in and who implemented the new curriculum (that stressed that the teacher is key to making the difference in student achievement) either maintained or gained in both personal teacher efficacy and teacher outcome expectancy over the course of the study, the scores of teachers in the control group dropped in both measures. These results indicate that teacher training can have a positive effect on teacher efficacy.

Staff Development & Teacher Change

The process of staff development and teacher change is complex and involves factors related to the context and content of the staff development, the support provided for ongoing professional growth, and individual factors (Joyce and Showers, 1995a; Sparks, 1983). A review of the literature shows that for successful professional development, the site is relatively unimportant, as is whether the trainers are peers or experts (Showers, Joyce, & Bennett, 1987). The content of professional development should be perceived as important enough to engage teachers' interest, but close enough to

present practices so that the effort required of teachers implementing the new practice falls within the capacity of most teachers to change (Guskey, 1995). In addition, effective models for delivering content should include explanation of theory, a demonstration of the new strategy, a chance to practice the new strategy, and feedback to teachers on their performance of the new strategy (Showers, et al., 1987). Support is important to successful professional development and may be provided by follow-up meetings and classroom visits by peers or by experts (Joyce & Showers, 1982; Showers, et al., 1987).

Showers, et al. (1987) reflected on their synthesis of research on staff development. They found that individual teaching style does not affect teachers' ability to learn from staff development, neither does initial enthusiasm for the new approach. Their review of research showed that teachers who have more flexible thinking learn new skills more readily and incorporate them into their classrooms more easily. Also, teachers with high self-esteem usually transfer more training techniques to their classroom than those with lower self-esteem. Coaching of skills in the classroom (whether by peers or by trainers) was found to be beneficial in transferring skills.

Guskey (1986) reported on several research studies that showed that changes in teachers' beliefs and attitudes about an innovation did not come about until after teachers saw improvement in student achievement as a result of the innovation. He suggested a model of the process of teacher change where staff development leads to a change in teachers' classroom practices, which leads to a change in students' learning outcomes, which ultimately leads to a change in teachers' beliefs and attitudes. Thus, Guskey believed that teachers do not change their attitudes and beliefs about an innovation until

after they have seen successful student outcomes through its implementation. He suggested that staff developers recognize that change is a difficult process for teachers and that they provide teachers with feedback and support after the initial training activities (Guskey, 1986).

Sparks (1983) discussed her observation that staff development activities frequently do not result in changes in teachers' classroom practices. She examined staff development research to determine what teacher attitudes may be affecting their conscious decision whether or not to implement a new practice. She cited Doyle and Ponder (1977) who suggested that instrumentality, congruence, and cost affect teachers' decisions on whether to use a new practice. By instrumentality Doyle and Ponder mean the clearness and specificity of the suggested practice, by congruence they mean the extent to which it fits with the teacher's beliefs about teaching, and by cost they mean the amount of extra effort or time the teacher assumes the new practice will demand. When Mohlman, Coladarci, and Gage (1982, cited in Sparks, 1983) examined teacher effectiveness research in the light of these three factors, they found that practices that were not implemented were seen as philosophically unacceptable or as too much work. When Showers (1983, cited in Sparks, 1983) examined the difficulties teachers had in adopting new practices to their classrooms, she conjectured that two additional factors needed to be added to the three suggested by Doyle and Ponder: teacher efficacy and cognitive complexity. She felt that teachers were not using the new practices in which they had received training because they were not sure when to use them or because they did not feel confident that they could be successful using these methods. These five factors, instrumentality, congruence, cost, teacher efficacy, and cognitive complexity,

might provide a way of organizing an understanding of the personal factors that influence acceptance of an innovation.

Joyce and Showers (1995b) have suggested that individual differences in acceptance of innovations can be explained, at least in part, by the concept of States of Growth. The essence of this concept is "the degree to which the environment is viewed as an opportunity for satisfying growth" (p.177). They named three prototypes corresponding to the degree to which individuals related to their environment as opportunities for growth: the gourmet omnivore, the passive consumer, and the reticent consumer. Gourmet omnivores actively seek opportunities for growth, and are so successful at finding them that they become selective (or gourmet), rejecting those that do not suit their personal goals. Passive consumers do not seek out opportunities for growth, but do not object to being required to attend professional development activities; however, passive consumers rarely implement ideas to which they have been exposed. Reticent consumers are reluctant to participate in new activities, resent being required to attend professional development activities, and view both administrative and peer efforts at growth with suspicion. Joyce and Showers (1995b) suggested that knowing teachers' States of Growth helps professional developers plan activities that suit the differing needs and hopefully helps to "pull everyone into more active States of Growth in the workplace" (p. 186).

The articles reviewed in this section provide theoretical structures for examining studies of staff development and teacher change. Guskey's (1986) model of the process of teacher change gives his theoretical position that changes in teachers' beliefs and attitudes about an innovation do not come about until after teachers see improvement in

student achievement as a result of the innovation. Sparks (1983) reviewed five factors from staff development literature, including whether an innovation fit with their current practices, whether it required significant extra time or effort and whether they believed they could be successful using it. These factors can help provide a way of understanding an individual's acceptance or rejection of an innovation. Joyce and Showers (1995b) suggested that teachers' States of Growth provide a way of understanding teachers' acceptance of innovations, since those who are always looking for opportunities for growth in skills as teachers will react differently toward innovations than those who regard opportunities for growth passively or those who are reluctant to participate in opportunities for growth. None of these theoretical explanations contradict any of the others since each provides a view of a slightly different aspect of the process of staff development and acceptance of innovations.

Summary

This review of the related literature shows clear evidence that Direct Instruction is effective in improving students' academic achievement (Adams & Englemann, 1996; Bereiter & Kurland, 1981-1982; Gersten, 1985). In addition, Direct Instruction has been shown to be effective with students with disabilities (Adams & Englemann, 1996; Bereiter & Kurland, 1981-1982; Gersten, 1985; Lloyd, et al., 1998). While Direct Instruction is not without critics, even critics (Heshusius, 1991) have agreed that Direct Instruction is effective for increasing achievement as measured by norm-referenced or curriculum-based assessments.

Studies that link teacher behavior to student achievement (Gersten, et al., 1982; Gersten, et al., 1986; Siegel & Rosenshine, 1973; Siegel, 1974) demonstrated that it is not only the content of Direct Instruction curricula that is beneficial to student achievement, but also the teacher behaviors that are structured within published Direct Instruction programs. Correcting all student errors, requiring 100% responding, using auditory and visual signals to promote unison response, and rapid pacing of lessons are examples of teacher behaviors that have been demonstrated to be effective at increasing student achievement. These same teacher behaviors have been found to be so different from some teachers' usual teaching behaviors that they cause initial discomfort until teachers incorporate these new behaviors into their repertoires (Englemann, 1988; Gersten, et al., 1986; Gersten, Morvant, & Brengleman, 1995).

In studies of teacher attitude toward Direct Instruction, it was found that educators regard Direct Instruction as effective for increasing students' academic achievement (Gersten, et al., 1986; Ogletree & Dispasalegne, 1975; Ogletree & Ogletree, 1976; Proctor, 1989). In two studies (Gersten, et al., 1986; Proctor, 1989), educators found that their appreciation of Direct Instruction increased with regular use of it. On the other hand, in several studies large percentages of the teachers said they would not use Direct Instruction if given a choice (Ogletree & Dispasalegne, 1975; Ogletree & Ogletree, 1976; Proctor, 1989), and in one study (Proctor, 1989) teachers' appreciation of Direct Instruction decreased with regular use of it. These studies indicate that the attitudes of educators toward Direct Instruction are complex, and further studies are desirable to determine why educators have seemingly contradictory attitudes toward Direct Instruction.

The review of studies of teacher attitude toward inclusion found a generally positive attitude toward the concept of inclusion (deBettencourt, 1999; Scruggs & Mastropieri, 1996; Semmel, et al., 1991; Villa, et al., 1996) but a less positive attitude toward the practice of inclusion (deBettencourt, 1999; Soodak, et al., 1998; Wilczenski, 1993). Two studies (Scruggs & Mastropieri, 1996; Semmel, et al., 1991) pointed to the lack of time, training, material support or personnel resources as possible reasons for teachers' lack of enthusiasm for the practice of inclusion. The pivotal role of adequate resources in developing positive attitudes toward inclusion was supported by the Villa, et al. (1996) study which found that teachers with more administrative support or more time to collaborate had higher levels of acceptance toward inclusion. The Soodak et al. (1998) study found that teachers with higher personal teaching efficacy had less anxiety about inclusion and were more receptive toward inclusion. It also found that teachers with low personal teaching efficacy who had more support from collaboration with a special educator were more receptive toward inclusion than those with low personal teaching efficacy with less collaborative support. This study helped to establish a relationship between high personal teaching efficacy, a teacher's feeling that he or she can help a student succeed in his or her classroom, and a positive attitude toward inclusion which might be considered to be a teacher's feeling that students with disabilities can succeed in the regular classroom.

Finally, three theoretical structures were reviewed that may assist understanding the process of teachers' acceptance of an innovation. Guskey's model of the process of teacher change gives his theoretical position that changes in teachers' beliefs and attitudes about an innovation do not come about until after teachers see improvement in student

achievement as a result of the innovation. Sparks (1983) reviewed five criteria that influenced teachers' decisions regarding implementation of an innovation, including whether an innovation fit with their current practices, whether it required significant extra time or effort, and whether they believed they could be successful using it. Joyce and Showers (1995b) suggested that teachers' Stages of Growth provide a way of understanding teachers' acceptance of innovations, since those who are always looking for opportunities for growth in skills as teachers will react differently toward innovations than those who regard opportunities for growth passively or those who are reluctant to participate in opportunities for growth.

Direct Instruction has been shown to be effective with students with and without disabilities and as such holds promise of being useful in inclusive educational settings. Regardless of its success in promoting student achievement, teacher attitude toward Direct Instruction has been mixed. This may be because it incorporates teacher behaviors that are different from their established practices and therefore are difficult to acquire, or because it does not fit with teachers' beliefs about teaching, or because teachers feel they will not be successful using it, or for some other reason. Therefore, the present study has been undertaken to attempt to establish the reason for teachers' attitudes toward Direct Instruction.

CHAPTER 3

METHODOLOGY

This study investigated educators' views of the first year of implementation of Direct Instruction curricula. The main focus of this study was to examine educators' beliefs about factors that effect the successful implementation of this curriculum and how it relates to the successful inclusion of students with disabilities in the regular classroom. Because this study sought to examine the phenomenon of implementation of a curriculum within the context of a particular school, I used primarily qualitative methods. I collected data through interviews, classroom observations, rating scales, and collection of documents. I was able to triangulate data, or show that a particular finding comes from a variety of sources, which increases confidence in the research findings (Glesne & Peshkin, 1992).

The theoretical approach to the collection and analysis of the data in this study was constructivism. As Guba and Lincoln (1994) describe it, in constructivism there are multiple and sometimes conflicting realities held by individuals and groups of individuals. The investigator reconstructs the experiences or the constructions of the individuals and groups involved. Since the realities of the individuals and groups studies are socially constructed and based in their experiences, the investigator comes to know these realities by interacting with the individuals and groups involved with the object of the investigation. "The investigator and the object of the investigation are assumed to be interactively linked so that the 'findings' are literally created as the investigation proceeds" (p.111).

In this chapter I will explain my role as a Direct Instruction coach during the implementation process and the biases and interpretations that I might have brought to the study in my role as participant observer. I will describe the specific Direct Instruction curricula that were implemented at the school being studied, the rationale for selecting Purslane Elementary School¹ and the selection procedure for the four participants for in-depth study. I will report the types of measures used to collect data, the different sources of data, and the methods I used to analyze the data. Finally, I will describe the steps taken to ensure the trustworthiness of the data.

The Researcher's Role

As the researcher in a qualitative study, I came to the study with certain roles and prejudices. The prejudices that I brought to the study had to do with opinions that I formed throughout my life, opinions I have as a teacher, a teacher educator, a public school administrator and a Direct Instruction coach. The following example will illustrate. About eight years ago I was coaching public school teachers during the implementation of a Direct Instruction Mathematics curriculum, and I observed that the teachers who seemed to be having difficulty implementing the curriculum were operating from a humanist perspective and they found that group response and frequent terse commands by the teacher violated their more student-centered approach. I also observed that over time, these concerns diminished as they saw students enjoying success through the activities. In fact, it was this memory and other memories implementing Direct Instruction Curricula that inspired this study. However, these same memories might

¹ The name Purslane Elementary, Hill County, and all proper names in this document are

predispose me to "find" these results in the data. Therefore, throughout the study I tried to prevent bringing interpretation based on experiences outside the case to the analysis of the data generated from this case. I monitored my interpretations through entries in a journal to try to prevent my biases from dominating the research. In the section called, "Design Features ensuring Trustworthiness," I describe journaling practices intended to monitor and lessen the effect of observer bias.

Just as my experiences, opinions and attitudes must be monitored to prevent undue bias of the study; also my role in the school may have influenced the study. The role that I played during the study is that of a coach and administrative assistant. I was one of four Direct Instruction coaches involved in the implementation project. As a coach, I observed teachers during their Direct Instruction lessons, commented on their performance, and modeled certain lesson segments. In a sense, I was supervising the implementation of the Direct Instruction curriculum in the role of a coach who mentors, supports, and gives suggestions. A possible disadvantage of having been a Direct Instruction coach is that I may have been perceived as a judgmental presence in the classrooms. However, my evaluations were not part of the teachers' evaluations, and I did not share specific observations with the principal. Therefore, my observations and coaching activities neither benefited nor disadvantaged teachers in terms of their principal's evaluations and did not effect their employment in any way. Regardless of whether my coaching affected the teachers materially, if they perceived me as being a judgmental rather than a helping presence, this might have affected the results.

fictitious to respect confidentiality.

I believe that my role as administrative assistant helped to minimize any negative effects that the teachers felt through my observations in their classes and my suggestions for improving their Direct Instruction. As administrative assistant, I administered most of the pretests, organized and distributed the materials, and ordered materials that were needed from time to time. I was a consistent presence in the school, visiting there about 90 days during the 1999-2000 school year. Thus, I was usually available to answer teachers' questions.

While being perceived negatively can affect the results of the study, being perceived too familiarly can affect the results also. In my role as a coach and administrative assistant, I became a familiar and accepted part of the school environment. This enabled me to be less intrusive and collect data more naturally. However, this position as a participant observer has its dangers since I may be perceived (and perceive myself) as so much a part of the school that I lose my perspective as outside observer. This would possibly harm the results because the perspective of the outside observer is an advantageous perspective to have from which to collect the experiences of the participants (Glesne & Peshkin, 1992). The use of a journal helped me monitor these possible areas of observer bias.

An example of possible observer bias was the conflict in my roles as coach and researcher. This conflict in roles occurred as I became more familiar with the teachers' viewpoints and their negative feelings toward Direct Instruction. I struggled between the mutually exclusive impulses of being an advocate for Direct Instruction and being sensitive to the teachers' discomfiture in implementing the program. I knew that I needed to give teachers feedback as a Direct Instruction coach, but as I viewed the

program through their eyes, I no longer thought that strict adherence to the procedures of the Direct Instruction program was necessary. Thus, I became compromised as a coach since Direct Instruction coaches need to monitor for strict adherence to the program's procedures. Similarly, as I felt a need to fulfill my obligations as coach, I may have been less sensitive to the teachers' viewpoints toward Direct Instruction. In this case, both my role as coach and my role as researcher may have been compromised. My use of the journal to monitor these roles and my removal of myself as coach of the four teachers selected for in-depth study helped to alleviate some of this conflict.

Selection of Site and Participants

Purslane Elementary School in rural North Central West Virginia serves about 200 students in grades pre-kindergarten through five. During the 1998-1999 school year, approximately 76% of the students participated in the free and reduced price lunch program (Hill County Board of Education, 1999). The school qualifies as a Title I school with a school-wide plan because so many of the students live in poverty. At the time the study began, the school was being monitored for school improvement, under the provisions of the school's Title I improvement plan, because its average standardized test scores were below the state averages during both 1996-1997 and 1997-1998 (Hill County Board of Education, 1999).

Using low economic status and low test scores to document need, the school applied for and received a Comprehensive School Reform Demonstration grant from the state of West Virginia to implement published Direct Instruction curricula for reading and language arts for the 1999-2000 school year. The grant was sufficient to provide the

school with the materials and training necessary for implementation. This helped make Purslane a good site to study, since it was implementing the program with adequate material and training support. If I were studying the implementation of Direct Instruction at a site where the materials or training support was inadequate, those circumstances might overshadow the less obvious factors affecting successful implementation. If that were the case, the findings of the study might have much less significance, since inadequate materials and training would make successful implementation of any program problematic.

Participants

Participants in this study were the educators implementing Direct Instruction curricula at Purslane Elementary School. These participants included the seven teachers who teach grades Kindergarten through grade five, the two teachers of multi-age classrooms (K-1 and 1-2), three special educators, the speech and language therapist, the pre-school teacher, one Title I teacher, the librarian, and the computer teacher. (See Table 1 for a listing of participants.) These seventeen people were trained in implementing Direct Instruction curricula, and everyone was responsible for teaching Direct Instruction reading and/or language arts sessions during a forty-five minute period each day throughout the 1999-2000 school year. In addition, three instructional aides were trained in Direct Instruction techniques so they could assist in implementing the program in the classrooms in which they work.

Table 1. Participants: Education, Years Teaching and Position

Teacher	Education	Years Teaching	Position
Deel	MA +30	15	BD teacher
Dover	MA +30	21	LD teacher
Frazier	BA +15	6	4 th grade
Holley*	MA +15	15	3 rd grade
Knight	BA +30	26	Kindergarten
Lanham	BA +15	31	Library
Lewis	MA +30	11	Speech/Language
Newman*	BA +15	12	1 st grade
O'Brian	BA	9	5 th grade
O'Dell	MA +45	21	Title I
Oliver*	BA +60	30	K-1 Multi-age
Roberts	MA +45	13	MR teacher
Sutter	MA +60	25	Title I & Preschool
Taylor	BA +15	30	1-2 Multi-age
Tenney	BA +15	6	Computer
Thurman	MA +60	24	3 rd grade
Weber*	BA +15	12	2 nd grade

* indicates participant selected for in-depth study

Selection of Participants for in-depth Study

I collected some data from all participants to get a sense of the process of implementation for the school as a whole. In addition, I selected four participants for more in-depth study. These participants were selected on the following basis. The trainers who conducted the initial three day training on Direct Instruction materials identified two participants as showing promise of mastering the Direct Instruction teaching skills quickly, and two participants as having relative difficulty in mastering the DI teaching skills during the training session. The principal verified that all four have average or above average teaching skills. In other words, they were selected as average or better teachers, with two having some difficulty in mastering DI teaching skills and two having little or no difficulty mastering these skills during the initial training session.

The principal verified that all four teachers have students with disabilities in their classrooms for at least part of the school day. These four teachers participated in multiple interviews and they were observed on numerous occasions. The purpose of this aspect of the study was to examine how the process of implementation affects these teachers, whether and how their attitudes and beliefs change throughout the process, why some teachers have more difficulty learning to implement Direct Instruction, and what the teachers believe will help them succeed at this curriculum. Because I was seeking an explanation of some of the factors that might influence teachers' negative attitudes toward Direct Instruction or their difficulties implementing Direct Instruction, I designed this part of the dissertation as an explanatory case study. Marshall & Rossman (1995) recommend the use of more than one unit (in this case the unit is the individual teacher) in an explanatory case study. The comparison of the effects of the phenomenon under study on the different cases can help to "identify possible causal networks shaping the phenomenon" (p. 41). In this particular study the phenomenon under study is the implementation of Direct Instruction curricula. By selecting teachers for study who have varying degrees of difficulty in implementing the curriculum initially, I attempted to identify what factors are causing the relative ease or difficulty experienced.

Implementation of Direct Instruction at Purslane

Implementation of Direct Instruction at Purslane included training, delivery of instruction, and evaluation. Teachers and aides were trained in the curriculum and in the techniques for delivering the curriculum. Direct Instruction curricula was taught in the classrooms of Purslane for 45 minutes each day. In addition, the performance of the students, teachers, coaches, trainers, and overall program was evaluated.

Two experts in Direct Instruction trained the teachers and aides during a three-day training in August before the school year begins. Any educators who could not attend this training were trained individually by one of the coaches. Training activities continued at faculty meetings set aside for Direct Instruction training and discussion. From time to time, some of the educators borrowed and viewed videotapes showing teachers modeling the pertinent Direct Instruction curricula. Coaches also gave teachers feedback on observed classroom performance occasionally throughout the year. Coaches and trainers were available via email, when they were not physically present, to answer implementation questions that arose.

The principal facilitated delivery of Direct Instruction by setting aside a 45 minute period each day during which all students received supplemental reading (or pre-reading) instruction. Prior to the actual delivery of Direct Instruction to students at Purslane, the coaches gave Direct Instruction reading placement tests to all students who are in the regular reading curriculum or who have reading goals on their IEPs. The coaches placed students in groups based on placement test results and on conferences with Purslane teachers concerning past student achievement. The principal and coaches ordered and distributed materials as they are needed to help ensure that implementation is not impeded by lack of materials. The supplemental Direct Instruction reading program began in mid-September as soon as group placements and materials were in place. Once begun, Direct Instruction curricula were used for 45 minutes daily in virtually all classrooms for the remainder of the school year.

Direct Instruction Curricula used in this Study

The teachers in this study used Direct Instruction curricula published by Science Research Associates/MacGraw-Hill. These curricula teach in small steps, with frequent teacher questioning and frequent student response. When implemented correctly, they require specific teacher behaviors that have been characterized as difficult to acquire (Englemann, 1988; Gersten, et al., 1995).

All students in Kindergarten through grade five were tested with the reading series placement tests and placed in the appropriate level according to the placement test results. Placements were made at all of the six different entry points for the *Reading Mastery Series* and at two of the four different entry points for the *Corrective Reading: Decoding Series*. In addition, kindergarten students who do not yet have the skills to succeed in the *Reading Mastery Series* were placed in the *Language for Learning Series* so that they could acquire background information necessary for successful reading. The twelve possible entry points into the Direct Instruction Reading and pre-reading curricula follow.

Reading Mastery I. *Reading Mastery I* was formerly *DISTAR Reading I* (Englemann & Bruner, 1995a). This level is intended for average to low performing kindergarten and first grade students. The 160 lessons of *Reading Mastery I* teach letter sounds and the blending of sounds into words. Both the order of presentation of the letter sounds and the special orthography used help the beginning reading avoid letter confusion. As students begin to decode words, they immediately begin to use these words to read sentences and stories. Comprehension strategies are taught from the first story onward.

Reading Mastery II. *Reading Mastery II*, formerly *DISTAR Reading II* (Englemann & Bruner, 1995b), is intended for students who have completed *Reading Mastery I*. These lessons emphasize accuracy and fluency in reading. In this program, the traditional written alphabet replaces the special orthography of *Reading Mastery I*. Students learn strategies for decoding difficult words and learn to answer interpretive comprehension questions. This level also teaches basic reasoning skills such as applying rules and making deductions. Systematic decoding instruction is phased out in *Reading Mastery II*.

Reading Mastery: Fast Cycle. *Fast Cycle* (Englemann & Bruner, 1995c) is for higher performing students in Kindergarten and grade one who do not have solid decoding skills. *Fast Cycle* covers all the skills taught in *Reading Mastery I and II*, but at a more rapid rate and with less repetition. Students can learn the 170 lessons of *Fast Cycle* in one year.

Reading Mastery: Level III. *Level III* (Englemann & Hanner, 1995a) is intended for students who have completed either *Level II* or *Fast Cycle* or who read at a third grade level. In *Reading Mastery III*, the focus shifts from decoding to the development of higher level comprehension skills through the building of background knowledge, metacognitive strategies and schema strategies in the content areas. Students learn how to apply rules and how to interpret maps, graphs and timelines. This level also features a number of complex sentence forms and a variety of vocabulary activities.

Reading Mastery: Level IV. *Level IV* (Englemann & Hanner, 1995b) is intended for students completing *Reading Mastery III* or who read at a fourth grade level. It continues the activities to develop comprehension skills begun in *Level III*. The

reading selections in *Level IV* incorporate science facts and rules. Students learn facts about the world and apply these facts while evaluating problems and finding solutions.

Reading Mastery: Level V. *Level V* (Englemann, Osborn, Osborn, & Zoref, 1995) is intended for students completing *Reading Mastery IV* or who read at a fifth grade level. The emphasis in Level V is on appreciating and understanding literature. Students analyze characters, settings, plots, and themes and learn how to infer main idea and deduce word meanings from context. Students complete daily writing assignments in *Level V*. The reading selections include narrative stories, biographies, poetry, plays, novels and expository writing.

Corrective Reading: Decoding, Level A. *Corrective Reading: Decoding* programs are written for students in grades three through 12 who read so haltingly and inaccurately that they can not comprehend what they read. *Level A* (Englemann, Carnine, & Johnson, 1999) is intended for students who have virtually no decoding skills. Students learn the basic decoding skills of sounding out and rhyming. They proceed to sentence reading and story reading.

Corrective Reading: Decoding, Level B1. *Corrective Reading: Decoding, Level B1* (Englemann, et al., 1999a) is intended for students in grades four through 12 who can sound out words but have trouble distinguishing words while reading and are inconsistent in their reading behavior. In *Level B1* students are discouraged from identifying words through guessing and they learn to read accurately up to 90 words per minute.

Corrective Reading: Decoding, Level B2. *Corrective Reading: Decoding, Level B2* (Englemann, et al., 1999b) is intended for students in grades four through 12

who do not read fluently and make word identification errors through guessing. In *Level B2* students become automatic decoders and learn to read accurately up to 120 words per minute.

Corrective Reading: Decoding, Level C. *Corrective Reading: Decoding, Level C* (Englemann, Meyer, Johnson, et al., 1999) is intended for students in grades four through 12 who have mastered basic decoding skills but still have trouble decoding multisyllabic words and reading typical textbook material. In *Level C* students learn to read materials with a wide variety of vocabulary, syntax, and formats and learn to read at a rate typical of high school students.

Language for Learning, Level I. Those students who lack the skills to be placed in any of the *Reading Mastery* or *Corrective Reading* curricula were placed in either Level I or Level II of *Language for Learning* in order to help them get ready to learn to read. *Language for Learning, Level I* (Englemann & Osborn, 1999a) is intended for pre-kindergarten students and low performing students in kindergarten and grade 1. It is designed to develop students understanding of the language of classroom instruction. Students learn many facts about the world around them, and they learn to answer in complete sentences and follow verbal directions.

Language for Learning, Level II. *Language for Learning, Level II* (Englemann & Osborn, 1999b) is intended for students completing *Level I* or for average kindergarten students. Students learn important thinking skills as a foundation for reading comprehension. They extend the vocabulary learned in *Level I*, and they develop questioning and reasoning skills and apply these skills to new situations.

Teacher Behaviors required by Direct Instruction Curricula

Regardless of which of the Direct Instruction Curricula described above the teacher is implementing, there are certain behaviors that are required of teachers using Direct Instruction Curricula (Osborn, 1995). First, the teacher presentation of the lesson is scripted. The teacher follows the script for the lesson to ensure that the concepts and skills are taught in an order that reduces confusion of similar topics and that allows concepts and skills that have been introduced to be reviewed continuously throughout subsequent lessons. Second, frequent individual and group responses are used to increase the number of response opportunities afforded to students, and group response requires the use of a visual or auditory signal to help students respond together. These signals (hand drop, clap, snap, or voice inflection) may seem unusual to teachers who have not used them before. Third, teachers monitor students' accuracy during group and individual response and correct every error. Teachers use correction scripts that model the correct response, elicit the correct response, and then elicit the correct response again after students have responded to other questions. Lastly, the pacing of the lessons is rather rapid, so that while there is wait-time allowed between the teacher question and the student response, the authors recommend that very little time elapse between the student response and the next teacher question or teacher presentation.

Evaluation

The university liaison, Dr. Mallow, oversaw the evaluation of the implementation of Direct Instruction at Purslane Elementary. Direct Instruction coaches provided teachers with corrective feedback throughout the school year. Dr. Mallow also evaluated teacher performance through communication with the coaches and through classroom

observations. He coordinated the collection of test scores from periodic assessments embedded in the curricula. When standardized test information were available from the SAT-9, the scores were compared to the scores from the previous year to give some measure of the effect of the first year of implementation of Direct Instruction on student achievement.

In addition, the Appalachian Educational Lab (AEL) and the Center for Research in Educational Policy (CREP) at the University of Memphis conducted two studies that included Purslane. The first was a formative evaluation of the Comprehensive School Reform Demonstration (CSRSD) Program at Purslane Elementary and the other 19 CSRSD Programs throughout the state. Through AEL and CREP, a site researcher was assigned to Purslane who conducted a principal interview and a teacher focus group, made classroom observations, and administered school climate inventories and teacher questionnaires. The second was a study of the reading achievement of children in 40 schools, 20 schools that were implementing CSRSD programs and 20 control schools that were not implementing CSRSD program, but that had demographics similar to the CSRSD schools. The results of these two studies were available to the staff at Purslane in the fall of 2000.

Summary

The implementation of Direct Instruction at Purslane consisted of an ongoing program of training, delivery of instruction, monitoring of instruction, and evaluation of training, instruction, and student achievement. This supplemental reading and pre-reading program was part of the daily routine at Purslane. The process was evaluated

both by the staff at Purslane and by evaluators from AEL and CREP. The next section describes the qualitative and quantitative measures used in the study.

Data Collection

This study used interviews, classroom observations, and document review as the main sources of qualitative data. In addition, two rating scales and a classroom observation instrument were used to provide quantitative corroboration of qualitative results (Rossman & Wilson, 1994).

Qualitative Data Collection

Interviews provided the backbone of this study. It is through the interview that the researcher gains insight into the thoughts and beliefs of the participants. Interviews provided the opportunity to "learn about what you cannot see and to explore alternative explanations of what you do see" (Glesne & Peshkin, 1992, p. 65). I used primarily semi-structured interviews in this study. In semi-structured interviews the interviewer comes with a prepared set of questions, and then embellishes the questioning through prompts, probes, silences and additional questions as needed (Glesne & Peshkin, 1992). For example, if after I asked one of the prepared questions the participant made a short response, I would wait for a few seconds, then ask, "Anything else?" If I do not understand a response or I feel the participant has more to say about a certain topic, I probed by asking the participant to "tell me more." For example, once when a teacher was telling me that the school was "different," assuming that I understood what she meant, I said, "So, tell me how it's different." If I felt I needed more details to understand a certain topic, I would ask more questions.

The initial set of semi-structured interview questions is contained in Appendix A and the interview questions for subsequent interviews in contained in Appendix B. I conducted just one interview with the teacher who was away on maternity leave in the spring, but all other participants were interviewed at least twice. The four participants selected for in-depth study were interviewed formally four times. In this way, I collected hundreds of pages of interview data. Interviews formed the main source of data for this study.

Observations. The purpose of observations is to note and make a record of the phenomenon being studied. Glesne and Peshkin (1992) recommend that researchers observe broadly to get a context for their study before beginning to make observations based on their research questions. I made initial observations in the classrooms and public spaces of Purslane Elementary School and wrote these observations up in field notes before beginning classroom observations.

Most observations in this study were classroom observations. In this study, I made two types of classroom observations. I observed regular reading lessons and examined teacher behavior for evidence of teacher efficacy, teacher attitudes toward students with disabilities, and reading techniques that teachers use routinely. I also observed Direct Instruction sessions where I examined teacher behavior for evidence of factors that help or hinder implementation of Direct Instruction curricula. During all these observations, I made notes describing events that were taking place in as much detail as possible given the physical limitation of my writing speed. Within a few hours of the observation, I expanded the notes, adding as much detail as I could recall clearly.

Later, during analysis of the data, I judged whether certain events seem to corroborate other data and made interpretations of the significance of the observations.

Observations were also made during teacher meetings at which Direct Instruction was discussed and on informal occasions such as during hallway and lunchtime conversations. At these times, I made abbreviated notes or even mental notes. Mental notes were frequently made during hallway and lunchtime conversations, since taking written notes on these occasions was inconvenient. As recommended by Glesne and Peshkin (1992), mental notes were written down and abbreviated notes were expanded as soon as possible following the observation.

Stake (1995) says it is necessary to make the notes from these observations as detailed and accurate as possible. From his perspective, the qualitative researcher doing observations must keep a record of events that is so good that the description stands on its own; in other words, at the writing stage the researcher "lets the occasion tell its story" (p.62). Observations also form a way of verifying interview data. Thus, they are valuable in helping with triangulation (Glesne & Peshkin, 1992). According to Stake (1995), besides providing verification of findings from other sources, observations are valuable in their own right as they contribute to the understanding of the context of the study.

Document Review. Document review is commonly used in qualitative studies (Glesne & Peshkin, 1992; Stake, 1995). Document review is the least intrusive form of data collection. Participants do not feel like they are being used as information sources, as they may during interviews or classroom observations. Document review serves to verify data collected from other sources, but it also represents a powerful tool in its own

right because some documents represent data that is not available from any other source (Stake, 1995).

I reviewed documents available at the school to determine if they shed light on the research questions. I reviewed the Title I School Improvement Plan, the School Inclusion Plan, school achievement data, and professional development evaluation forms from the Direct Instruction training sessions. Examining these and other documents both helped to build up a picture of the culture of the school and provided confirmation of themes that emerged from the interview data.

Quantitative Measures

In addition to documenting teachers attitudes and beliefs through interviews, observations and document analysis, three quantitative measures used in other studies were also used here.

Teacher Efficacy Scale. I assessed teachers' perceptions of their own efficacy using the Teacher Efficacy Scale (Gibson & Dembo, 1984). Permission to use the Teacher Efficacy School was given by Myron Dembo in a letter dated September 18, 1999. This scale has two sub-scales. The outcome expectancy scale is a nine-item subscale that measures the extent of belief that factors outside the classroom setting, such as home environment or student motivation, may prevent *any* teacher from being effective. An example of a statement that measures outcome expectancy is "If students aren't disciplined at home, they aren't likely to accept any discipline." The personal teaching efficacy scale is a seven-item subscale that measures the teacher's belief in his or her own ability to be an effective teacher, regardless of whether other teachers can be effective under the same circumstances. An example of a statement that measures

personal teaching efficacy is "When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level." Dembo and Gibson (1985) reported that internal consistency reliability is $r = .78$ for personal teacher efficacy, $r = .75$ for outcome expectancy and $r = .79$ for the whole scale. Gibson and Dembo (1984) supported the construct validity of the Teacher Efficacy Scale by a multitrait-multimethod analysis using three traits (teacher efficacy, verbal ability, and flexibility) all of which were assessed using both closed- and open-ended methods. Verbal ability and flexibility were selected because they are constructs that correlate with student achievement, as does teacher efficacy. They found teacher efficacy to have sufficient convergent validity, since the closed- and open-ended methods of assessing teacher efficacy correlated at $r = .42$ ($p < .001$). They also found teacher efficacy to be distinct from both verbal ability and flexibility, thus supporting its validity as a construct separate from verbal ability and flexibility. Appendix C contains the Teacher Efficacy Scale.

Attitudes toward Inclusive Education Scale. I assessed educators' attitude toward inclusive education using the Attitudes toward Inclusive Education Scale (ATIES). Permission to use the ATIES was given by Felicia Wilczenski in a letter dated August 31, 1999. The ATIES has four subscales related to acceptance of students with physical, academic, behavioral and social disabilities (Wilczenski, 1992). This scale has 16 statements that are rated by a six-point Likert scale where one represents strongly disagree and 6 represents strongly agree. One typical item is, "Students with verbal aggression should be in regular classes." The students' disabilities and needs range from mild (shyness) to severe (needs functional academic training). Wilczenski reports the full-scale internal consistency reliability coefficient is $r = .92$, and the reliability of the four

subscales ranges from $r=.82$ to $r=.87$ (1992). When the responses of 301 teachers were factor analyzed, they yielded four factors. It was determined that items that loaded onto the first factor related to the inclusion of students with physical disabilities exclusively. No items loading onto the first factor dealt with students with academic, behavioral or social disabilities. Similarly, items loading onto the second, third, and fourth factors related exclusively to the inclusion of students with academic, behavioral, and social disabilities, respectively. This provided evidence of construct validity. Appendix D contains the Attitudes toward Inclusive Education Scale.

Classroom Observation Form. This study also used an observation form to provide quantification of the extent to which a selected few participants are adhering to some of the recommended forms of Direct Instruction. The classroom observation form was adapted from the Direct Instruction Supervision Code form used in a study by Gersten, et al. (1982). Permission to use the Direct Instruction Supervision Code was given by Doug Carnine in a letter dated September 15, 1999. I renamed it Classroom Observation Form, removed the designation of academic level of group, and maintained the coding system for student and teacher response. I documented the number of learning trials per minute, percent accuracy in student response, percent accuracy of student unison, and percent accuracy in correcting student errors using this form. This provided corroboration of data collected during qualitative classroom observations and interviews on the degree of ease of implementation of the Direct Instruction Curriculum. Appendix E contains the Classroom Observation Form.

To assure accuracy of observation scores, I asked a fellow graduate student to make some of the observations with me. My colleague and I practiced using a videotape

of Direct Instruction Reading lessons until we coded a videotaped lesson with at least 90% accuracy. Her accuracy of coding a very clear, well-taped lesson was 98.1%. My accuracy of coding the same lesson was 97.4%. We both observed the same lesson for two of the first set of four observations and for two of the last set of observations. I calculated interobserver agreement using a point by point agreement ratio (Kazdin, 1982). Interobserver agreement was 92.5% and 84.9% for the two observations made in November and 93.2% and 86.8% for the two observations made in March. If interobserver agreement had been less than 80% at the time of the November observations, we would have calculated interobserver agreement for an additional two randomly selected classroom observations for each of the remaining series of observations. This was not necessary.

Procedures

In this section, I describe the steps taken for the data collection phase of the study. Data collection focused on each of the identified research questions:

1. What are educators' opinions of Direct Instruction Reading materials and techniques and how do they change during the course of the first year of implementation?
2. Do the educators' perceptions of their teacher efficacy change during the course of the first year of implementation?
3. Do the educators' attitudes toward inclusion of students with disabilities change during the course of the first year of implementation?

4. What factors do educators identify that help or hinder their implementation of Direct Instruction curricula?

The First Question

The first question, concerning the educators' opinions and the process of change that they go through, requires that I know what their opinions are at the beginning of the year, at the end of the year, and at different points throughout the year. I collected demographic data during the first interview and interviewed all participants in the Fall using a semi-structured interview format. (See interview questions for the first interview in Appendix A.) I also interviewed all participants at the end of the year to collect information on the changes in attitudes and beliefs of all implementers. On two occasions, I used phone interviews, when convenient times could not be arranged during the school day.

Additionally, I interviewed the four teachers selected for in depth study two times in the middle of the year. (See interview questions for subsequent interviews in Appendix B.) All interviews were arranged at times convenient to the teacher, mainly during planning periods, although occasionally interviews took place before or after school. All participants gave permission for audio taping of interviews.

I observed in the classrooms of the four teachers selected for in depth study on four occasions during the 1999-2000 school year, in November, January, February and March. In these four classrooms, I observed during both Direct Instruction reading and regular language arts instruction. Semi-structured interviews took place at approximately the same time, so I was able to compare the observations with information about the teachers attitude toward the program and its effect on students.

Additional data related to this question came from field notes of teachers meetings and any informal occasion when discussions related to the implementation of the Direct Instruction curricula occurred. I also examined copies of the teachers' and aides' professional development evaluations of the Direct Instruction training sessions.

The Second Question

I answered the second research question concerning the change in perception of teacher efficacy through examination of educators' responses to interview questions and through inferences I made from classroom observations. Some interview questions that reflected on teacher efficacy from the planned interview format in Appendix A are:

3. What do you think helps students become better readers (catch on to reading)?
5. Tell me a success story you've had in teaching a student or students to read (or become better readers).
9. How are your students responding to the curriculum?

Through these questions, and additional probes as needed, I attempted to elicit from the teachers their opinions of whether it is actions of the teacher or other factors that help students learn

I also examined scores on the Teacher Efficacy Scale (Gibson & Dembo, 1984) administered at the beginning and end of the year to support information gained from teacher self-report. I analyzed Teacher Efficacy Scale scores and subscores using descriptive statistics. I reported the means and standard deviations from scores at the beginning and end of the year on both subscales and the full scale.

The Third Question

I answered the third research question concerning the change in attitude toward inclusion through examination of educators' responses to interview questions and through inferences I make from classroom observations. Examples of interview questions that might reflect on attitudes toward inclusion from the planned interview format in Appendix A are:

6. Tell me a success story you've had teaching a student with a disability to read (if not in reading, to succeed in some other area).
7. What factors do you think are critical to working with students with disabilities in the regular classroom?

Through these questions, and additional probes if needed, I elicited from the teachers their opinions of including students with disabilities in the classroom. I sought corroboration of the educators' self reports through behaviors observed during classroom interactions, such as incorporating all students in learning activities or checking frequently for student learning and modifying instructional practices when students are not being successful (Falvey, Givner, & Kimm, 1996).

I also examined scores on the Attitudes Toward Inclusive Education Scale (Wilczenski, 1995) administered at the beginning and end of the year to support information gained from teacher self-report. I analyzed the scores using descriptive statistics by computing the mean and standard deviation of the whole group. This helped me determine attitudes toward inclusion and whether they have changed during the first year of implementation of Direct Instruction curricula.

The Fourth Question

The fourth question is: What factors do educators identify that help or hinder their implementation of Direct Instruction curricula? This question was mainly answered through analysis of transcripts of interview questions and classroom observations. I used the following questions from the interview in Appendix A to determine whether participants felt that specific features of the curriculum are making implementation difficult or whether they could identify other factors:

8. What successes have you had in using Reading Mastery (or Corrective Reading, or ...)? What parts have been easy for you?
10. Talk about your concerns you've had using Direct Instruction. Is there anything you can think of that would help with these concerns.
11. Is there anything else you want to tell me about your experiences in teaching with Direct Instruction materials?

Field notes from teachers' meetings were examined to corroborate factors that educators identified during interviews that are assisting or impeding the implementation of Direct Instruction curricula.

Although I examined the interviews of all educators to answer this question, I relied heavily on the data from the four teachers in the in-depth case study. Since they were selected on the basis of their ease or difficulty in learning the Direct Instruction techniques presented during the training sessions, examining their responses to interview questions and observing their teaching practices throughout the year was designed to give insight into the factors related to ease or difficulty in implementing Direct Instruction.

To answer this question, I also analyzed the accuracy of adherence to Direct Instruction Curriculum teaching techniques collected during observation of Direct

Instruction sessions of the four teachers in the in-depth case study. Collecting these data enabled me to see to what extent teachers are actually able to implement the curriculum accurately regardless of initial ease or difficulty with the practices.

Data Analysis

Hycner's guidelines for the phenomenological analysis of data (1985) were used to analyze the data from this study. I audiotaped and transcribed each interview. Before reading and listening to tapes, I attempted to "bracket" (Hycner, 1985, p. 281) or suspend my own meanings and interpretations so that I can more fully enter the world of the person interviewed. In this study, I made journal entries after each day of interviewing and classroom observation to capture my interpretations of the events. Then, during later analysis I made a conscious effort to prevent my interpretation from driving the study as I tried to reconstruct the worldview of the participants (Spradley, 1979).

After the transcriptions were made, I listened to the tapes and read the transcriptions several times to "provide a context for the emergence of specific units of meaning and themes later on" (Hycner, 1985, p. 281).

Next, I identified idea units and segmented the text into idea units. Hycner (1985) defines idea units as "those words, phrases, non-verbal or para-linguistic communications which express a unique and coherent meaning (irrespective of the research question) clearly differentiated from that which preceded and follows" (p. 282). *Ethnograph v.5.0* computer software (Seidel, 1998) was used for data management. Using this software, I identified and coded idea units. Idea units that were not relevant to the study were ignored and relevant data were examined to see if the data clustered together. The

clusters then emerged into themes, which expressed “the essence of [a group of] these clusters” (Hycner, 1985, p. 290). These clusters were given names that describe the concepts that hold the idea units within the cluster together. Finally the clusters were examined to see if one or more themes emerge from these particular clusters of idea units. A theme is an idea that “expresses the essence of [a group of] these clusters” (p. 290). Twice during the study, the four participants selected for the in-depth case study responded to a summary of their interview data. This “member check” is a valuable check on the accuracy of the data and is another form of triangulation (Hycner, 1985). In all cases, the participant agreed that the summary represented her point of view. Once, after I had written the report of Ms. Weber’s attitude toward students with disabilities, I realized that I had made a number of inferences about her attitudes. I emailed her my summary of her attitudes toward students with disabilities, and she responded by email that the summary reflected her attitude well. This particular example of a member check was the most valuable to me, because I was able to confirm the inferences I was making.

Design Features for Ensuring Trustworthiness

Throughout this chapter, I have referred to collecting data from different participants and collecting data from different sources as ways of verifying data. This notion is referred to as triangulation in qualitative research (Glesne & Peshkin, 1992; Rossman & Wilson, 1994; Stake, 1995). For Stake (1995), the term triangulation comes from celestial navigation, where the navigator ascertains the location of two known stars and determines the present ship position based on those sightings. He asserts, “Our problem in case study is to establish meaning rather than location, but the approach is the

same. We assume the meaning of an observation is one thing, but additional observations give us grounds for revising our interpretation" (p.110). He further notes that regardless of the fact that constructivist researchers believe that there is no way to establish beyond any doubt that the one best view has been accurately represented, triangulation is practiced by all responsible qualitative researchers (Stake, 1995).

For this study, I attempted to ensure the trustworthiness of the study by triangulation and by monitoring my interpretations through my journal. I collected interview data from multiple sources, interviewing all participants at least twice. I interviewed the four teachers selected for in-depth interviewing four times. I took field notes during training sessions and other meetings that relate to participants attitudes, beliefs, and perceptions of their successes and difficulties in implementing the Direct Instruction curricula in order to triangulate participants' more public statements of beliefs and attitudes with their interview data. I took notes during classroom observations to try to corroborate participants' perceptions of their difficulties and successes with their classroom behavior. I found documents on site, such as Title I plans and inclusion plans, which threw light on teachers' beliefs and attitudes expressed in their interviews. Collecting data from multiple data sources and collecting many types of data helped ensure the trustworthiness of the data.

Besides using multiple sources to confirm information, I used a journal to monitor my interpretations of events. I wrote in my journal after each site visit. In the journal, I entered any preliminary interpretations, or hunches, that I thought plausible. I referred to my journal during data collection and data analysis to ensure that biases and hunches were not dominating the research. In this way, by entering my interpretations in the

journal, and monitoring the interpretations I bring to the data, I sought to lessen the effect of observer bias.

To check on the trustworthiness of my interpretations, I asked a colleague to examine portions of my data (Glesne & Peshkin, 1992). A fellow graduate student who has had many experiences with qualitative research read portions of the interviews and gave her impressions of the important themes that were emerging. She verified several themes, including the theme that the teachers felt devalued as professionals. This strengthened my belief in the trustworthiness of the results. This same colleague sorted 500 idea units using the idea unit codes that I devised. Intercoder reliability was established at 69.1% for this exercise.

To further check on the trustworthiness of my interpretations, I used member checks. Twice during data collection, I asked the four participants selected for in-depth study to respond to a summary of their interview data. In every case, they found that the summary reflected their views. These steps, triangulation, use of a journal to monitor interpretation, consulting a colleague and member checks, helped to ensure the trustworthiness of my interpretations of the data.

Summary

In this chapter, I presented the methods used in this qualitative study of the process of implementing Direct Instruction curricula. I described the specific Direct Instruction curricula that were used. I explained my role as a Direct Instruction coach during the implementation process and the biases and interpretations that I bring to the study in my role as participant observer. I described the rationale for selecting Purslane

Elementary School and for selecting the four participants for in-depth study. I described the types of measures used to collect data and the different sources of data. I explained the methods used to analyze the data and to ensure the trustworthiness of the data.

CHAPTER 4

IMPLEMENTATION OF DIRECT INSTRUCTION AT PURSLANE

Purslane Elementary School is a rural school located in North Central West Virginia. A creek forms one border of the school's property, and a hill rises sharply from the parking lot on the opposite border. This one-story school of block construction has central hallways that form a "T." The top crossbar of the T is the longer hallway and terminates in the bus entrance on left and the newly constructed gymnasium on the right. The shorter left-hand section of this hallway leads to the cafeteria and four classrooms, those for first grade, second grade, and the two multi-age groups. The longer right hand section of the hallway leads to restrooms, the janitor's room, special education and Title I rooms, the Physical Education Teacher's room, the room from which a "thinking skills" program is conducted, the band instructor's room and classrooms for kindergarten, preschool, fourth, and fifth grades. The shortest hallway, the upright section of the T, is in the older portion of the building, leading to the main office, principal's office, library, computer room, tutoring room, classrooms for the two third grades, and two workrooms.

During the 1999-2000 school year, Purslane served about 200 students in grades pre-kindergarten through five. Approximately 77% of the students participated in the free and reduced price lunch program (Hill County Board of Education, 2000). During that same school year, 40.5% of students were identified as having disabilities, meaning that they had either an IEP or a 504 plan (Hill County Board of Education, 2000). The school qualifies for federal assistance as a Title I school with a school-wide plan because many of the students live in poverty. At the beginning of the study, the school was being monitored for school improvement under the provisions of the school's Title I

Improvement Plan, because its average standardized test scores were below the state averages during both 1996-1997 and 1997-1998 (Hill County Board of Education, 1999). Having low scores on the Stanford Achievement Test, ninth edition (SAT-9) provided the initial impetus for the principal to seek funding through the Comprehensive School Reform Demonstration Grant Program.

My first visit to Purslane was during the summer before the study began. I attended the first sessions of teacher training in Direct Instruction techniques. I was impressed with the cleanliness of the building and the hospitality of the staff. Staff members were very helpful, showing the building to the trainers and me and providing us with needed equipment and supplies. The custodian helped with the set-up and arrangement of furniture in the training rooms. The principal arranged for lunch for all training participants during the three days of training, preparing it herself the first two days. Staff members brought in baked goods and other foods for snacks every day during the training. The hallways were decorated with photographs and displays from the nutrition and reading summer program that had just concluded. The overall impression was of an old but well-maintained building that housed an accommodating and child-centered staff.

Training Activities

Purslane staff was trained in the use of Direct Instruction materials and techniques on August 9, 10, and 11 of 1999. Thirteen teachers and four aides participated in the August training activities. They gave up part of their summer vacation to do so. The

only teachers to miss the training dates were two teachers with conflicting travel plans and the teachers who had not been hired as of the training dates.

The trainers were two teachers from a school system that is about 200 miles away from Purslane. Both teach students with disabilities in elementary schools in resource room settings. They have each used Direct Instruction materials for several years. Ms. Wilshire has used Reading Mastery and Corrective Reading materials for 5 years. Ms. Mace has used Reading Mastery materials for 4 years. Both had been trained as trainers in the Direct Instruction Reading Programs by SRA. Both had conducted training sessions in other school districts prior to conducting the training sessions at Purslane. They appeared to be confident and relaxed as they presented the curriculum and conducted the practice activities.

August Training Activities.

The first day of training consisted of an overview of the entire program and specific training in the use of Spelling Mastery, a spelling series using a Direct Instruction approach. During the overview, Ms. Praeger, the principal, spoke about the need to increase test scores at Purslane because the school was on an Improvement Plan. Dr. Interland, the consultant who assisted Ms. Praeger in writing the CSRD grant, spoke about the results of Project Follow Through that found that Direct Instruction reading was superior in improving test scores in Reading and Language for students at risk for school failure. The trainers talked about what it means to be a research-based profession and gave examples from their own experiences of students whose achievement improved using Direct Instruction. The trainers emphasized the essential elements that relate to the success of Direct Instruction: following the script, pacing the lesson at the appropriate

speed, requiring unison response, and correcting every error using the prescribed correction scripts. A video was shown that demonstrated these elements. Following the overview, the trainers led the participants in examining specific details of the Spelling Mastery program and gave the participants opportunities to practice in the roles of teacher and student.

At the end of the first day of training, the teachers initiated a discussion of how Spelling Mastery might work at Purslane, since there has been no time allotted to implementing it. They were clearly confused at being trained in Spelling Mastery when they thought they were going to be implementing a Reading program. Ms. Wilshire commented that she had introduced Spelling Mastery first because it was the easiest to implement, and the basic skills of reading the script, signaling, and using correction procedures could be learned in this simple program and then transferred to the more complex programs. Ms. Praeger and Dr. Interland affirmed that the time set aside for Direct Instruction was for the reading program only. They suggested that the teachers talk about Spelling Mastery during one of their Faculty Senate sessions to decide whether to implement Spelling Mastery this year. The teachers seemed satisfied, but the topic was initiated again by Dr. Interland the next day. He suggested that the teachers use Spelling Mastery in place of their regular spelling text. Ms. Praeger said that this could not be done without a waiver from the state, since schools must use state-approved textbooks, unless they have a waiver. The discussion of Spelling Mastery ended with a decision to wait until we see if Purslane can get a waiver.

During the second day and third days of training, participants broke into two groups. Ms. Mace trained the first group in the early reading materials: Reading Mastery

I, Reading Mastery II, and Reading Mastery Fast Cycle. Ms. Wilshire led the group that was studying the later reading materials: Reading Mastery III, Reading Mastery IV, Reading Mastery V, and Corrective Reading.

Ms. Mace led her group through an overview of the materials and then they practiced specific script sequences essential to the instruction of the early reading materials. This group learned how to give the auditory and visual signals to prompt students to say sound and words, including the touch signals that correspond to both the “sound it out” and the “say it fast” commands. They learned some of the typical script sequences related to story reading, asking comprehension questions, and giving directions for written activities. They practiced reading script sequences and signaling in the whole group and in pairs.

Ms. Wilshire’s group learned the typical sequence for introducing new words and the typical sequence for practicing common sounds in words, such as “sion” in mansion. Teachers learned the auditory and visual signals used to present words to students at the upper levels of Reading Mastery. They also learned the activities involved in story reading and asking comprehension questions at these levels. Participants practiced presenting script sequences in pairs and in the whole group. In a similar fashion, the participants practiced particular behaviors required to teach the Decoding levels of Corrective Reading.

During a discussion of concerns in Ms. Wilshire’s group, the teachers raised concerns about getting the groups into the correct levels, having small enough groups to implement the program effectively, finding enough time to do all the activities, especially for Reading Mastery III, IV, and V which require an hour and 15 minutes to complete a

whole lesson. Ms. Wilshire suggested that we try to have one or two persons administer all the placement tests. In that way, the tests would be administered and scored uniformly and the groups would be closer to being on one level. She said that the higher level groups could have about 15 members, as long as the teacher could monitor group responses and correct for not responding and responding before or after the rest of the group as well as incorrect responses. She said not to be concerned about only doing one lesson in two days at the higher levels. She believes if we make a conscientious effort and teach one half to two thirds of the lessons, the students would still show good achievement gains.

On the last day of training, teachers expressed concerns about how to grade the students in this curriculum, especially if their Direct Instruction placement was below their grade level placement. One teacher suggested that they use a below grade level code on their report card. Another suggested that they teach the Direct Instruction period without giving grades. In the end it was agreed that since Direct Instruction Reading at Purslane is supplemental, it is not necessary to give a grade in Direct Instruction Reading.

At the end of the training sessions, the participants rated the training using the evaluation form typically used by Hill County for professional development sessions. On the evaluation forms, virtually all participants rated the training as “excellent” in response to queries about whether trainer was knowledgeable and well organized, and whether the training will aid instruction and fit educators’ needs. Participants made six comments that paralleled the rating of “excellent.” Examples of positive comments follow: “Excellent presentation,” “Ms. Mace was an excellent presenter, very interesting,” and “Seems like it will be very useful.” At the same time, three participants

made comments that suggested improvements to the training. These three participants made different suggestions, saying the training would be improved by 1) knowing before the training whether the school was implementing Reading only or both Reading and Spelling, 2) having trainers provide assistance with scheduling and other administrative aspects of implementation, and 3) shortening the part of training allotted to practicing techniques.

September Training Activities

Four teachers who were essential to the success of the implementation of Direct Instruction Reading at Purslane missed the August training sessions. One teacher was planning to teach Reading Mastery II, one was planning to teach Reading Mastery IV, and two were planning to teach Reading Mastery III. These teachers were given intensive instruction for three hours on September 17, 2000. September 17 was one of nine days in the school year that are referred to as Faculty Senate days, which are days set aside for teachers to participate in management decisions (Faculty Senate) and professional development activities. Dr. Interland taught Teresa Weber, the second grade teacher, how to implement Reading Mastery II. In my position as Direct Instruction Coach, I taught the other three teachers how to implement Reading Mastery III and IV. Both Dr. Interland and I have been trained as trainers by SRA. We both instructed the teachers in the basics of Direct Instruction (following the script, pacing, signaling, and corrections) and provided practice opportunities using the materials from the first few lessons that they were about to teach. We lent videotapes to the four teachers who attended only the three-hour training session. These videotapes showed

exemplary teachers presenting lessons to students using the materials the teachers were preparing to use.

Placement

All students in grades 1 through 5 were tested between August 30 and September 9. Dr. Interland and I conducted the placement testing. They tested students individually using placement tests provided by the publisher. The kindergarten teachers decided to postpone testing kindergarten students until later in September when they would be better acclimated to school routines. About half of the students in grades three through five placed in instructional groups that were below their grade level placement. Refer to the Table 2 and Table 3 below for details.

Table 2. Third-, Fourth-, and Fifth-Grade Students in Direct Instruction Reading Groups by Grade Placement (Grey cells indicate below-grade-level placement)

	RM I	RM FC	RM II	RM III	CR B1	CR B2	RM IV	RM V
5 th grade	2				5	2	5	8
4 th grade	1		1		11	5	4	6
3 rd grade	4		8	23			5	

Table 3. First- and Second-Grade Students in Direct Instruction Reading Groups by Grade Placement (Grey cells indicate below-grade-level placement)

	Language for Learning	RM I	RM FC	RM II	RM III
2 nd grade		5	6	15	3
1 st grade	1	5	16	3	1

Because of special needs, one first grader and two kindergartners received extra practice in Braille during Direct Instruction time. One second-grader who has a severe communication disorder and echo speech received extra practice in reading sight words during Direct Instruction time. The four children who have severe mental impairments continued in their mobility, communication and life-skills curricula and were not placed in a Direct Instruction reading or language group. Eight special needs children in all were not placed in Direct Instruction groups.

After Dr. Interland and I placed the children in grades 1 through 5 in instructional groups based on placement tests, they shared the placement decisions with the teachers to see if they had recommendations for changes based on their knowledge of the students. The teachers did not recommend any changes in level of placement, but they recommended that several students change from one teacher's group to that of another teacher, and two teachers wanted to exchange groups. Dr. Interland and I accommodated all their suggestions. The effect of these changes, in general, was to put students who typically learn at a slower than average rate into groups with other children who learn slowly and to put children who typically learn at an average rate into groups with similar children. When the two teachers exchanged groups, it allowed the teacher who teaches students with mild mental impairments to teach Direct Instruction Reading to the students that she normally serves for Reading and Language Arts.

When kindergarten children were tested in late September, fourteen of Ms. Knight's kindergarten children placed in *Reading Mastery I* and eleven placed in *Language for Learning*. Ms. Oliver, who teaches a multi-age K-1 classroom, chose to place all her kindergarten children in *Language for Learning* because she had serious

reservations about teaching sounds and words in isolation, which is a large part of the curriculum in *Reading Mastery I*. She conducted the placement tests herself. It is likely that several of her kindergarten children would have placed in *Reading Mastery I* if they had been tested for that program. None of the preschool children were ready for *Reading Mastery I*. All were placed in *Language for Learning*. Table 4 below shows the numbers of students placed in Direct Instruction materials from kindergarten and preschool by grade placement.

Table 4. Numbers of Preschool and Kindergarten Students in Direct Instruction Reading Groups by Grade Placement

	<i>Language for Learning</i>	<i>Reading Mastery I</i>
Kindergarten	19	16
Preschool	9	0

At the beginning of the program, students were placed in instructional groups by placement tests. Several students were not placed in the Direct Instruction curriculum because of special needs, either because of need for extra practice in the use of Braille, or because of severe communication difficulty. At the kindergarten level, several of the children who might have been placed in *Reading Mastery I* were placed in *Language for Learning* because of teacher aversion to teaching activities that concentrated on isolated sounds and words. After the kindergarten and preschool placements were made, 189 students were placed in 17 different groups, representing one level of *Language for Learning* (L for L), several levels of *Reading Mastery* (RM), and two levels of *Corrective Reading* (CR) as indicated in Table 5 below.

Table 5. Numbers of Students in each Direct Instruction Group by Grade and in Total

	Pre-S	K	1	2	3	4	5	Total
L for L (Oliver)		10						10
L for L (Sutter)	9							9
L for L (Lewis)		11	1					12
RM I (Taylor)		2	5	5				12
RM I (Roberts)					4	1	2	7
RM I (Knight)		12						12
RM FC (Newman)			7	4				11
RM FC (O'Dell)			9	2				11
RM II (Weber)			3	13				16
RM II (Lanham)				2	8	1		11
RM III (Holley)			1	3	10			14
RM III (Thurman)					13			13
CR B1 (Dover)						8		8
CR B1 (Deel)						3	5	8
CR B2						5	2	7
RM IV					5	4	5	14
RM V						6	8	14
TOTAL	9	35	26	29	40	28	22	189

By September 9, all students in grades 1 through 5 had been tested using placement tests supplied by the publisher. Large numbers of students in grades three through five were reading below level as indicated by placement tests. Fourteen instructional groups were formed to serve students in grades one through five. The few changes that teachers made to the groups did not change students' placement levels, but rather changed students within levels, or accommodated teachers' expressed desire to work with students with whom they normally work. On September 21 the fourteen instructional groups that serve students in grades 1 through 5 began using Reading Mastery and Corrective Reading materials. The next section includes details related to the placement of kindergarten students in instructional groups as well as other information about implementation.

Implementation throughout the School

Ms. Praeger decided to delay implementation of the Spelling Mastery program until the school received a waiver from the state for using an alternate to the state-approved text. Dr. Interland wrote the waiver request and Ms. Praeger submitted it to the Central Office to be reviewed and forwarded on to the State Department of Education. Ms. Praeger and Dr. Interland decided to begin implementation of Direct Instruction Reading programs as soon as the placement tests were completed and the teachers who had missed the August training were trained. Implementation of Direct Instruction Reading programs began on September 21 in grades 1 through 5. Implementation began smoothly with a few minor concerns and problems. The concerns included availability of materials, the use of substitute teachers in implementation, procedures for evaluating student's progress, and issues around instruction of kindergarten students.

Problems Encountered

Implementers encountered an early problem in the lack of materials for some instructional groups. Dr. Interland had ordered the materials in the summer based on estimates of how many children would be placed in each of the groups. More children tested into *Reading Mastery I*, *Corrective Reading B1* and *Corrective Reading B2* than had been anticipated. In addition, the need for three *Language for Learning* groups had not been anticipated. Dr. Interland borrowed teacher's manuals and presentation books from other districts and teachers made copies of student materials until shipments arrived from the publisher with the needed materials. This process took over a month and the teachers involved in using borrowed or copied materials reported feeling some frustration as a result.

Another early concern was the lack of a permanent teacher for the fourth grade position. The county placed a substitute teacher in the fourth grade for the first few weeks, but she left for a position in another school in mid-September. Dr. Interland and Ms. Praeger were concerned about the necessity of retraining substitute teachers every time one left for a different position. However, a second substitute teacher was hired in mid-September under the agreement that she would teach in this position until Christmas. At that point, Dr. Interland and Ms. Praeger decided to train her and direct her to teach a Direct Instruction reading group, since she was going to be teaching in that position for several months. She was trained on September 17 with the other teachers who had missed the August training sessions.

I made coaching visits in September and October and observed minor deviations from the prescribed implementation procedures. For example, I observed that some teachers were not correcting every error. Some teachers were ignoring non-response

rather than following the correction procedure for non-response. I gave teachers verbal feedback on any deviation from the prescribed procedures that I noticed. These minor deviations were not troublesome to me, since teachers were following the script and teaching to mastery.

In mid-October, Ms. Wilshire and Ms. Mace, the trainers, returned to the school for a coaching visit. They reported that the teachers were following the program and teaching to mastery and they felt that the program was well underway. Ms. Wilshire reported that Teresa Holley, one of the third grade teachers, seemed the most concerned about implementation. She was following the program script and teaching to mastery, and her students were answering on signal and were firm with responses. Despite her ability to follow the program well, Teresa had concerns about time spent managing data from the program. In response to this concern, Ms. Wilshire and Ms. Mace recommended that we collect student achievement data using the tests in the Mastery Test Booklets that accompany the program. They said that using the results of the Mastery Tests would be easy and clear and would not result in the teachers “becoming overwhelmed and discouraged.”

Implementation with Kindergarten Students

The two teachers of kindergarten children had very different initial responses to training experiences. Ms. Knight declared that Direct Instruction fit exactly the way that she taught, while Ms. Oliver said that she would have difficulty implementing the program because it was so different from her normal way of teaching. When the placement tests were given, Ms. Oliver gave her own kindergarten students the placement test for *Language for Learning*, and did not recommend that any be given the placement

test for *Reading Mastery I*. She placed all her kindergarten students in her own *Language for Learning* group and did not recommend that any go to other groups, except two kindergarten children with visual impairments who received extra instruction in using the Perkins Braille during the Direct Instruction period. Ms. Knight allowed me to test her students and took a great interest in the results of testing. She questioned the results of testing and recommended re-testing for several students. She questioned the placement of students into two instructional groups, because she did not want her aide to lead one of the instructional groups. She decided to teach both instructional groups herself, then decided that this arrangement would place a great burden on her time and asked that another teacher be found for the second instructional group. This was accomplished when Ms. Lewis, the Speech and Language teacher, agreed to teach a *Language for Learning* group comprised of several students from Ms. Knight's class and a low functioning student who was not responding successfully in one of the *Reading Mastery I* classes. Although Ms. Lewis had not been trained during either the August or the September training sessions, she had observed the use of *Language for Learning* materials in the preschool classroom and quickly became adept at their use.

From mid-October to mid-November the last three instructional groups began using Direct Instruction materials. On October 13, Ms. Knight's kindergarten students began Direct Instruction in two groups. Ms. Knight taught the *Reading Mastery I* group and Ms. Lewis taught the *Language for Learning* group. On November 15, Ms. Oliver's ten kindergarten students had their first and last lesson using *Language for Learning* materials, a lesson on body parts. Ms. Oliver followed the script in a general way and substituted a different seatwork activity for the one designed for the lesson. She never

again taught using these materials. Ms. Oliver's ten kindergarten students were not the only students in the school who did not use Direct Instruction materials during the first year of implementation. However, they were the only students who were not using the materials because of teacher choice rather than because a disability made the use of the materials impractical.

Summary

The process of initiating a Direct Instruction program at Purslane Elementary was slowed by several events, some anticipated and others unanticipated. The process of placing the students using placement tests took time as was expected. The concern over the need to train a series of substitute teachers in the use of the materials was unexpected, but was resolved by mid September. We anticipated starting the kindergarten groups in Direct Instruction materials later than we started the other students in order to give them time to acclimate to school routines. However, the very different concerns of the two kindergarten teachers about the composition of their groups and the suitability of materials and instructors slowed the process of implementation in an unforeseen way. Spelling Mastery materials were not implemented school-wide during the first year since the long awaited waiver never arrived. In the end, however, Direct Instruction reading or language materials were used with most students throughout the school year at Purslane Elementary.

Evaluation of Student Achievement

Evaluation of student achievement was an ongoing topic of concern to educators at Purslane Elementary. During the 1996-1997 and 1997-1998 school years, their

achievement on the statewide test, the SAT-9, was below county expectation, and Purslane was operating under considerable pressure to increase their scores. It was this pressure that led Ms. Praeger to seek out a program to be implemented under the Comprehensive School Reform Demonstration (CSRSD) grant program. In the summer of 1999, evidence surfaced that the school's scores were rising, since basic skills scores were high enough that 59% of students scored at or above the 50th percentile and only 21.3% of students scored below the 25th percentile during the 1998-1999 school year. These scores were not reported until after Purslane had applied for the CSRSD grant. The grant application listed the 1996-1997 and 1997-1998 scores as basis of their need for extraordinary efforts to improve achievement.

All educators at the school were aware of deficiencies in SAT-9 scores, and the school purchased *TestBest* materials as part of their Title I program to be used with all students during the 1999-2000 school year. *TestBest* materials were developed by the Steck Vaughn Company to improve students' scores on the SAT-9. The format and content of these materials is very similar to that of the SAT-9 test, and the teacher's materials accompanying them stress test-taking strategies for the SAT-9 (TestBest, 1998). County and local scrutiny of SAT-9 scores made the Purslane teachers aware of many issues surrounding evaluation of student achievement, but the evaluation of the CSRSD grant program involved three different studies all of which looked at student achievement for at least part of the study. Two Purslane teachers learned of these studies at an informational meeting at the state capital in late September. The rest of the teachers learned about these studies at a Faculty Senate meeting in October.

The first study was the study of the students' progress through the direct instruction materials using assessments embedded in the curriculum. Dr. Mallow of West Virginia University (WVU) took responsibility for this study. He was well suited for this evaluation project because he had organized the implementation and evaluation of many other Direct Instruction projects. The second study was conducted by the Appalachian Educational Lab (AEL) and the Center for Research in Educational Policy at the University of Memphis (CREP) using an external evaluator who made classroom observations and conducted interviews and focus groups. This study included the development of benchmarks that came from examining all nine elements of the Comprehensive School Reform program and deciding which aspects to monitor and how to collect the data. Benchmarks were designed and monitored by Purslane staff. One of the elements monitored was student achievement and it was monitored by comparing individual scores from the 1998-1999 and 1999-2000 SAT-9 reading tests for evidence that over half of WES students maintained or increased their percentile rank in reading. The third study was a large quasi-experimental study conducted by the University of Memphis that compared achievement of students under five different CSRD programs in each of four states. Each of the 20 schools studied was matched to a control school at which a CSRD program was not being implemented. Each control school was in the same state and had similar demographics to the school to which it was matched. The first year of this three-year study examined reading achievement of first graders by analysis of scores on individually administered tests. The achievement tests were administered in March, and a pretest was administered in September to control for group differences at the beginning of the year.

The first two studies were done with the cooperation and assistance of the Purslane teachers. All teachers were required to keep evaluation data from their Direct Instruction group, and several teachers helped to collect and maintain the database.

Dr. Mallow first conceived of the evaluation project as one of maintaining a database of lessons completed by certain dates. He thought the teachers would benefit from maintaining the database since it would help them become more familiar with the progress attained. He offered graduate credit or stipends to teachers who wanted to help with the data collection process, and eight teachers signed up to assist with the data collection. He selected software that was developed specifically for use with monitoring Direct Instruction programs. However, when he received the software and loaded it onto one of the computers at the school, he found that it required additional software. Since purchasing the additional software for all eight computers that were to be used would have made the evaluation project too costly, Dr. Mallow decided to use *Microsoft Excel* spreadsheets to collect data. He used data from the Mastery Tests for *Reading Mastery* and *Language for Learning* and from the rate and accuracy checkouts from the *Corrective Reading* classes. The teachers recorded student scores as well as the date the assessments were given, saved the data on disks and give the disks to one teacher who compiled the complete data set.

The data for the benchmark portion of the AEL/CREP study was also collected in this manner. Columns were added in these same spreadsheets for percentile rank scores in SAT-9 Total Reading for 1999 and 2000 for each individual. At the end of the year, these scores were examined to determine the percentage of students who increased in percentile rank in Total Reading in the course of the year.

The data showed that, in general, the students were highly successful in achieving mastery of the skills and knowledge presented in the Direct Instruction Reading and Language programs used. When data showed that a few students did not routinely achieve mastery of the assessments, this provided information that helped teachers make decisions on Direct Instruction group placements for next year. The data also showed that most students completed from 1/3 to 1/2 of the lessons usually achieved in one year. There were various reasons for this, but this information was also helpful in planning for implementation of Direct Instruction programs for the following year.

The achievement portion of the four-state University of Memphis study involved a half dozen evaluators from AEL visiting the school in September to administer the *Peabody Picture Vocabulary Test* (Dunn & Dunn, 1981) individually to all first graders. The same team of AEL evaluators administered the Oral Reading scale of the *Durrell Analysis of Reading Difficulty* (Durrell & Catterson, 1980), and the Word Identification, Word Attack, and Passage Comprehension subtests of the *Woodcock Reading Mastery Tests* (Woodcock, 1987) to first graders in March. The results of these tests will be used to compare the effectiveness of 20 programs at schools in 4 different states and were not available at the time of this writing.

Warnings of Discontent

On September 27, Dr. Mallow, Ms. Praeger, Ms. Holley, Ms. Newman, and I attended an informational meeting on evaluation of the Comprehensive School Demonstration Grant programs. At this meeting we learned about the studies planned by AEL/CREP and the four-state study planned by the University of Memphis. At the October Faculty Senate meeting, the entire staff learned about the planned studies and

was introduced to the external facilitator and the external evaluator. The external facilitator for Purslane was the Assistant Director of Federal Programs for the state of West Virginia, and the external evaluator was a retired college professor who was very active in the community and well known to the staff. At the September meeting the external evaluator explained the concept of benchmarks in detail and explained how the benchmark process was to be undertaken by the school so that the school could choose the measures on which it was to be evaluated. She also explained the comprehensive nature of the program. She stated her understanding was that in the fully implemented program, direct instruction would be clearly present throughout the school day. Since she did not think it would be feasible for Direct Instruction to be implemented in all subjects throughout the day, she introduced the idea of “small d-i” and the possibility of having a “small d-i” direct instruction program that was comprehensive. Dr. Interland attended this meeting and he began to see the necessity of altering the grant proposal so that it was more comprehensive, instead of introducing Direct Instruction materials into one new subject each year for three years as he had first envisioned.

Dr. Interland, Ms. Praeger and I discussed the process of writing the benchmark document, and Ms. Praeger said that she would prefer to write it for the teachers so that they would not need to take time from their busy schedule to meet and write. In the end, Dr. Interland, Ms. Praeger, and I wrote the benchmarks, using the grant proposal for guidance on the process of implementation, but modifying the ideas somewhat to include more “small d-i” direct instruction. Right before Ms. Praeger sent the benchmarks to the evaluators, she circulated a copy of the benchmarks to the teachers with a page for comments. She received comments that indicated lack of agreement with the

benchmarks. Most teachers simply wrote “no,” however one wrote that she did not want to implement Direct Instruction Math in the second year. After questioning teachers, it became clear that, although teachers were given a copy of the grant proposal at the August training sessions, no one had read the details of the proposal until they looked at the benchmarks. Teachers were upset at the prospect of adding Direct Instruction Math in the second year and Direct Instruction Language in the third year.

These concerns emerged in a heated discussion during the last few minutes of the November Faculty Senate. The teachers were upset that the extent of the program had not been explained to them when they agreed to begin the reading program. They said that three teachers had gone to observe Direct Instruction Reading last Spring and had liked it and reported about it positively before they took a vote to approve the grant. However, they had never seen the grant nor had they realized that agreeing to Direct Instruction reading would result in transforming the entire curriculum into a Direct Instruction curriculum. They said that trying to schedule students into ability-level Reading, Math and Language groups would be virtually impossible. They felt angry and betrayed. None of the people seen by the teachers as responsible for initiating the program attended the November Faculty Senate. However, all three initiators, Ms. Praeger, Dr. Interland, and I attended the December Faculty Senate.

At the December Faculty Senate, teachers began by enumerating their objections to implementing Direct Instruction. They said they felt that the students did not like it, “The kids hate it.”. They, themselves, did not like it, “We don’t feel like we’re seeing any results.” They felt it did not teach critical thinking skills, “Zero! None!” They did not like ability-level grouping, “Would we have to level all day? That scares me.” They

did not think that young children should be moving from room to room. They were opposed to using Direct Instruction math next year. Ms. Praeger and Dr. Interland argued for using a math series that has a strong research supporting its effectiveness. Dr. Interland said that he would not be opposed to using the Direct Instruction materials only with the students who need it the most, “we could direct it more toward the kids who are having trouble.” The feeling expressed by most teachers at this meeting was voiced by Ms. Thurman when she said, “There are those kids that probably will benefit from Direct Instruction, but the vast majority probably don’t need it.” Ms. Praeger and Dr. Interland responded by saying that only the children in the lower two quartiles would use Direct Instruction Reading next year, and teachers could choose a math program from math programs that have been shown to be effective at increasing math achievement. It was also agreed that Ms. Thurman, Ms. Knight, and Ms. Dover would join the existing Curriculum Team to help Ms. Praeger and Dr. Interland design the CSRD program for next year.

Key Events during the Spring

Implementation of Direct Instruction Reading and Language curricula proceeded throughout the spring in all classrooms except for Ms. Oliver’s. At Faculty Senate and Curriculum Team meetings, teachers reiterated positions that they had held previously. Ms. Praeger and Dr. Interland reassured them of their commitment to use Direct Instruction materials only with students who need them most, and to give teachers an opportunity to choose their math materials from among several effective math programs. Noteworthy events of the spring included the visit from the representatives of SRA, the

selection of Saxon Math, the long-range strategic planning retreat, and the receipt of the SAT-9 scores.

The SRA Visit

SRA, Science Research Associates, is the company that publishes the Direct Instruction materials used at Purslane. In mid March, an expert on Direct Instruction from SRA visited the school and gave Ms. Praeger and Dr. Interland her evaluation of the implementation process at Purslane. She found that the materials were not being used as prescribed by the publisher. She found multiple examples of deviations from the program, including student unison response not being appropriately used, non-existent correction techniques, adjustments being made on the scripts at the teacher's discretion, and the number of lessons completed per week being inadequate. She found that one kindergarten teacher was not using the materials at all. She recommended that an SRA consultant give all teachers follow-up retraining, demonstrate model lessons, and give follow-up coaching sessions. She did not think that the teachers at Purslane had been trained and coached effectively. She scheduled an SRA trainer for late April to do the retraining, model lessons and coaching sessions, but Ms. Praeger canceled the sessions. Ms. Praeger said that the time scheduled was not feasible because it was the time set by the county for SAT-9 make-up testing. She also said that she felt that the activities of the SRA trainer might further alienate the teachers and make it harder to implement a research-based math program in the following year.

Choosing Saxon Math

Shortly after the SRA trainer's visit, teachers visited a nearby elementary school that uses Saxon math in all grades. Most Purslane teachers liked the program, although

some had fears that the time involved in preparation and record keeping would be too demanding. Some positive comments were that they liked the broad range of skills covered, the manipulative materials, and the written work and the way it was organized so that the children took home additional practice, similar to their in-class practice every night. The teachers also reviewed the Direct Instruction math program called Connecting Math Concepts and viewed videos of this program. On April 27, the whole faculty voted to decide between Connecting Math Concepts and Saxon Math, and they chose Saxon Math. In general, they felt Saxon Math would be easier to implement with the whole class in their own homerooms, and they did not want to add another highly scripted curriculum at Purslane.

The Strategic Planning Retreat

On May 4, the faculty met at a local restaurant for a full-day retreat for strategic planning. WVU organized the retreat, since Purslane is one of the university's Professional Development Schools, and facilitating planning of professional development activities is one of the university's goals. Fourteen of the 19 teachers attended along with Ms. Praeger, Dr. Mallow, two student teachers, and me. Ms. Brodzinski from WVU acted as facilitator for the retreat. The remaining faculty members, the aides, the secretary, and large number of substitute teachers conducted school that day.

Ms. Brodzinski divided the educators into four groups to discuss their ideas of what an ideal school looks like and what they want to do to move the school forward. When the groups reported back, Ms. Brodzinski organized their ideas into three themes: Facility, student and teacher/adult. Teachers wanted their ideal school to be clean, well lighted, with adequate computers and related technology, and with an adequate bathroom

and lounge for teachers. Teachers wanted students to come well-rested, well-behaved, well-fed, clean and with high self-esteem. They wanted students to get along with each other, be enthusiastic and participating, to interact between grade levels, and to have educational goals. They wanted the adults in the environment to be smiling and enthusiastic, to interact with students and other adults, to have appropriate team planning opportunities, and to have opportunities for professional development.

Commenting on the themes, Ms. Brodzinski remarked that Purslane has many concerns that relate to students' behavior and not many concerns about learning. She wondered aloud if this was because we think that we are already addressing learning concerns adequately, or because we think that when behavior concerns are addressed, learning will occur. The teachers did not respond to these suggestions or explain what their thinking might have been.

During discussion of themes, the teachers said they wanted to revitalize the discipline committee and institute changes in discipline procedures at the school so that behavior management was more effective. They also suggested several proactive approaches such as using a program that teaches social skills. During discussion of discipline, technology, scheduling, and other issues, Ms. Sutter talked about the Title I plan and the need for funding for parent participation activities. She wondered whether the CSRD budget could provide funds for parent participation. Ms. Brodzinski took this opportunity to suggest that Purslane appeared to have three strategic plans, the Title I plan, the Professional Development School Strategic Plan, and the CSRD Program Plan. She suggested that we think about integrating the three plans into one plan, which she suggested we call the Purslane Elementary School Plan. Her suggestion was acted on, in

part, by the Title I teachers, who invited Dr. Interland to come to Purslane and help them develop the Title I plan for 2000-2001. Dr. Interland came to the school in mid-May and assisted the Title I teachers in plan development, so that the Title I plan complemented the CSRD program plan as envisioned by Dr. Interland.

At the end of the strategic planning meeting, Ms. Oliver agreed to take the notes from the meeting and write the Purslane Professional Development School Strategic Plan document. The final plan recognized the need for improved behavior management and improved technology integration at Purslane and suggested concrete steps to meet these needs.

Receipt of the SAT-9 Scores

On May 28, Ms. Praeger sent Dr. Interland the SAT-9 scores for the 1999-2000 school year. On a note attached to the scores, she wrote, "Cheers, cheers! The Direct Instruction pulled us up." The documents she sent included a summary that stated that 66.7% of the 61 third-, fourth- and fifth-grade students tested under standard administration scored at or above the 50th percentile, and that 11.7% of the students tested under standard administration scored below the 25th percentile. This was, indeed, an improvement from the 1998-1999 school year in which 59.0% of the 61 third-, fourth- and fifth-grade students tested under standard administration scored at or above the 50th percentile and 21.3% of the students tested under standard administration scored below the 25th percentile. However, the benchmarks selected for evaluation of the CSRD grant called for over 50% of the students to increase in SAT-9 percentile ranks in Total Reading scores from 1998-1999 to 1999-2000. Using the data compiled by the teachers to compare these two years, only 42.7% of the 82 students for whom SAT-9 scores were

available for both school years increased in percentile rank. Thus, there is some evidence that the reading achievement of the students at Purslane did not increase during the 1999-2000 school year.

Summary

Purslane's first year of implementing a Direct Instruction Reading program was difficult. The teachers, in general, were dissatisfied with the program. The Direct Instruction expert from SRA was disappointed with the efforts, saying that the teachers were not implementing the program as directed by the publisher. When the statewide achievement test scores for the school became available, the record of student achievement gave no clear picture of improvement in reading. However, reading achievement increased using the method used by the state of comparing the percent of students who score above the 50th percentile. Plans were underway, at the end of the first year, to change the Direct Instruction Reading program in ways that better suited the teachers. The plans to use a Direct Instruction Math program for the second year were modified, and teachers were allowed to choose the Math program they wanted to use. The teachers did not choose Direct Instruction.

Thus, we can see that Direct Instruction, as a teaching method, was not well received by the teaching staff at Purslane. The next chapter examines the results of the study organized by the research questions. These results help to clarify some of the problems encountered in the first year, and they help to explain why the teachers had such a negative reaction to Direct Instruction.

CHAPTER 5

RESULTS

The previous chapter told the story of the implementation of Direct Instruction reading curricula using a natural chronology. This chapter presents the results of the study organized by research question. The overall intent of the study was both to determine why implementation of Direct Instruction is sometimes difficult for teachers and to determine whether the implementation of this program had an impact on the education of students with disabilities. Questions about educators' opinions of Direct Instruction, their efficacy beliefs, and their attitudes toward inclusion have been addressed.

The First Question

What are educators' opinions of Direct Instruction materials and how do they change during the course of the first year of implementation? This question was answered by examining the interview responses of the seventeen teachers who implemented the Direct Instruction curriculum. Also, classroom observations and field notes were studied, especially field notes of lunchroom conversations and teachers' meetings. Email messages provided additional confirmation of data. These data sources showed that different teachers had different opinions of Direct Instruction materials, and that one teacher's opinion changed but most teachers' opinions changed very little.

To answer this question, I will profile teachers who had positive, changing, and negative reactions to the Direct Instruction curriculum as well as report on the themes that emerged from the data. By profiling teachers who have positive and negative

reactions to the curriculum, I hope to reveal the type of teacher who might be opposed to such a curriculum and the type of teacher who might willingly adopt such a curriculum. In looking at a teacher whose opinions change, I will examine the teacher's responses to discover experiences and beliefs that might have led to a change in opinion. In addition, I will examine the themes related to the educators' opinions of Direct Instruction that emerged from the responses of all the teachers implementing the curriculum.

Profiles of Teachers with Differing Reactions to DI

Teachers Who Consistently Liked Direct Instruction. Paula Taylor taught in a multi-age classroom comprised of students in grades one and two at Purslane. Her Direct Instruction assignment was teaching *Reading Mastery I* to about 12 students. Four were from Ms. Weber's second grade, two were from Ms. Oliver's kindergarten, two were from Ms. Oliver's first grade, and the remaining students were from Ms. Taylor's class. Ms. Taylor was a teacher who liked to teach with phonics and typically used phonics as a basis for her reading instruction. *Reading Mastery I* is intended for kindergarten or first-grade students who need continuing repetition and practice in phonics and early reading skills. Ms. Taylor's Direct Instruction group was comprised entirely of children who were having difficulty learning to read.

At the first interview in November, Ms. Taylor said that she liked Direct Instruction. She talked about the students' enjoying the program. Then she said, "And I enjoy doing it. I feel like it has the kids' attention and they are making progress." At the interview in March, she was slightly less enthusiastic, but she was still supportive of the Direct Instruction program. She said, "Teaching it is not difficult. Sometimes I think that the kids and I find it just a little bit boring to do the same things every day. But, on

the other hand, there's advantages to that. So, you know, I enjoy teaching it. It's not something I don't look forward to or anything like that. I enjoy teaching it." Ms. Taylor was one of two regular education teachers who consistently had high opinions of the Direct Instruction curriculum they were using. The other teacher was Ms. Knight.

Ms. Knight was the kindergarten teacher at Purslane. Like Ms. Taylor, she also believed in the merits of phonics instruction and routinely taught phonics to her students. She taught 15 of her own students with the Direct Instruction curriculum called *Reading Mastery I*. This curriculum was challenging to her kindergarten students, and she never reported that students were bored with the material. In the first interview, she said, "When we were going to implement a program, when they said Direct Instruction, then I was all for it. Because I've seen it, the DISTAR series, and I've seen reading teachers use that and how it's improved children with their reading." In her last interview, she said, "This is a good method of teaching reading. I mean, it really is, ... because they do need Direct Instruction. I don't care if it's little 'd,' or big 'D,' 'D-I,' they need direct instruction."

The other teachers who consistently liked Direct Instruction Reading and Language were the special education teachers, Ms. Roberts, Ms. Lewis, Ms. Dover and Mr. Deel. Ms. Roberts, the teacher of children with mental impairments, and Ms. Lewis, the speech and language teacher, were very enthusiastic, telling several stories about how it helped students who were particularly hard to reach using other methods. Ms. Dover, the teacher of children with learning disabilities, thought the materials were helpful with her students, but she wanted more latitude in using them as she saw fit. Mr. Deel, the teacher of students with behavior disorders, was consistently positive about the reading

program. He especially liked having a period in his day when he had a group of students who were not sent to him for behavior problems.

Most of the teachers were compliant about using Direct Instruction materials throughout the year and volunteered to use Direct Instruction Reading materials next year. In addition to Ms. Knight, Ms. Taylor and the special educators, seven teachers did not reject Direct Instruction Reading and felt there were some positive aspects to using these materials. These seven teachers were Ms. Weber, second grade; Ms. Frazier, substitute teacher for fourth and fifth grade; Ms. Sutter, pre-school and Title I; Ms. O'Dell, Title I; Ms. O'Brian, fifth grade; Ms. Tenney, computer teacher; and Ms. Lanham, librarian. Their reactions can best be summed up in the words of Ms. Tenney, "Whatever they tell me to do, I'll do. I mean, I don't have super strong feelings one way or the other."

Even though most teachers were compliant about using Direct Instruction, there was significant evidence of their overall rejection of these materials. No teacher voted to use Direct Instruction Math materials throughout the school next year, which in itself was a measure of the faculty's lack of acceptance of Direct Instruction techniques. Additionally, the Site Evaluator, Dr. Smith, after reviewing the data from the focus group interviews she conducted with some of the faculty, also found that the focus group teachers did not like Direct Instruction. In her words, "The teachers were unanimous in their displeasure with the Direct Instruction Model." This is further evidence that even the compliant teachers were not pleased with the Direct Instruction Model, but implemented it because their principal asked them to.

In summary, thirteen of the seventeen educators in this study were either compliant or enthusiastic implementers of Direct Instruction Reading. Most of them had some reservations about implementation but complied with the principal's desire to implement the program. Four educators ultimately disliked Direct Instruction enough that they did not volunteer to use it in the second year of implementation. These teachers are described in the next two sections.

A Teacher Who First Liked and Later Disliked Direct Instruction.

Opal Newman was the first-grade teacher at Purslane. She taught *Reading Mastery Fast Cycle* to about 15 students who were placed in that level. Most were from her own homeroom with these exceptions: one was from Ms. Oliver's first grade, one was from Ms. Knight's kindergarten, one was from Ms. Taylor's first grade, and three were from Ms. Weber's second grade.

There were two *Reading Mastery Fast Cycle* groups, and Ms. Newman had the higher level of those two groups. Ms. O'Dell, the Title I teacher, taught the other group. At Ms. Newman's suggestion, Ms. O'Dell took the *Reading Mastery Fast Cycle* students who normally go to Title I from Ms. Newman's first grade because Ms. O'Dell had already established rapport with those students. So, the first graders remaining in Ms. Newman's *Reading Mastery Fast Cycle* group were those who were achieving well enough that they did not need Ms. O'Dell's help. Ms. Newman knew she had the higher level students. Referring to their performance on the mastery tests embedded in the program, she said, "I have the higher level kids, and they did pretty well."

In the November interview, Ms. Newman had a positive opinion of the program, but in subsequent interviews, her opinion became more and more negative. In November

she said, “I like it. It gets a little repetitious after a while, but I think it works for the kids I’m working with.” She said that the level was about right for them, since the program was teaching short vowels, and the students needed practice in short vowels. She said she was concerned at the very beginning that it would be too easy, but in November, she judged it to be about right. She also had a concern about having enough time in the day to get all her goals accomplished, but she liked the program overall.

By the January interview, she had serious concerns. She began by saying, “I don’t like it.” She mentioned liking the embedded spelling lesson, because she could see the reasonableness of drilling spelling, but she had several concerns about other aspects of the program. She disliked the use of all lower case letters, even for names and at the beginnings of sentences. She disliked the stories; some were far too short for her. She said, “We’ll read a story, and I’ll go, a story [emphasis]! I mean, because it’s only three sentences long! To them [her students], that’s not a story.” She disliked giving the directions for the independent work every time, since the directions are the same every day and she thinks the students should remember the routine.

A major concern voiced by Ms. Newman in January and subsequent interviews was an administrative concern. She disliked teaching Direct Instruction in the middle of the morning every day to a mixture of students from her room and other rooms. Because of the placement of students in different levels and the daily mid-morning time schedule, she was not able to accomplish as much as she would like with her students. She spoke about using her time better if her students did not change rooms and if she did not have to adhere to a rigid schedule. She said, “I think a different time would make it better. I think keeping my own kids would make it better. ... If I could do it in my own room on

my own schedule, there might be times that I would do two lessons one day and skip one the next day.” She also felt this would help her and her students to better accept the program since there would be more variety day to day.

In February, she enumerated the same concerns, except that she did not mention the punctuation and the length of the stories as a concern. She still did not like the repetitive nature of the activities and the directions. She disliked the time of day that Direct Instruction took place, and she wanted to have her own students for Direct Instruction. She talked about modifications she made in implementing the program, since she did not require her students to sound out every word before they said it. She only required them to sound out words they were having trouble reading. She believed the modifications made the program less boring for her students. She did not want to teach Math in a Direct Instruction format, and she was concerned about the plan to add Direct Instruction Math and Language Arts over the next two years. In the end, she said, “I’ll do it as long as I have to do it, and I might end up liking it. ... It has its good points, but not enough that I can see doing it all day.”

She began her last interview by saying, “I think that it’s gotten easier to teach, but I still don’t like it. I think that it’s too repetitious. It’s too stifling because you have to do the same things over and over again.” When asked what she would like to do in terms of teaching Direct Instruction materials next year, she said, “I don’t want to do it. I mean, I can see where it has its place, but I don’t think it’s in this room. And if it is, you know, I wouldn’t mind using it as a supplemental thing, if I, maybe, I might get a bunch of kids next year that can’t sound out words. It would be good for them, but I don’t want it to take the place of my reading program.” She talked about the possibility of adding a

Direct Instruction math program next year, and she compared it to Saxon Math, another program being considered. She said,

I think it [Saxon Math] looks time consuming, but then I looked at the other [Direct Instruction Math program] and it seemed more straightforward, but it's more along the same lines of what we're doing now, and I don't think I'd like it.... It doesn't look like it'd take as much work on my part, but I think it would be stifling, just like this reading is.

Ms. Newman was most pleased with the Direct Instruction Reading program in November when short vowels, a skill with which her students were struggling, was being taught. After that time, she saw the skills that the program was emphasizing as skills that they already had acquired, and she did not want to waste the children's time with drilling skills they already knew. By January, she had begun to skip the most repetitive drilling of sounding out procedures when children could demonstrate that they could identify a certain word without sounding it out. At this time, she was also frustrated when some of her students had to sit idle while their classmates finished the independent work of Direct Instruction. In her opinion, if she taught only her own homeroom students for Direct Instruction, she could give those who finished early other independent work while the slower students were finishing their Direct Instruction work. She also expressed an awareness that she taught *Reading Mastery Fast Cycle* to the higher level students and that she might feel more accepting toward Direct Instruction reading if she had a lower functioning group. Even though, as the year went on, she became more comfortable using the materials, which she said were easy to use, she was frustrated by the materials, characterizing them as "stifling" to her as a teacher, and not challenging to her students. She was also frustrated that valuable instructional time was being used inefficiently by having a specified time in mid-morning when teachers exchanged students and taught

Direct Instruction to groups of students that included those from other homerooms. This wasted time spent in both class transition and independent practice, since children who finished early were sitting idle; teachers could not easily assign other work when they did not have their own students in their classes.

It is likely that the novelty of the materials kept them from being “stifling” to Ms. Newman at the beginning of the year. As the year went on, the repetitious nature of the materials became more obvious as the materials became more familiar. Some students adjusted quickly to the format and were able to complete the assignments in a very short time, while others, for whom the skills were not automatic, needed the whole period to complete the exercises. This resulted in the students who finished early having nothing to do for part of the period, and caused Ms. Newman to judge the system of placement of students in homogeneous groups for one period each day to be inefficient. The scheduling also made it impossible to vary the routine of daily Direct Instruction, which she found to be so repetitious as to be boring for her and the students. The frustrations caused by this situation continued and caused Ms. Newman to feel increasingly resistant to the Direct Instruction Reading Program as the year went on.

Teachers Who Consistently Disliked Direct Instruction. Tammy Holley taught one of the two third grade classes at Purslane Elementary. Her Direct Instruction assignment was teaching *Reading Mastery III* to 14 students. One was from a first-grade classroom; three were from second grade classrooms; and the remainder were from her own homeroom. Ms. Holley did not like Direct Instruction from the beginning, and her dislike of it grew throughout the year.

At the August training session, Ms. Wilshire, the trainer, remarked that Ms. Holley seemed uncomfortable with the program. In October, when Ms. Wilshire returned for a follow-up session, she reported that Ms. Holley was following the program and teaching to mastery, but that Ms. Holley was the teacher who seemed most concerned about Direct Instruction and was not “sold on it.” At her November interview, Ms. Holley was very critical of the way that the program provided supports to the children so that they could be successful. She said, “I didn’t like at first reading everything to them and giving them the answers, but I know you’re kind of weaning them off that now.” She preferred that children be more independent of the teacher. She had several specific criticisms of the content of the stories. She felt that telling students that elves are not real and that reindeer can not fly is not appropriate for third graders. She disliked the lesson on meters and centimeters, because it was done entirely with text, and she would have preferred to have hands-on activities with meter sticks.

In her January interview, she could not think of anything good to say about the Direct Instruction curriculum. In the February interview, the following exchange with her showed that her opinion of Direct Instruction was much the same:

Brenda: So if we did the training again, do you think you could suggest things we can do to zip it up, to spice it up a little bit...?

Ms. Holley: It might just be the Mastery III, I don’t know, the other groups might think it’s fine. Oh, you might just give them ideas. If you just tell them, you don’t have to follow that book so rigidly.

Brenda: Because in your opinion, following the book rigidly is what makes the kids feel bored?

Ms. Holley: Yes, but that’s the way it’s scripted. That’s the way it’s supposed to be – boring. I mean, same old, same old. That’s the way they [the people who developed Direct Instruction] think that they [the children] are learning.

Brenda: And you don’t think that the kids learn best that way?

Ms. Holley: Not all of them, no. Maybe special ed, or one who has trouble staying on task. After six times, they might understand. But the ones that get it the first time are bored.

This exchange showed that Ms. Holley found the instructional techniques used in the Direct Instruction program to be ineffective with most students. She preferred to see it used only with the children with learning difficulties, and she did not want to continue using this program. Her response to the principal's Direct Instruction opinion survey confirmed this. In March, when she responded to the principal's survey, she checked the statements: "I would like to see only students below the 56th percentile taught DI Reading," and "I would like only Title I and Special Education Teachers (and others only as needed) teach Direct Instruction Reading." Further, when the principal asked teachers to volunteer to teach Direct Instruction reading next year, Ms. Holley did not volunteer.

The Direct Instruction program did not fit at all with the way she liked to teach. In her words, "Give them the directions, and they understand, and they're able to respond back. That's the perfect classroom." She liked to give out directions and have students work independently while she graded papers, or monitored student work, or prepared for her next lesson. She preferred a classroom where the students were very independent of the teacher. She disliked guiding lessons through teacher talk, "I don't think they need to hear me rattling off the whole class period. I feel like if you give them work and let them do it and if they have a question, [they] come and ask." Her Direct Instruction Reading group was comprised mainly of second and third grade students who were successful readers, so it is possible that these students did not need the level of support -- in terms of repetition, review, and teacher guidance -- that less successful readers might need.

The other teachers who disliked Direct Instruction reading from the beginning and continued to dislike it throughout the year were Ms. Oliver, the multi-age kindergarten and first-grade teacher, and Ms. Thurman, another third grade teacher. From the first day of training, Ms. Oliver could not bring herself to teach in such a structured, “pointing and clicking” way. Ms. Oliver hated having to review and drill when she was a child, and she had evolved a style of teaching that involved small group and individualized instruction so that most children were taught on their instructional level for most of the day. Ms. Oliver was the only teacher in the building who never implemented the Direct Instruction curriculum.

Ms. Thurman’s opinion could be attributed to her philosophy of teaching reading and to the level of the students in her DI Reading group. She believed that inspiring children to love reading was the critical factor in learning to read. She said,

Well, I think more important than teaching the reading skill, you need to inspire in children a love of reading, an understanding of why they need to read and I don’t think DI addresses that all. There’s no variety in the type of literature that they present. There’s nothing that makes you want to read any further.

She taught a group that was relatively high functioning, who arguably did not need the repetition and drill afforded by the Direct Instruction curriculum. She said,

Now if I have a really low group I might feel differently about it. But with this group, they don’t like it and, I’m not that crazy about it. So, it’s a chore that we get through every day.

So for Ms. Thurman, her philosophy of teaching reading, combined with the relatively high functioning level of her students contributed to her negative opinion of Direct Instruction. Additionally, she disliked having their morning routine disturbed by the

imposition of a specific time for Direct Instruction Reading, a dislike she shared with the other teachers in this group.

Summary. Most teachers were compliant about using Direct Instruction Reading materials. They used these materials and techniques because they were involved in a Comprehensive School Reform Demonstration project that used Direct Instruction, and because their principal asked them to do it. The regular educators who consistently liked Direct Instruction appeared to be inclined to use it whether or not the rest of the school used it. They both preferred phonics instruction for teaching beginning reading and both preferred to have a teacher-directed classroom. Both taught beginning readers and both taught *Reading Mastery I* to students who needed repetition and review -- in one case kindergarten students, and in the other case students who had demonstrated difficulties in learning to read. Those who did not like Direct Instruction Reading had strong beliefs about either individualizing instruction, teaching children the love of reading, or teaching students independence, and their beliefs appeared to conflict with the Direct Instruction approach. Those who disliked Direct Instruction were particularly frustrated by the scheduling of Direct Instruction at mid-morning where it interrupted their biggest block of instructional time, and by the placement of students in instructional level groups so that they could not teach their own students. The vast majority of the teachers who were accepting or compliant about using Direct Instruction Reading were not regular classroom teachers. They were teachers who were accustomed to teaching different groups of students who came in and out of their classrooms according to a set schedule. These were the special educators, the Title I teachers, the computer teacher, and the librarian. Another commonality among these teachers was that their Direct

Instruction groups were composed of either beginning readers or readers who had demonstrated difficulties in learning to read. These were the readers who arguably needed a more structured, repetitive, skills-based approach.

Themes Related to Educators' Opinions of Direct Instruction

A few teachers at Purslane disliked Direct Instruction so much that they did not volunteer to help with the implementation of the reading program for next year. A few teachers really liked the program and were enthusiastic about using it next year. Most teachers complied with the principal's request that they use Direct Instruction for reading instruction for next year and were hopeful that this program will help children to read more fluently and with better understanding. After analyzing the interview and field note data from all these teachers regarding their opinions of Direct Instruction, five themes emerged: Direct Instruction stifled teachers professionally; Teachers were not fully informed about Direct Instruction; Scheduling of Direct Instruction was disruptive; Direct Instruction was inappropriate for use with certain students; and Teachers felt devalued as professionals.

Direct Instruction stifled teachers professionally. This theme relates to how the teachers at Purslane felt restrained when using a rigid scripted program in which there was no room for creativity and very little room for deviation. In Mr. Deel's words, "I feel that we are very scripted, are very tied and limited in what can do." In Ms. Newman's words:

I don't like that it just does the same thing day after day. I mean we do the same things. We do the spelling lesson. We go over the sounds. We read the story. We look at the picture, and then we do the take-home. And it's always the same thing on the take-home. You always write the sentence, write the sounds, match the words, cross out the word, and that circle the

picture, and draw the picture. I mean it's the same thing day after day after day, and it gets old, and I don't think the kids like it.

Teachers found that the materials were boring to students and to teachers, since they were so repetitive. They were not accustomed to following a script and they found that to be unusual and also confining. They preferred to ad lib and make remarks that tie one lesson to another as they teach. As Ms. Thurman said, "So it's pretty hard for me to just be very strict and stick to exactly what it says. I like to bring in outside things, too, and you can't do that with this program." For the most part, they preferred being more creative and designing their own lessons. In Ms. O'Dell's words: "It's just a lot of instruction, which sometimes doesn't lead to creativity, but I don't know. Sometimes I add my own creativity anyway." Ms. Dover said, "I personally don't like the rigidity of it. There's no room for any ... creativity -- kind of stifling to a point." Ms. Oliver probably voiced the most extreme expression of this theme when she said, "I can't read it line for line with the right dullness expression and click my fingers. It just makes me crazy." Further confirmation of this theme was found in classroom observations when deviations from the script were observed. All teachers said that they found Direct Instruction to be boring, stifling, or lacking in creativity or said that they modified it to reduce the repetitive aspects. Even the most enthusiastic supporters of Direct Instruction believed that the program was sometimes boring for themselves or the students.

Teachers were not fully informed about Direct Instruction. The theme of not being fully informed of the details and the extensiveness of the Direct Instruction program was most evident in field notes from formal and informal meetings at Purslane. The responses of teachers to program benchmarks that were developed in November

contained evidence of this theme. Email messages from Dr. Interland and Dr. Smith provided additional confirmation of this theme, and four teachers mentioned in interview sessions their concerns about not being fully informed about the program.

On October 15, Purslane's Comprehensive School Reform Demonstration Program Site Evaluator, Dr. Smith, addressed a faculty senate meeting. She explained to the assembled faculty that the grant that Purslane received was truly a comprehensive grant. As part of this grant, the school community must write benchmarks that detailed the steps it would take to incorporate the Direct Instruction model throughout the school day over the next three years. She proceeded to give a two-hour workshop in writing benchmarks, giving examples of acceptable and unacceptable benchmarks. For many faculty members, this was the first time they realized the extent of the program, specifically that they would have to demonstrate the Direct Instruction Model throughout the school day. Some faculty members spoke to Dr. Interland after the workshop and told him they felt overwhelmed by the prospect of incorporating more and more Direct Instruction materials and techniques into the curriculum over the next three years.

Three weeks later, after the benchmarks were written, the principal asked faculty to give her feedback on the benchmarks, and about ten teachers responded with the word "no" written on the feedback sheet. When I asked Ms. Dover what that meant, she said that most teachers had not had time to read the benchmarks, but they knew that the benchmarks called for more Direct Instruction over the next three years, and the teachers did not want that, so they responded "no." At the November faculty senate meeting, the faculty was even more outspoken. In the words of Ms. Lewis, who chaired the meeting, the teachers were "really pissed off" and had a "heated discussion" in the last few

minutes of the meeting. They expressed the feelings that they had not really had an opportunity to respond to the idea of implementing Direct Instruction in Reading, Math and Language Arts. Although they had voted on using Direct Instruction last spring, they had no idea that the grant included the addition of Math and Language Arts Direct Instruction curricula. They were upset because none of the teachers had had the opportunity to read the grant before it was submitted, and they were not aware that there was going to be a progression, adding Direct Instruction Math next year and Direct Instruction Written Language the third year. They were angry that these reforms were planned without their consent.

Ms. Oliver, in an interview, said, “Technically, you know, we were supposed to vote ‘Yes,’ on all this [Direct Instruction Program] before that ever happened, and we didn’t. It just happened.” Ms. Oliver felt that she had not been given the opportunity to make an informed decision on whether to accept the comprehensive program of incorporating Direct Instruction across Reading, Math and Language Arts. In the spring before implementation, three teachers went to see Direct Instruction Reading at an elementary school in Pendleton County. Then they came back and explained what they saw to the other faculty, and the faculty took a vote. However, faculty thought they were voting on accepting the Reading program, they did not realize that the program would be so comprehensive. In the words of Ms. Dover, “Now you may talk to some other teachers who were well aware of it. People that I have talked with don’t particularly feel that they were told that it was going to be cross-curriculum.” In fact, even though teachers were given an opportunity to vote on the program in the spring before it started, I could not find a single teacher who was aware that the program was to be

comprehensive. Teachers who voted for Direct Instruction thought that they were voting for a supplemental reading program to help raise test scores.

Ms. Newman was one of three teachers who went with the principal to observe Direct Instruction reading at another school in the spring before the program started at Purslane. She was the only teacher of the group of three who returned to Purslane in the fall. In the spring, Ms. Newman felt that the program looked good and she communicated this to the faculty, but by January she was feeling differently. In her words, “But it's not what I thought it was going to be. I went to see it, and ... it didn't bother me, but I only saw it one time.” In her March interview, she talked about the vote taken in the spring. She said, “Papers were passed around and we did get to choose, and I was one of the people that went to see this, and it didn't look this bad when I was there. But ... I think we needed to go for a week or something. And that lady's group wasn't near as big as mine is.” Of all the Purslane teachers Ms. Newman was the best informed about the Direct Instruction Reading program before it began, but even she felt she did not have enough information to make a good decision about implementing Direct Instruction.

The theme of not being fully informed about Direct Instruction emerged clearly from the responses of teachers as they gradually discovered more about the details of implementation and about the extent of the program planned for the next few years. Teachers felt that they had not fully understood what they voted for in the spring before implementation began. Most had only a vague idea about what Direct Instruction would be like and voted in support of a grant to improve reading scores. As they found out more about what this program would mean in terms of their day-to-day activities, some

were outraged that more Direct Instruction was planned and they had little or no voice in the decision.

Scheduling of Direct Instruction is disruptive. This theme relates to the almost universal dislike of the enforcement of a specific time when teachers exchanged students to create the homogeneous reading groups needed for Direct Instruction Reading. Evidence of this theme came from interviews and from field notes of formal and informal school meetings. Teachers found that setting aside a specific time for Direct Instruction during which they had a mixed group of their own and other teachers' students interfered with their ability to make good use of instructional time. Those teachers with younger students thought it inappropriate for their students to leave their homeroom class. A few teachers thought the scheduled time period was too long for young children. Special educators found that it made scheduling IEP time difficult. In short, they found that the scheduling of Direct Instruction kept them from accomplishing their own important instructional goals.

The time set aside for Direct Instruction Reading was from 9:10 until 9:55 a.m. The school day started at 7:45 a.m. and students boarded buses at 2:15 p.m. Planning periods are approximately 45 minutes in length, so the Direct Instruction period corresponded to the third planning period of the day. Very few teachers had afternoon planning periods, so for most teachers, their planning period and the Direct Instruction period were taken from the morning block of classes, a time when elementary teachers traditionally schedule the most challenging academic work.

Teachers found that setting aside a specific time for Direct Instruction during which they had a mixed group of their own and other teachers' students interfered with

their ability to make good use of instructional time. Ms. Newman, Sutter, Weber, Taylor, Holley, Lanham, O'Brian, Tenney, Roberts, Dover and Knight identified this as a problem. They found that changing classes to form small groups wasted instructional time in transitions from one room to another. In Ms. Newman's words, "It takes a lot of time, because you have to get them ready to go, and then when they get back, you've got to get them back into [the routine for this room]." Teachers were concerned about difficulties in using time efficiently when they taught students from other classrooms. They had difficulty giving students from other rooms productive work to do if they finished their Direct Instruction work early. They also found it challenging to re-teach Direct Instruction skills for those having difficulty mastering them. As Ms. Taylor said,

I wish I had the same kids for DI that I had all day long because there are ways you could reinforce it [Direct Instruction skills] through the day...I kind of feel like they are out the door and off to totally different things and that it's not necessarily being reinforced since I don't have the same students all day.

On the most basic level, teachers were concerned about having enough time in the day to accomplish their essential instructional goals. In Ms. O'Brian's words, "The only bad thing, I think, is time, you know, the time that we have to fit everything in throughout the day." Of all the teachers, Ms. Knight was the only one who mentioned the scheduling of a specific time for Direct Instruction positively, and that only in the first interview. By the second interview, she also had concerns about the schedule.

Some thought it inappropriate for their students to leave their homeroom class or mentioned that students are more comfortable in their homeroom and learn better there. Ms. Oliver, Newman, Taylor and Holley mentioned this concern. All of the teachers of

preschool and kindergarten students, Ms. Oliver, Knight, and Sutter, thought the time period was too long for young children.

Special educators found that having a specified Direct Instruction period made it difficult to schedule time with students that was required by their IEPs. This was particularly true for Mr. Deel and Ms. Dover who had Direct Instruction groups comprised of students with disabilities and students without disabilities. All special educators except Ms. Lewis, the speech and language teacher, mentioned this as a concern. Ms. Lewis' group was composed of children with speech & language difficulties, and she worked with the *Language for Learning* curriculum, which fit their speech and language goals very well. She was delighted that she was able to provide her students with their language goals through the *Language for Learning* curriculum. In this way she was able to count the Direct Instruction period as the instructional time required by their IEPs.

Ms. O'Dell, Sutter, Weber, Dover and Holley mentioned that implementing DI in this manner in two other subjects would be almost impossible to schedule. As Ms. Sutter said,

I think it will be very difficult to ... find blocks of time. I mean, it was hard, I know, for Ms. Praeger to find this block of time. ...If you're going to do this in Reading, Math and Language, you're talking three hours. I think that it would be very difficult.

Ms. Weber expressed the sentiments of many when she said,

My only thing is that if we're going to do that [use a Direct Instruction curriculum for Math] I would rather that we take the place of the math instead of doing two Maths a day, because I'll never get done. I'll never get done.

In fact, when the teachers decided about using a new math program, they voted to use the new program in place of their existing program to avoid the difficulties of scheduling a supplemental program.

The theme discussed above reflects the teachers' judgment that scheduling the Direct Instruction period in a specific time slot in mid morning was disruptive of their best instructional time. It wasted time in transitions to and from the Direct Instruction classrooms and it kept teachers from using their instructional time efficiently. In short, they found that implementing Direct Instruction in this way kept them from accomplishing their own important instructional goals. The theme also reflects the teachers' anxiety that scheduling other subjects in this manner would make their instructional goals even more difficult to accomplish. As Ms. Sutter said, "If we're locking ourselves into three hours, then how are we ever going to do the other things that we're supposed to do?"

Direct Instruction is inappropriate for use with certain students.

Most teachers agreed that Direct Instruction was beneficial for some students who had difficulty learning. This theme reflects teachers' judgment that certain students benefit from Direct Instruction, but other students do not. Ten teachers commented about their belief that it was especially appropriate for children with learning problems and not appropriate for certain other children.

Teachers who were working with groups in which the students were having difficulty learning found it helpful with these students. Ms. Roberts found it to be particularly helpful with her students with mild disabilities,

With the group that I work with I see success. Again, they're special ed. So I think it works well with them. I have some that know now that each

letter represents a sound and that they need to blend those letters to make a word.

Ms. Taylor found that it was especially appropriate with her students: “I think that particularly with the group I’ve got which is a very low, low, low, low group, that repeating things day after day after day ... helps them to remember, to learn.” However, teachers with groups of high functioning students felt differently. Ms. Holley explained that the vocabulary used in *Reading Mastery III* was not challenging her students: “Kids don’t seem to be adding to their vocabulary...most of them seem to know the words when I ask them before I even tell them what the word is.” Ms. Thurman was typical of teachers of higher functioning students when she said,

This group may be atypical in that I don’t have bad readers, I don’t have low children. These kids didn’t really need a boost... They don’t like it [Direct Instruction] and I’m not crazy about it. So it’s a chore that we get through every day.

Teachers gave examples of specific children who, they believed, were not benefiting from Direct Instruction. Ms. Newman mentioned a first-grade student who was exceptionally good at identifying words, but who needed extra instruction in reading comprehension. She said, “I don’t know how this is helping comprehension for him, because I don’t see a whole lot of comprehension here. You tell them the answer, and then they spit it back to you.” Ms. Dover also believed that the program did not help students comprehend better as they read. Ms. Oliver and Ms. Weber were concerned that high-achieving students would become bored. Ms. Oliver mentioned Sarah, “She could read the Encyclopedia Britannica when she was in kindergarten.... This is not going to benefit her because she already knows this stuff.”

Some teachers believed that one method was not necessarily best for all children. For them, teaching all students with Direct Instruction was inappropriate for those who do not learn best that way. Ms. Oliver said, “I just don’t feel that it’s appropriate for all of my students to have to spend 45 minutes on something that perhaps some of them can master in five minutes and some of them might need a week.” Ms. Thurman may have said it best when she said,

Not every child learns the same way at the same time, and therefore, Direct Instruction may be great for Mary, Susie, and Billy, but not for John. And, you know, I think Direct Instruction is one way to teach. There are lots of other ways, and I’m not a firm believer in picking out one way, and this is the way that everybody’s going to learn.

This theme reflects most teachers’ agreement that Direct Instruction helped students who were having difficulty learning to read. Most believed that it was appropriate for the lowest-achieving students. However, they also believed that it presented difficulties for the other children, because it was so repetitious that it was boring and because it did not adequately teach comprehension skills.

Teachers felt devalued as professionals. The four themes described above could all be considered part of the final theme connected with teachers’ opinion of Direct Instruction. The teachers found that the process of implementing Direct Instruction in the manner in which it was implemented at Purslane left them feeling devalued as professionals. Certainly when teachers felt stifled professionally, as they did in the first identified theme -- when they felt that they must follow a very rigid program in which there is no room for their own input. They also felt that their ability to plan and deliver instruction well was not valued. When teachers felt that the program was implemented without their informed consent, as they did in the second identified theme,

they also felt devalued as professionals, since professional educators expect to give input into important decisions affecting their teaching. Similarly, teachers felt devalued when the scheduling of Direct Instruction disrupted their teaching and prevented them from accomplishing important educational goals and when they were told they must use a program with all students that they found was not appropriate for all students, as in the third and fourth identified themes.

I saw independent evidence of this theme when teachers referred to themselves as being educated and possessing specialized knowledge of teaching, but felt that Direct Instruction ignored the knowledge that they brought to the classroom. Ms. Sutter explained this when she said,

You're educated and you've been teaching students all these years and now all of a sudden, they're telling you that you can't do it the way you want to do it. You know. Because everybody is different, and, of course, everybody learns differently, but they're telling you, 'No, you have to read it and say it exactly like this.'

Ms. Weber echoed similar sentiments when she said, "It's my job to figure out which approach works better or which combination of approaches works better.... Not everybody does it by the same method, and Direct Instruction is just another approach to teaching a skill."

Teachers also felt that Direct Instruction devalued them as professionals because the scripting was so structured that virtually anybody could teach using Direct Instruction. Ms. Holley said, "Anybody can do it, as long as you can read. Anybody could teach that, and I don't think that's my classroom." Ms. Sutter also explained teachers dislike of Direct Instruction by saying,

A lot of them feel that anybody can come in and do the Direct Instruction, if they just receive a little bit of training. You know, you wouldn't have to be educated.... You could be easily replaced, I guess, by someone with less qualifications.

Ms. Dover explained that removing the human error from teaching might be removing the humanity when she said, "Anytime you've got human beings, you've got human error involved and with Direct Instruction there's not much room for human error." Ms. Oliver perceived the forcing of teachers to use Direct Instruction as being very coercive. When describing her acceptance of a new math program that was not Direct Instruction, she said, "I mean, as long as you're not going to stand up here and yell at me to get that manual out and start pointing. I can handle that." These expressions of their perceptions of Direct Instruction as dehumanizing and coercive help explain how they saw Direct Instruction as devaluing them as professionals.

Summary

The first question concerning educators' opinions of Direct Instruction materials and how these opinions change during the course of the first year of implementation was answered through examination of various teachers' reactions to the implementation process. I found that four of the seventeen teachers disliked Direct Instruction strongly enough that they refused to participate in the implementation process during the second year. Four teachers liked Direct Instruction and had very few concerns about it, and nine teachers had serious concerns about Direct Instruction but were willing to continuing using it. Five themes emerged from the data analyzed: Direct Instruction stifled teachers professionally, Teachers were not fully informed about Direct Instruction, Scheduling of Direct Instruction was disruptive, Direct Instruction was inappropriate for use with certain students, and Teachers felt devalued as professionals.

The concerns of the teachers, as expressed in these themes, helped explain the teachers' opinions of Direct Instruction. These same themes will help answer the fourth question concerning the factors that hinder implementation.

The Second Question

Do educators' perceptions of their teaching efficacy change during the course of the first year of implementation? Data were collected from several sources to answer this question. Qualitative data were collected from interviews and field notes. Quantitative data were collected from the administration of the Teacher Efficacy Scale (Gibson & Dembo, 1984) at the beginning and end of the study.

The qualitative analysis of the data showed that teachers at Purslane believe that personal characteristics and home environment affect achievement and that they hesitate to attribute success or failure entirely to the teacher. The quantitative analysis found that teachers' beliefs in their own ability to improve achievement stayed about the same and teachers' beliefs that teaching could overcome the effects of home environment increased slightly. Examination of the qualitative data suggested explanations for some of the trends that were observed.

Emerging Themes

When I first contacted a Hill County Assistant Superintendent to ask for permission to do this study, he said that he thought it would be an interesting study because the teachers at Purslane try hard, but the area is poor and the backgrounds of the students make improving student achievement difficult. This early conversation served

as a prototype of informal conversations about students at Purslane throughout the year. During several informal lunch meetings at Purslane, I heard teachers tell stories of family living conditions that ranged from family poverty to abuse and neglect. When I visited the office throughout the year, and a student was sitting there for discipline reasons, Ms. Praeger would frequently whisper a story to me about the child's background, as if to explain his or her misbehavior. These informal conversations might have been a prelude to discovery that teachers at this school felt that poverty and family conditions were the primary reasons for lack of school success. This was not the case.

As a group, educators in this school felt that home background and personal characteristics *helped* to explain success and lack of success in school. However, as a group, teachers also believed that their teaching was crucial to student achievement and they felt that they know how to teach students who are experiencing difficulty. While educators sometimes explained student success or lack of success in terms of family background or personal characteristics, it was in the context of listing several factors, including factors related to teaching. The two themes emerging from analysis of data related to attribution of cause of students' success or failure are that background affects achievement and that teachers hesitate to claim total responsibility for achievement.

Background affects achievement. This theme relates to the discovery that teachers at Purslane attribute some aspects of success and failure to personal and family characteristics of the students. Characteristics such as IQ or the existence of learning problems or attention problems were sometimes mentioned as an explanation of success and failure. Intelligence was mentioned to explain achievement: "This particular person has a higher IQ than the other ones to be perfectly honest," and "The child's not dumb.

She's stubborn, yes, obnoxious at times, yes, but she's intelligent." Disability was also mentioned in an explanation of relative success: "I think Jerry has less of a disability, too, than Matt and Patrick." Attention and learning disabilities in various forms were mentioned frequently with phrases such as these: "I was beginning to wonder if this was going to be like an LD child, because her mother has like an alcohol problem, and ... I figured she's probably 'fetal alcohol' because she's so flighty." "His problem is that he doesn't pay attention, and he misses directions." "He's ADD, in my opinion. He has a lot of self-control problems." Medications were suggested as causes for success and failure in cases like the following: "Ms. Roberts found medicine behind her cabinet, too, so that could have been part of the problem. Instead of taking his pills, he was throwing them on the floor." "I think the two children on Ritalin ... focus better." "He's on medicine ... and he takes his every day without a problem, and I really haven't had any problems." "We decided he didn't have his medicine before he came to school because he attacked the aide on the bus."

Family situations were referenced that promote school failure such as families who move frequently and cause attendance problems and families who have drug and alcohol problems. There was also recognition that busy families have difficulty in giving their children help with school work in the evenings. However, families were more frequently mentioned as being helpful in raising achievement. Teachers cited several cases where mothers helped at home by reviewing sight words or encouraging daily reading. One mother checked with her child's teacher daily to monitor his behavior problems. In other cases, other family members helped at home: "Lou's doing better but

I think it's a lot of Grandma's help." "Aunt Barbara's been helping her because she's not learned it all here."

The most common student characteristics referenced were maturity or developmental level and conscientious work habits. Both maturity and lack of maturity was mentioned. "He's immature for here, and I think that comes [because] he's an only child of older parents." "And it's maturity, too. I'll tell you that one little boy, he's just like a baby." "I think she just became developmentally ready. I mean she just got it; it just came to her." "I think a lot of times it's developmental, too. I'm convinced you can give them all the ingredients, then all of a sudden, their brain's ready and they're going, 'Oh, Okay.'" Similarly, both conscientious work habits and lack of good work habits were described. "I mean they really try. They're not just marking down answers and things." "He tries; he doesn't want to copy the answer.... You know, he wants to learn how to do it." "She's real conscientious." "They'll hurry through, and they'll mark down anything." "And he just stonewalled; for the second day in a row, he wasn't going to do it."

The teachers at Purslane would agree that family background and the amount of time family members can commit to helping children at home and personal characteristics such as maturity, work habits, and disability status, do affect the achievement of their students. They were well aware that their students come from an area high in poverty. In fact, the grant that funded the Direct Instruction project was awarded partly because of the poverty of the school community. They knew that help from family members can give students a much-needed boost, and they welcomed that help. This theme relates to the belief that children who try hard, who have no disabilities,

and who come from families who care about education and work with them at home are often more successful than children who lack some of these characteristics. The theme also gives recognition to the idea that teachers and schools are sometimes not able to ensure the success of children who have disabilities or poor work habits or who come from families that are too busy with survival issues to help with academics.

Teachers hesitate to claim total responsibility for achievement. When asked for a success story in teaching, sometimes teachers could not recall a success or they would demur. However, when probed, most told about a success that provided insight into their opinion of their success as teachers and their own pivotal role in the teaching process. For example, when asked for a success story in a January interview, Ms. Oliver replied “I don’t know,” but when I laughed and said she was probably having a bad day, she told a story about Jeannie, who could not even recognize “J” when she entered Kindergarten but who, in January, knew “all her letters and three-fourths of her letter sounds.” Her responses indicated that she had a clear understanding of the child’s needs and that her teaching was directed to meeting these needs every day. Ms. Oliver said,

She went ‘h-h-hand.’ She’s connecting with the [letter sound] song, which is OK, you know, I mean she’s not going to make the next step yet. She’s still got to use the song as a crutch, but the fact that from absolute knowing nothing, ... she has come a long way.

She also talked about a visually impaired pre-school student to whom she taught mathematics last year. She said,

I had him doing [addition] ... I could do like two on a page with marker. And I’d give him different things to do.... I’d give him a pile of money and have him sort the coins and count how many are in each pile, and I’d say, ‘OK, you do your math,’ and I’d put him to work on that and then I’d

do a math lesson with the other kids, and I'd say, 'Oh, you did your math.'
And he'd just grin.

Other teachers also needed encouragement to talk about their teaching successes.

After prompting, Ms. Newman spoke about a former student who was a non-reading teenager when she first began to teach her, "And we did basic sight words with her ... and she did start [to read]." Ms. O'Dell needed encouragement before she described a student who she was able to reach who would not work for the other teachers, "He wasn't working anywhere else. He would come here and they would send his work here and he would do it." After prompting, Ms. Sutter talked about her skill with children with behavior problems,

I've had quite a few kids that have like behavior disabilities, and I don't know if it's the way I do things, I don't know what it is, but ... I could always, pretty much, handle them. They liked me, and they worked hard to please me. And usually, I wouldn't have a lot of problems with them. When they would leave my room, they sometimes would get in trouble, but not with me.

These teachers were aware of the skill necessary to teach well and were justifiably proud of their accomplishments, however, they hesitated to report their success.

Another indication that teachers have some hesitancy in claiming success for their teaching effectiveness is that several teachers told stories of students who returned to them after they had succeeded in other schools and thanked them for their help. Mr. Deel spoke about a girl who returned to thank him for helping her understand math. Ms. Dover talked about a letter she got from a mother thanking Ms. Dover for helping her child. Ms. Sutter talked about several students who returned to talk to her about their successes. The teachers appeared to find these testimonials to be more credible signs of success than answers given in class or scores on a test. Students can learn something one

day and forget it the next, but when a student is successful after leaving your class and attributes that success to your teaching you can be more secure in your accomplishment.

Teachers have some hesitancy in claiming that the strategies they use are the most important factor in the child's learning. This may be because of their level of sophistication in understanding the complexity of the learning process. However, several statements they made relate to the fact that they know that they are the people responsible for making the teaching decisions in the classroom. For example, after talking about how different approaches are effective with different students, Ms. Weber said, "It's my job to figure out which approach works better or which combination of approaches works better." Ms. Lewis talked about her goals and strategies for speech,

I like to play a lot of games with the kids, I try to have fun with them, so we just play a lot of games, and I'll take the concepts and put it into a game-style, and I think if learning is fun, they get more out of it. I mean the kids ... think speech is a big game time, but I meet my goals, so something must be working.

Ms. Oliver talked about her responsibility as a teacher,

As a teacher I need to help them with the tools they need, like decoding skills and looking for clues in the picture and what makes sense, and those kinds of things, but they will become better readers if they use the tools that we're trying to teach them at school.

Ms. Oliver showed that she understood that there are other factors besides her teaching students to use the tools needed for reading.

This theme relates to teachers' understanding that they have a pivotal role in promoting student achievement. It also relates to their understanding that many factors contribute to student achievement and teachers' hesitation to take all the credit.

Nevertheless, teachers at Purslane see themselves as competent professionals who are meeting their goals successfully.

Quantitative Study

I examined scores on the Teacher Efficacy Scale (Gibson & Dembo, 1984) administered at the beginning and end of the study to support information gained from teacher self-report and informal classroom observations. The Teacher Efficacy Scale has two subscales. The first subscale measures personal teaching efficacy or confidence in one's own ability to teach effectively. The second subscale measures teacher outcome expectancy, or belief that teaching can overcome the effects of students' characteristics, dispositions and home environment. I analyzed the scores using descriptive statistics by computing the mean and standard deviation of the whole group and examining the individual scores from administrations in November and April. The scores included in Table 6 below represent the scores from 16 of the 17 teachers who implemented the Direct Instruction curricula. The seventeenth teacher, Ms. O'Brien, took the pretest but not the posttest, since she was away on maternity leave at the end of the school year.

Table 6. Means and Standard Deviations of Teacher Efficacy Scale Scores

Subscale	Pretest		Posttest	
	M	SD	M	SD
Personal	43.50	5.46	42.31	5.46
Outcome	19.75	5.89	21.19	6.29
Total	63.25	8.13	63.50	7.12

On the subscales of the Teacher Efficacy Scale, high scores on the Personal Teaching Efficacy subscale reflect the teacher's belief that he or she can bring about

positive outcomes for his or her students. High scores on the teacher outcome expectancy subscale reflect the belief that teaching can overcome the effects of influences beyond the control of the teacher, such as family background, IQ, and school conditions. If you divide the scores displayed above by the number of items in each of the scales, you get the average item response for the subscale. On this 6-point Likert scale, the maximum average response possible is six and the minimum is one, so the two subscales, which have different numbers of items can be compared. I've listed the average item response for each of the subscales below. From this table you can see that teachers are much more likely to agree with statements that relate to their being effective teachers, than they are to agree with statements that teaching can overcome the effects of home environment, and other factors outside their immediate control. This provides some corroboration of the theme that the students' background affects achievement and partially explains their hesitancy to claim sole credit for student achievement.

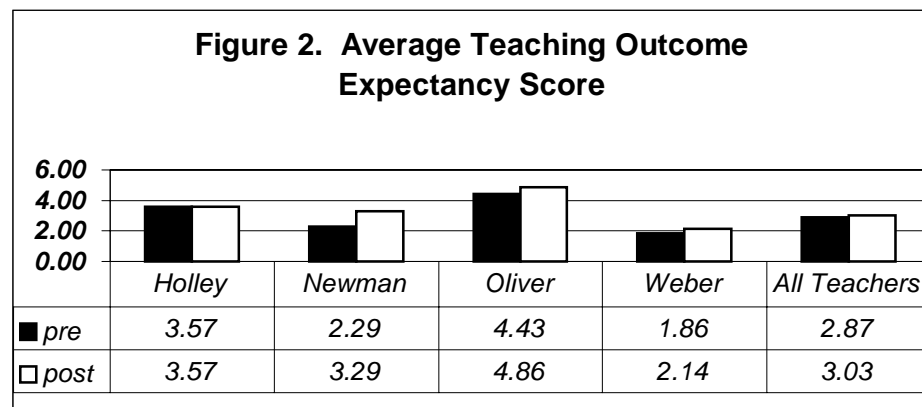
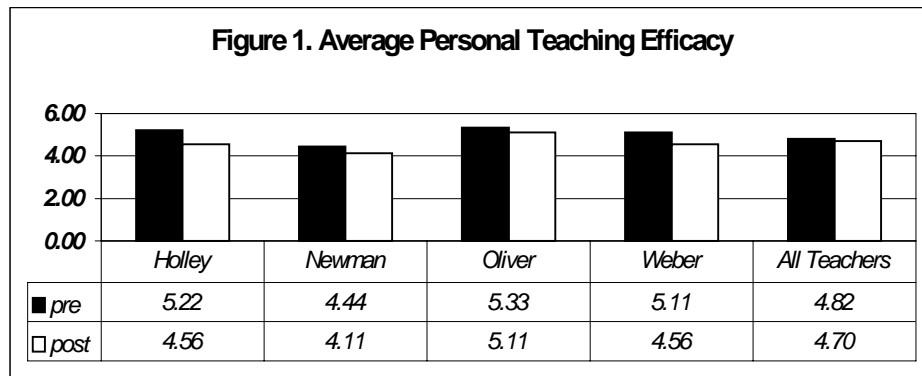
Table 7. Means and Standard Deviations of Average Response on the Teacher Efficacy Scale and Subscales

Subscale	Pretest		Posttest	
	M	SD	M	SD
Personal	4.82	.58	4.70	.48
Outcome	2.87	.80	3.03	.80
Total	3.97	.54	3.97	.46

The average response scores on the Personal Teaching Efficacy pretest and posttest were very close to 5, which corresponds to “moderately agree.” So, the teacher,

on average, would moderately agree to statements such as “When a student gets a better grade than he usually gets, it is usually because I found better ways of teaching that student.” The average response score on the Teacher Outcome Expectancy pretest and posttest were very close to 3, which corresponds to “disagree slightly more than agree.” So the teachers, on average, would disagree slightly more than agree to statements such as “The influences of a student’s home environment can be overcome by good teaching.”

Average response scores for the four teachers who were studied in-depth are graphically displayed in the charts below. The average for all teachers (16 teachers) is also displayed for reference.



Examining the scores for Ms. Oliver revealed that she had the highest Personal Teaching Efficacy scores, both pretest and posttest. Ms. Oliver, a teacher with 30 years experience, was extremely conscientious. She used a wide variety of different techniques with the different students in her multi-age kindergarten and first-grade classroom. She was very adept at individual and small-group instruction, and visitors to her classroom frequently saw several small-group activities taking place at the same time. In addition, she bought instructional materials with her own money and filled her classroom with a wide variety of materials for young children. Her interviews reflected a high degree of confidence that she knew how to best instruct her students. She was the teacher who refused to participate in the Direct Instruction Program from the first training session. She was confident that she could improve achievement better by using her own methods than by using the Direct Instruction Program. Thus, it makes sense that her personal efficacy score, reflecting her belief that she knows how to instruct children, would be very high. Her slightly lower score in March could be explained by a statistical tendency toward the mean, or by her reflecting on the progress still needed to be made by some of her students before the year's end, or on a number of other factors. Her interviews gave no explanation for this trend.

Ms. Newman's scores on the Teaching Outcome Expectancy subscale increased more than one standard deviation from pretest to posttest. This indicates that in November, on average, she felt that she "moderately disagreed" with statements such as "The influences of a student's home environment can be overcome by good teaching." However in March, her average response was "disagree slightly more than agree." She had the largest numerical increase of any teacher. Examining her interviews in March

and in November, I found that in November she made three statements explaining why students achieved as they did. In one, she attributed success to working with a student individually on sight words. In the other two, she attributed achievement to personal characteristics, “They’re normally like that. I mean, I have a real good group of kids,” and “She doesn’t have much of an attention span.” In March, she made 16 statements attributing success or failure to different causes. In March six statements reflected belief that success or failure was affected by factors that could be controlled by the teacher, for example, “Direct Instruction seemed to help them,” and “I think we placed them wrong.” At the same time ten statements reflected belief that success or failure was affected by student and family factors, for example, “She’s real good friends with Diane, and I think that does push her to get it more,” and “Her mother works with her. They work with her a lot.” It is possible that, by March, Ms. Newman was reflecting more on what caused the success and failure she saw, and she believed slightly more that good teaching could overcome the effects of home environment. Hers was the largest gain in Teaching Outcome Expectancy score. However, twelve out of sixteen teachers had a small gain in Teaching Outcome Expectancy score, and the average in Teaching Outcome Expectancy score of all the teachers increased by a small amount (0.16 or 0.20 standard deviation). I had expected that the average score on the teaching outcome expectancy subscale would increase. However, I had expected that teachers’ thinking would be changed by using the Direct Instruction Model and seeing that it was effective with students with learning problems and students from poor communities. No teacher indicated in his or her interviews with me that this was the case. An alternate explanation of the phenomenon might be that they, like Ms. Newman, had become more adept at answering the question,

“Why do you think the student succeeded?” And out of their increasingly complex reasoning about the causes of success or failure, they were inclined to believe that the deleterious effects of home environment could be overcome by teaching. This was certainly a tenet of the Direct Instruction Program, even though the teachers would not necessarily have attributed the children’s success to Direct Instruction.

The Third Question

Do educators' attitudes toward inclusion of students with disabilities change during the course of the first year of implementation? Data were collected from several sources to answer this question. Qualitative data were collected from interviews, field notes, and classroom observations. Documents relating to placement of students into groups for Direct Instruction were also analyzed. Quantitative data were collected from the administration of the Attitudes Toward Inclusive Education Scale (Wilczenski, 1995) at the beginning and end of the study.

The qualitative data, especially data from the four teachers who were studied in depth, yielded a description of inclusive practices at Purslane. In addition four themes emerged from analysis of the qualitative data. Those themes were beneficial practices, factors that make inclusion difficult, the importance of belonging, and effects of placement decisions on inclusion. Quantitative analysis found that attitudes toward inclusion changed very little. Examination of the qualitative data suggested explanations for some changes that occurred.

Stories of Inclusion at Purslane

Informal and formal classroom observations conducted throughout the year found that students with disabilities were routinely included in the regular classroom. Eighty-

one students (40.5% of the school population) were identified as having disabilities. About one fourth of these students were served with 504 plans, and these students were included in the regular classroom all day with modifications. Typically, students with disabilities who were served with IEPs were included in the regular classroom for most regular subjects and for all special activities. Students with IEPs were brought to the resource room only for basic skills subjects in which intensive instruction is required. For example, one third-grade student with a learning disability who read on the first-grade level went to the resource room for reading and language arts, but stayed in his regular classroom for all other subjects. In the regular classroom, his science and social studies tests were read aloud to him, and he was given individual help reading word problems in math class. Even a fifth grader who was achieving on the first-grade level only received instruction in reading, math, and language arts in the resource room. The only children who spent most of the day in a special education setting were the four children who had both physical and mental disabilities and the one child who had autism. All five of these children had severe communication problems and needed an alternative curriculum.

Teachers have been working under conditions of partial inclusion for several years and have adjusted to the demands that inclusion makes on their time and energy. Examining the data from observations conducted in the classrooms of the four teachers who were studied in-depth revealed examples of teacher interactions with students with disabilities and showed some of the types of classroom tasks in which these students were engaged.

Ms. Oliver's Class. Ms. Oliver teaches in the multi-age kindergarten and first grade classroom. She teaches reading and math in small groups of four to six students. Students are so well integrated in the classroom that it is difficult to determine which students have disabilities. However, four students with disabilities can be identified because their disabilities are more severe. There are three students with severe visual impairments, Bridgette, Sally, and John, and one student with a recognizable mental impairment, Isaac. As is common, Ms. Oliver is assisted by two aides, Kay and Alissa, and a teacher for the visually impaired. The following observations cover about an hour on a morning in November and show some of the accommodations made for students with disabilities in her classroom.

At about 8:00 a.m. Ms. Oliver calls the “pink reading group” to come back to the horseshoe-shaped table to work. Bridgette, a child with no vision, is in this group, so she and three other children come to the table. Bridgette tries to find page 90 in her Brailled version of the reading book, but is unable to find it. The teacher for the visually impaired, Ms. Ingram, comes back to the table and helps her find the right page. Ms. Oliver sits at the “teacher position” of this horseshoe shaped table with the students, Ms. Ingram, and a visitor on the outside. Ms. Oliver directs the students to read the story, *Six Little Ducks*. Before the reading begins, she explains what the story will be about. The story repeats many phrases, and the students are able to read with only a small amount of assistance. After each page is read, Ms. Oliver has the students point to certain words, for example, “Everybody, point to ‘away.’” Then Ms. Oliver gives out workbooks and Ms. Ingram helps Bridgette find her page in the Brailled workbook. At about this point in time, Kay is working with Sally in a small workspace under the loft; the student

teacher is supervising about 13 students doing seatwork; Alissa is helping Isaac with his worksheets because Isaac is unable to count independently. Isaac echoes after the aide says the number names. Meanwhile back at the horseshoe table, Ms. Oliver explains the pictures in the workbook to Bridgette, because her Brailled version of the workbook page does not have pictures, and she needs to understand the picture to answer the questions. At this time, Sally is cutting out circles that have been outlined in black magic marker. Kay is assisting her, and Kay appears to be doing most of the cutting – hand over hand with both holding the scissors and Kay holding the paper. When Sally colors her partner letters, the partner letters have been outlined in different colors as a prompt. At about 8:30 a.m., Ms. Oliver dismisses this group and begins a five-minute whole group activity where students move to music. After this activity, Ms. Oliver calls up a group of 6 students. She asks them to bring their pencils and scissors. This group includes John, who is also visually impaired, but appears to have more sight than Sally. This group is learning the letter Q. They trace the capital Q and make Qs on their slates with chalk. Then the group talks about and traces lowercase q. John uses a black marker to trace his letters, and the other students use pencils. At about this time, Ms. Ingram is teaching Bridgette to use the Brailier on the other side of the room; the visitor is working with two students, using manipulative objects to do math; the student teacher is working with Isaac on finishing his worksheets; and Kay is checking worksheets. Ms. Oliver passes out “My letter book” to her small group, and students write Q and q on pages in the book. John uses a black marker. Kay helps John find the correct line and prompts his writing the letters. After they write the letters, Ms. Oliver directs students to use rubber stamps with Q and q to stamp their books. Students cut Qs from magazines and glue Qs into

their books. They have many opportunities to write, cut, and glue. At about 9:00, this group is finished and Ms. Oliver calls a different group of kindergarten students to the table.

Ms. Oliver is assisted by many other adults in meeting the needs of the students in her class. During the hour described above, students with disabilities received individual help from adults, and they also had accommodations made so that they could work independently. For example, shapes were outlined in dark black so that the kindergarten students with visual impairments could cut them out. Letters were color-coded as a prompt to match them correctly. The first grade student with visual impairments read from a Brailled copy of the reading text and responded to her workbook questions in Braille. While there appeared to be many different activities occurring at one time, all activities focused on teaching and learning, and students with disabilities were included in all activities.

Ms. Newman's Class. Ms. Newman teaches sixteen first grade students in a classroom where the students' desks are in the traditional classroom arrangement facing the teacher's desk. She conducts most activities in large group instruction. Her instruction is typically teacher directed, and she monitors student independent work carefully. For example, at a November observation, after giving directions for seatwork, she walked around to observe students' progress, and gave prompts and corrections such as, "Read the directions again," and "You need to sit up and write the answer." Her classroom has strict rules that she enforces consistently. For example, she has a rule that you must write your name on your paper, and she destroys students' papers if they have not written their name on them.

Three students in her classroom had identified disabilities. Daniel and Cindy had learning disabilities and Thomas had a behavior disorder. The students with disabilities were expected to do the same work as the other students. During one language arts lesson, when it was Daniel's turn to read, he read two sentences, just as everyone else did. Ms. Newman prompted him to read almost every word, including the word 'the,' but she did not shorten the assignment for him, or make any comment about his performance. When she was testing the reading rate and accuracy of individual students at her desk and Thomas came up to show her his paper, she waved him away. When he came back again, she reminded him of his assignment and waved him away again. When he came back up again and made a sign that he needed a pencil, she signaled him that he could take a pencil. He took a pencil and went back to his seat to work.

Ms. Newman treated students with disabilities as she did other students. She had the same requirements for them as for the other students. She prompted them or gave them extra help on their assignments, but she prompted and assisted other students. I could find little or no difference in her behavior toward students with and without disabilities.

Ms. Weber's Class. Ms. Weber taught 21 students in her second grade classroom. One of her homeroom students had autism and only participated in her classroom for roll call, lunch and recess. When he was in her classroom, an aide always accompanied him. She had a total of seven students who had identified disabilities in her classroom. Three events that I observed in Ms. Weber's classroom revealed some of the accommodations she made for students with disabilities. The first event occurred one morning when the schedule was disrupted and Matt and George stayed in Ms. Weber's

classroom for Language Arts. Matt and George are two students who normally study Language Arts with Ms. Roberts, one of the special education teachers. On this day, she assigned a writing activity. Ms. Weber directed them to make up a holiday and tell how you might celebrate this imaginary holiday. They were to work in small groups of two or three students and write the description on one piece of paper with all the group members' names on it. She placed students who normally study with Ms. Roberts into groups with two higher achieving students. The students with disabilities discussed ideas for the imaginary holiday and described the holiday, and the students without disabilities recorded the group's ideas. She was encouraging throughout. She started saying, "This is going to be fun." She joked with students as she walked around monitoring their work. To one group whose holiday was, "celebrate girls," she said, "I'm going to hide my daughter." At the end, when she read out the holidays as they prepared to leave for a bathroom break, she made positive comments about each one.

The second event occurred in January. Ms. Weber was reading a story to the children as they finished their morning independent work. Danny, a student with ADHD who had just had his medication reduced, was extremely active. She interrupted her reading to correct Danny who was standing on his desk, "Danny, is that where you're supposed to be? We don't have time to go to the emergency room." She continued to read. Danny was in the back corner of the room, sitting on the floor, facing front, with his back against a cabinet. She continued to read. Danny went back to his desk and put his feet on the seat. She said, "Danny, I hope you're not standing on your desk because I'd hate to have to write that up." She continued to read. Danny sat on the floor by his chair. She began to ask some questions to check if the children understood the story.

Danny sat in his seat and fingered an object made of hard orange plastic. She continued to read another paragraph and then asks a factual question. She finished the story, then began to ask comprehension questions. “OK, True or False, stand up if it’s true, stay seated if it’s false. If you want to stay warm, dress in layers.” Students all stood up. Ms. Weber said, “Yes, dress in layers.” She continued to ask questions. Danny was standing up and sitting down appropriately. Even though for part of the morning Danny was clearly disobeying classroom rules, Ms. Weber gave him multiple warnings instead of sending him to the principal when he continued to disobey the rules. She adjusted her discipline procedures to accommodate his unusually high need for activity because of his medication being reduced. Later in the day, she told me that she called Danny’s doctor and reported to him that Danny’s medication needed to be adjusted again.

The third event occurred on a morning in February. Ms. Weber asked Matt to go to Ms. Roberts’ room and invite her to come to their class. This was after the students had returned from gym. The students were changing their shoes and taking out their books in preparation for the next activity. Ms. Roberts and Matt came into the classroom. Matt returned to his seat and began to draw. He appeared to ignore the teachers. Ms. Weber showed Ms. Roberts a Language Arts paper that Matt had completed at home for extra credit. She told Ms. Roberts how proud she was of his initiative, and Ms. Roberts said that she would also give him extra credit toward his Language Arts grade in her class. They both talked about how hard he has been working. This exchange took only a few minutes, but it showed me that Ms. Weber and Ms. Roberts were both attuned to the importance of encouraging Matt to continue to work hard at learning basic reading and writing skills.

Ms. Weber was flexible and adjusted her assignments and discipline procedures to meet the needs of students with disabilities. Unlike Ms. Oliver she did not teach students in small achievement level groups. Unlike Ms. Newman, she did not treat all her students the same. She used positive reinforcement to encourage students with academic and behavior problems to achieve academically and to behave appropriately.

Ms. Holley's Class. Ms. Holley taught 19 students in one of the two third grade classrooms at Purslane Elementary. She had at least five students with disabilities in her classroom. The students who stayed in her room for all subjects had an active role in her classroom, but those who left the room to study basic skills subjects in a special education resource room had a less active role. For example, Lou was identified as having a disability, but she was served entirely in the regular classroom. She was expected to complete all assignments, and Ms. Holley frequently reminded her to complete her work. Four students who left the room to study reading and language arts with the special education teachers were frequently not expected to participate in classroom activities when they returned. For example, one day in January the students in Ms. Holley's classroom were completing a language arts assignment when two students with disabilities returned to homeroom from their special education classroom. Ms. Holley had just distributed new pencils to each student, so she gave pencils to these students, also. One of the students, Chet, who has a learning disability, put his pencil away, then walked to a computer and began to use a multi-media software program. Ms. Holley reminded Chet once to turn the volume down, and when he did not comply she told him to log out. Meanwhile Joey put his pencil away and sat in his seat waiting for the next activity. There was about a ten-minute interval while the students with

disabilities were in the regular classroom without a specific assignment waiting for Science to begin. When Science began, they participated in Science, listening to the teacher's presentation and to the other students' reading. The main modification made for them in Science class was that tests were read to them. On another occasion, when three students with disabilities returned from special education classes during Ms. Holley's Language Arts class, she sent one back to get a worksheet from her Special Education teacher, and let the other two work on Josten's educational software until Science started. On a third occasion, she told returning students to study with the Josten's software when they returned from their special education classes, and Chet told her that he had work to do, and sat down at his regular desk to complete a writing assignment.

Ms. Holley put an emphasis on student independence. When students with disabilities returned to her classroom during times that she did not have activities prepared for them, she customarily directed them to use instructional or game software at the computers in the room or to complete work from their special class. During Science and Social Studies, they participated with the other students, except that they were given easier written assignments and tests were read to them.

In general the teachers selected for in-depth study had different approaches to working with students with disabilities. Ms. Oliver taught the youngest children with disabilities, and she placed them in small instructional groups on a level as close as possible to their level, and included them in all large group classroom activities. Ms. Newman had first graders and she accommodated the needs of students with disabilities by helping them with prompts to complete the required assignments. This practice was

congruent with her usual classroom practice of providing prompts for students having difficulty. Ms. Weber had second grade students and she adjusted assignments and discipline procedures to accommodate the needs of her students. Ms. Holley taught third grade and emphasized independence. She expected her students to find work to do in her classroom that they could do independently, and they often worked on computer software or assignments given to them by their special education teachers when they were not included in the whole group activity.

Emerging Themes

Regarding attitudes toward inclusion, three themes emerged from the interviews, field notes and classroom observations: beneficial practices, factors that make inclusion difficult, the importance of belonging and the effect of placement decisions on inclusion.

Beneficial Practices. Educators identified a number of practices that contribute to the effectiveness of inclusion of students with disabilities in the regular classroom. They said it was important to know the student, to have realistic expectations, and to give the student assignments with which he or she could be successful. One expressed the importance of knowing students well in this way, “I think you have to know really where they are. I think it takes more than just their IEP. I think you have to spend some one-on-one time with those kids initially, to find out what they’re capable of doing independently.” Another spoke of having realistic expectations, “When you’re dealing with those kids, you can’t expect too much, but then, in turn, you have to expect something.” Still another said, “They need higher expectations, but maybe if they don’t have to ... do as much as the other kids so they don’t get overwhelmed. I still think they need to have the higher expectations, but not be overwhelmed.”

When asked about factors that were beneficial to students with disabilities, sixteen of the seventeen teachers interviewed detailed some form of practice of individualizing instruction or modifying assignments. In contrast to the sixteen teachers who individualized instruction somewhat, the librarian said she always treated students the same and did not have any practices she specifically used with students with disabilities.

An example of a statement about individualizing instruction is,

In Multi-age you can get away with it because all the kids are doing different stuff anyway, so I can give them a slightly different assignment; I can give them a small assignment; I can give them help with their assignment, or I can give them a buddy.

Another teacher said,

One of my students may get the concept in one day, just by me explaining and introducing and putting the materials on the board, but then, some of them, I have to go back and maybe make charts, or draw a picture. Not all students master things, sometimes they need to see a picture rather than just absorb it, so sometimes it takes time.

Another spoke of modifications in general, “You have to be willing to modify your materials and work with the special educator to make sure that the students can do it.”

The teachers reported using modifications such as reducing the number of responses required, providing prompts for response, giving additional time, or reducing the difficulty of assignments. Ten of the seventeen teachers said providing one-on-one or small-group instruction was beneficial to the child with a disability, and seven described assigning a peer to help.

Factors That Make Inclusion Difficult. Teachers identified two factors that make inclusion difficult. The first was dealing with disruptions caused by children with disabilities. The second was frustration caused by being unable to meet the learning needs of all the students in the classroom. These two factors are described below.

Five teachers mentioned students with disabilities disrupting the regular classroom. They talked about situations in which the action of the child with a disability (or the child's equipment) was distracting to the other children and disturbed the learning activity. One teacher talked about a child who was sometimes physically aggressive. In some cases, this disruption was so disturbing that the child needed to be removed from the room. Teachers found that the removal of a disruptive child was acceptable to them, as one teacher said, "I personally wouldn't want my child in a room where she couldn't learn because there was so much disruption because of somebody else." Bruce Deel, the teacher of children with behavior disorders agreed with this. Referring to the regular classroom teachers, he said, "I don't think that they should tolerate the behaviors, and it is not their job to deal with it and it is my job to deal with it." While it was not frequently referenced in the interviews, the removal of a child who was disturbing the rest of the class was a relatively common occurrence. I never saw a child being removed from class while making classroom observations, but I frequently saw children in Mr. Deel's classroom who had come there from the regular classroom because of disruptive behavior. Some of these children were identified as having disabilities and some were not, since Mr. Deel's classroom functioned as a "time-out" room for children who were being disruptive.

Teachers described several situations in which they felt frustrated and unable to accomplish their goals while accommodating the needs of students with disabilities. Ms. Taylor described her feelings working with a young child with a disability who was having great difficulty with a math concept, "Some days I would get so frustrated, I would just say, 'Frankie, go to your seat; I can't do this; we'll work on it later.'" She

described the overall experience of working with Frankie as being positive and her efforts were ultimately successful. However, she did experience frustration during some day-to-day interactions. Ms. Oliver described her frustration at being unable to find a quiet time to teach because of the number of interruptions caused by the special needs of students, such as the noise of the Perkins Braille and the need of students to go to Speech, Special Education and other programs. Ms. Frazier felt that she could not find time to modify the curriculum for the eight children with disabilities in her classroom and would have liked to have an instructional aide for part of the day, "Because trying to keep them [the children with disabilities] going and be concerned with the rest of the kids, which is the majority, is not always working real well." Some teachers felt that providing the individualized instruction and modifications that the students needed was difficult and sometimes frustrating, because they wanted all their students to learn, but were "pulled in so many directions" that they were unable to accomplish their goals. As Ms. Weber wrote in an e-mail message,

I guess my biggest fear as an educator and a parent is what happens to the "regular children" in the classroom? So much of my time is spent catering to the children with special needs that I feel my regular education students suffer. This is true for all of us teaching with main stream classrooms.

The Importance of Belonging. Teachers found that ensuring that students feel that they belong in the regular classroom was an essential part of successful inclusion. One special educator expressed it negatively, saying that her students sometimes were treated as if they did not belong, "And it still happens today; my kids are put in the back of the room because they're the LD kids. You know, 'Well, they can't do it.'" This same special educator described an ideal teacher, who worked very hard to make sure the students with disabilities participated successfully in all classroom

activities. Ms. Thurman, a third-grade teacher, was direct and succinct in expressing students' need to feel they are part of the group, saying, "I think they have to feel like they're making a contribution, not just in there being given some kind of charity." Ms. Weber made many references across several interviews to the importance of ensuring that students feel like they belong. She clearly thought that it was important to keep her second graders who have disabilities in the regular classroom as much as possible for their self-esteem, saying, "I think it's hard at any age, I mean they already know. They're eight, but they already know that they're different. It is hard." This theme relates to the teachers' beliefs that students with disabilities need to be active participants in the regular classroom, not only for academic reasons, but also for reasons of feeling they are worthwhile persons.

Effect of Placement Decisions on Inclusion. The final theme was derived from comments made by teachers when they suggested changes in placement after the original Direct Instruction placements were made by the process of placement testing, and by examining the effect that placement decisions had on inclusion of students with disabilities in their regular classroom. The effect was, in most cases, to remove students with disabilities from their regular classroom placement during the Direct Instruction period. It was never the intent of this program to foster less inclusive practices. However, the program mandated placing students in homogeneous groups by reading achievement and the organizers made the decision to place students with other students their age whenever possible. Forming homogeneous groups with respect to reading achievement and age frequently led to students with disabilities being excluded from their regular classroom during the Direct Instruction reading period.

Placement decisions were made by examining scores that students received on placement tests, and by placing students in groups that were as close as possible to their regular classroom placements in terms of the ages of the other students in their group. Placement decisions were blind to disability status, since placement decisions were made by Dr. Interland and me with no knowledge of which students had IEPs or 504 plans. However, those students who were functioning below level were intentionally put in groups with teachers who had experience with students who had academic difficulty, such as the special education teachers and the title I teachers. Therefore, the decision was made to place students whose grade placement was third, fourth, or fifth grade and who were reading on the first grade level in the same instructional group, and to assign this group to one of the special education teachers. Originally this group was assigned to Mr. Deel, the behavior disorders specialist, but after Ms. Roberts realized that all the students in this group were students whom she normally served for reading, she requested that she be assigned to this group. Her request was honored. Ms. Roberts was then able to count their Direct Instruction time as special education reading instruction.

After the placement decisions were made, three other teachers requested that students be moved from one group to another. In every case, the effect was to put students with disabilities, or students who were at risk for school failure into groups with similar students, and to remove such students from groups taught by regular classroom teachers. For example, on the basis of the placement tests, two groups of first graders were assigned to groups to receive instruction in the Reading Mastery Fast Cycle materials. One of these groups was to be taught by Ms. Newman, the regular first grade teacher, and one was to be taught by Ms. O'Dell, the Title One teacher. All of the

students scored high enough on the placement test to be placed in Reading Mastery Fast Cycle, and all were first or second graders, so they were assigned randomly to either Ms. Newman's or Ms. O'Dell's Fast Cycle group. After the placement list was given to teachers, Ms. Newman requested that she be allowed to trade some students with Ms. O'Dell, so that Ms. O'Dell would take the students she usually instructed during first grade Title One instruction, and Ms. Newman could take the students who did not need Title One services. This resulted in two students with disabilities being removed from Ms. Newman's Fast Cycle group, so that her group had no students with disabilities and Ms. O'Dell's group had three students with disabilities. In effect, this made the 40 minutes of Direct Instruction reading less inclusive than it had been before the changes. Furthermore, even though there were students both with and without disabilities in Ms. O'Dell's class, after the changes were made, all the students there could be considered to be at risk for school failure.

The formation of instructional groups was an area in which the Direct Instruction program impacted inclusive practices and in which attitudes toward inclusion were translated into practice. The necessity of forming homogeneous groups for Direct Instruction so that all students were being taught on the same skill level combined with the decision to assign regular educators to instructional groups as close as possible to their regular classroom groups was sufficient to remove all students with disabilities in grades three, four and five from their regular education groups. Modifications made to the original placement decisions always moved students in the direction of more homogeneous grouping. Therefore, this theme relates to the fact that placement decisions resulted in less inclusive practices during the Direct Instruction period.

Summary. The themes that emerged from analysis of the qualitative data about inclusion showed that teachers expressed positive beliefs about inclusion. These beliefs were expressed in their enumeration of beneficial practices that they used in their classes and in their opinion that inclusion developed in the students a feeling of belonging that they thought was important for both social skill development and feelings of self-worth. Teachers understood the difficulties of implementing inclusive practices and expressed this in their finding that disruptive behavior made inclusion difficult and in their frustration when they were unable to meet the learning needs of all the students placed in their classes. The final theme that emerged was that the practice of dividing students into achievement level groups for the Direct Instruction Reading program resulted in moving many students with disabilities from their homeroom groups into groups with a higher percentage of students with disabilities. The effect of taking teachers' suggestions about which students should be grouped together resulted in instructional settings that were even less inclusive.

Quantitative Study

I examined scores on the Attitudes Toward Inclusive Education Scale (ATIES) administered at the beginning and end of the year to support information gained from teacher self-report and informal classroom observations. The ATIES has four subscales related to acceptance of students with physical, academic, behavioral or social disabilities (Wilczenski, 1992). I analyzed the scores using descriptive statistics by computing the mean and standard deviation of the whole group and examining the individual scores from administrations in November and April. The scores included in Table 8 below

represent the scores from 16 of the 17 teachers who implemented the Direct Instruction curricula. The seventeenth teacher, Ms. O'Brien, did not take the posttest.

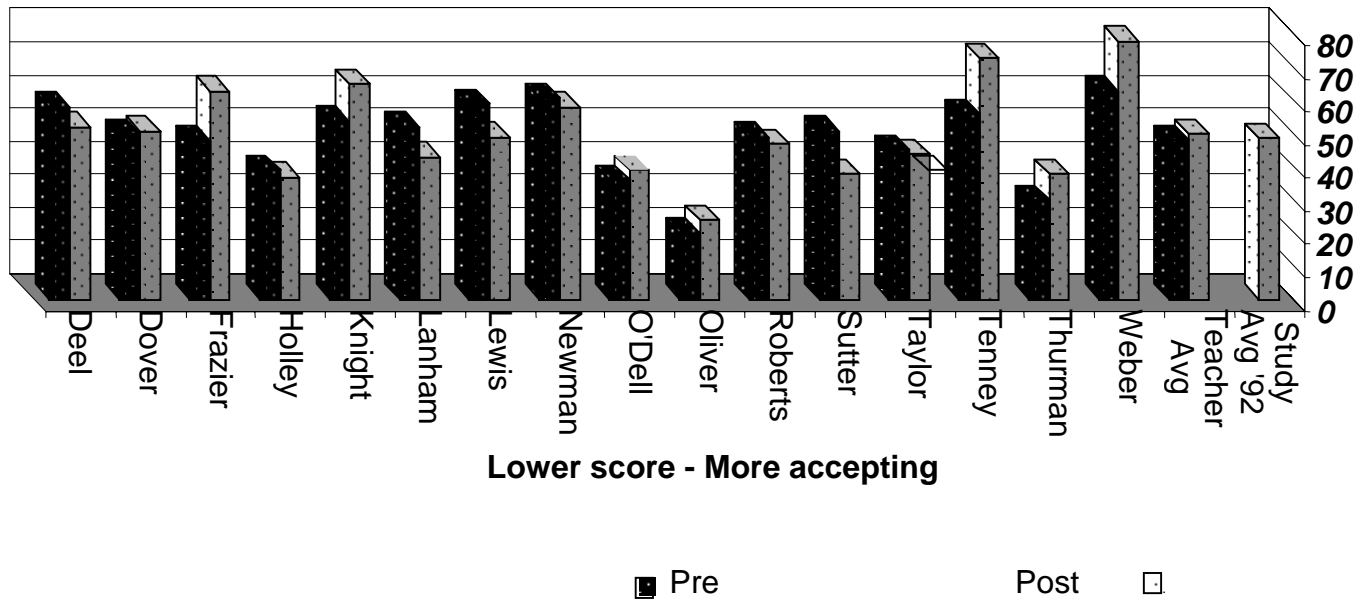
Table 8. Means and Standard Deviations of ATIES Scores

Subtest	Pretest		Posttest		Wilczenski Study	
	M	SD	M	SD	M	SD
Academic	12.38	3.70	10.81	3.30	12.98	4.49
Behavior	18.00	5.12	19.63	4.19	15.06	4.37
Physical	9.44	3.81	10.25	5.42	11.97	4.63
Social	8.38	2.66	9.25	3.96	8.70	3.23
Total	48.19	11.86	49.94	14.49	48.70	13.70

Lower scores represent more accepting attitudes. Therefore, at both the pretest and posttest points, the sixteen teachers whose scores are presented in the table above were more accepting toward including students with social deficits (such as shyness) than physical disabilities, more accepting toward students with physical disabilities than those with academic difficulties, and more accepting toward students with academic difficulties than those with behavior problems.

A comparison of the pretest and post test scores in Figure 3 on the next page revealed that the teachers were slightly more accepting of students with academic disabilities at the end of the study and slightly less accepting of students with physical disabilities, social disabilities, and behavior disorders than they were at the beginning. These differences are small. Posttest average scores on all subtests differed by less than one-half of a standard deviation from the pretest average score.

Figure 3. Attitude toward Inclusion



The full-scale means and standard deviations resulting from the 300 teachers represented by the Wilczenski (1992) study are listed in the figure for comparison. Comparing the average scores of the teachers at Purslane Elementary to the scores in the Wilczenski study revealed that the Purslane scores on the behavior subtest were about one standard deviation higher (less accepting) than the Wilczenski scores, while the scores on the other subtests differed by less than one half standard deviation. This may indicate that including students with behavior difficulties was a significant challenge for Purslane teachers. The minutes of the strategic planning retreat provide confirmation of this conclusion since developing strategies for managing behavior problems was identified as the primary concern of Purslane teachers and an area towards which they wanted to devote their planning and professional development energy during the next three years.

The figure on the preceding page compares total scores on the pretest and posttest for all teachers. Average teacher score and the score from the Wilczenski (1992) study are included for comparison. The scores of all teachers changed to some degree, nine teachers showed lower scores (more accepting toward inclusion) and seven teachers showed higher scores (less accepting toward inclusion). In most cases, I can only speculate on the reasons for the higher and lower scores. Ms. Weber and Ms. Newman, though, reported occurrences in the spring of the school year that appeared to affect their attitudes toward inclusion.

The case of Ms. Weber. Ms. Weber was very good at including students with disabilities in her classroom. She had a wide repertoire of strategies for helping students to succeed, and an unflinching positive attitude toward all students. She appeared to enjoy teaching and love children. She had several students with learning problems in her

classroom, two of whom frequently demonstrated problem behaviors. She was able to manage problem behaviors by redirecting the behavior and reinforcing more desirable behaviors.

She believed strongly in keeping her students in the regular classroom as much as possible. In fact, she changed the Direct Instruction placement of one of her low functioning students, moving him from a lower group into her group because she thought placement in the lower group was affecting his self-esteem. Given the context of how well she worked to include students with disabilities in her classroom, I was initially puzzled to see a drop in her acceptance toward students with disabilities as reflected in an increase of 15 points in average score from pretest to posttest, especially since her pretest score was already one standard deviation above the mean pretest scores. It could be said that she was less accepting than average at the time of the pretest and extremely less accepting (two standard deviations above the mean) at the time of the posttest. (See Table 9 below.) Her behavior in class and her conversations with me throughout the year did not prepare me for this result.

One explanation for her higher score overall is that she was so adept at creating a good learning environment that she did not see the students she was teaching as those who were being referred to in the survey. In her eyes, Matt was not the disruptive child referred to in the survey. He had an occasional outburst, which she managed through positive reinforcement of other behaviors, so she did not think that her answer might be construed to mean that she would choose to exclude a child like Matt. In her mind, a disruptive child may be one whose behavior she can not manage, a very rare child indeed, and that is the child who should be excluded.

Table 9. Scores on Subtests of ATIES for Ms. Weber and Ms. Newman

Subtest	Ms. Weber		Ms. Newman	
	Pre	Post	Pre	Post
Academic	19	17	10	13
Behavior	24	24	23	21
Physical	13	21	17	13
Social	7	16	11	11
Total	63	78	61	58

The increase in her scores in the areas of physical disabilities and social disabilities indicated less acceptance of children in these areas later in the school year. This can be explained by the fact that she was anxious about the placement of Bridgette, a somewhat immature child with no vision, in her room for next year. She mentioned to me several times that she was not sure how it was going to work, since the aide for the visually impaired would have to divide her time among three students next year. Since Bridgette is the most skilled of the three children with visual impairments, she will probably get the least attention from the aide for the visually impaired and the itinerant teacher of the visually impaired.

Ms. Weber might also think Bridgette will have difficulty behaving appropriately. Bridgette was accustomed to being allowed to touch the people around her and she often greeted people tactilely. I have often seen her touch the front of a person's shirt, feeling and commenting on the buttons, collar, or embossing, when she says hello to them in the morning. Another concern is that Bridgette received almost continuous individual

attention for the past three years from a teacher of the visually impaired who retired this Spring, so the child's main emotional support in the school setting will be gone. Ms. Weber is clearly concerned that she will not have the resources to deal with this entirely new situation, and her higher scores in the areas of physical disabilities and social disabilities probably reflect this fear.

The case of Ms. Newman. In the case of Ms. Newman, the small decrease of scores in the areas of physical disabilities and behavior difficulties could reflect the statistical movement toward the mean of these scores, since the pretest scores are much higher than average. (See Table 9 above.) However, an event in the spring could partially explain why Ms. Newman feels more accepting toward students with behavior problems than she did in the fall. In February, Thomas, a young child with a behavior disorder, transferred to Purslane because the teachers at his former school could not control his behavior. The placement committee thought that Purslane would be an appropriate placement because Purslane's teacher of students with behavior disorders, Mr. Deel, is known throughout the county for being effective with young children with behavior problems.

Regardless of the reason for placement, Thomas was placed in Ms. Newman's classroom. Ms. Newman's classroom is very structured. Students sit in straight rows and work quietly. Established routines are adhered to. Thomas thrived in this room. I never witnessed an incident where Thomas was not participating actively and appropriately. I never saw Thomas in Mr. Deel's room. Ms. Newman was able to manage his behavior very well. Since Thomas was described as having a severe behavior disorder and since Ms. Newman was able to manage his behavior very well, this experience may have given

her the confidence to give a slightly more accepting response toward children with behavior problems in March than she did in November.

Summary. The answer to the question of whether attitudes toward inclusion changed during the first year of implementation is that they changed very little. Since teachers were implementing a program that has been shown to increase achievement of student with disabilities, I had expected that teachers would see changes in achievement in their students and feel more accepting of these children in their classrooms. Although scores on the ATIES showed a small change in that direction, I could find no other corroboration that teachers were actually more accepting toward students with learning problems. I did not see changes in teachers' acceptance of students with disabilities in the regular classroom as evidenced by a change in teachers' behaviors toward students with disabilities over the course of the year. The four teachers who were studied in-depth displayed different behaviors toward students with disabilities in their classrooms. While students with disabilities were included in more activities in some teachers' classrooms than in others, overall, the teacher-student interactions that I observed in March were very similar to those I observed in November. Teachers' responses to interview questions that related to inclusion of students with disabilities did not change substantially from the beginning of the study to the end of the study. On the main three measures conducted in this study -- interviews, classroom observations and the attitude scale -- there was no evidence of change in behavior toward, or attitude toward students with disabilities.

The Fourth Question

What factors do educators identify that help or hinder their implementing Direct Instruction curricula? This question was mainly answered through analysis of transcripts of interview questions. Field notes from formal and informal meetings with teachers and classroom observations provided verification of factors identified. These data sources showed five factors that hindered the smooth implementation of the program. They were the rigidity of the materials, the absence of informed approval of the program by the teachers, problems with the schedule, the use of Direct Instruction materials with all students, and several logistical problems. I also analyzed the adherence to Direct Instruction Curriculum teaching techniques of the four teachers in the in-depth case study. I found that mastery of the mechanics of Direct Instruction teaching techniques was not a factor that helped or hindered the general effort at implementation.

Classroom Observations and Fidelity of Implementation

How faithfully did the four teachers selected for in-depth study implement the Direct Instruction curricula assigned to them? To answer this question, I made extensive running notes of classroom observations at four-to-six week intervals, and I also collected data using a Classroom Observation Form (Appendix E) adapted from the classroom observation code used by Gersten, Carnine & Williams (1982). With the exception of Ms. Oliver who only used Direct Instruction materials once during the entire school year, none of the teachers reported having difficulty implementing the Direct Instruction program. However, all four teachers made modifications in implementing Direct Instruction materials and techniques. I will describe their use of the materials and their fidelity of implementation in this section.

Ms. Oliver's fidelity of implementation. Ms. Oliver taught in a multi-age classroom with children whose grade placement was either kindergarten or first grade. Included in her classroom were three children with visual impairments, one child with mental retardation, and a number of other children with disabilities. Typically, five adults worked in Ms. Oliver's class: Ms. Oliver, a student teacher, the kindergarten aide, the aide for students with visual impairments, and the teacher for students with visual impairments. Ms. Oliver would routinely teach Language Arts or Math to a group of 4-6 students while the other students worked independently or with other adults. Essential kindergarten and first grade language arts and math skills were taught entirely in small group sessions. Whole group activities which were addressed to children at all levels included movement, music, art, science, health, and social studies. For example, during one class visit, Ms. Oliver taught Reading to a group of six first graders which included a student with no vision. Ms. Oliver and the six children sat at a horseshoe shaped table, her customary place for conducting small group instruction. During this reading instruction, the teacher for the visually impaired worked with the student with no vision in Ms. Oliver's group; the student teacher supervised 13 students who were completing seatwork; the aide for the visually impaired worked with one of the other students with visual impairments; and the kindergarten aide worked with the student with mental retardation. This activity lasted about 15 minutes. At the conclusion of this activity, Ms. Oliver led the whole group in a five-minute movement activity that consisted of singing and moving with a song about letter sounds played on the tape player. Immediately after the movement activity, Ms. Oliver taught a small group of Kindergarten students at the horseshoe-shaped table, while the other adults resumed helping children with

independent work, and children who had finished their independent work began to work puzzles, work on computers, or build with blocks.

On the day Ms. Oliver attempted to implement *Language for Learning*, a Direct Instruction curriculum intended to build vocabulary and school readiness skills of kindergarten students, she selected from the curriculum a lesson on body parts. She asked students to touch various body parts, including head, eyes, mouth, and ears. She gave students 32 learning trials in five minutes, or 6.4 trials per minute. Students responded accurately 27 out of 32 times, for a student accuracy rate of 84%. At the end of the instructional time, she handed out a worksheet from her own files for students to take to their seats and color. Ms. Oliver did not teach Direct Instruction after this first attempt. She used other instructional approaches during the time scheduled for Direct Instruction.

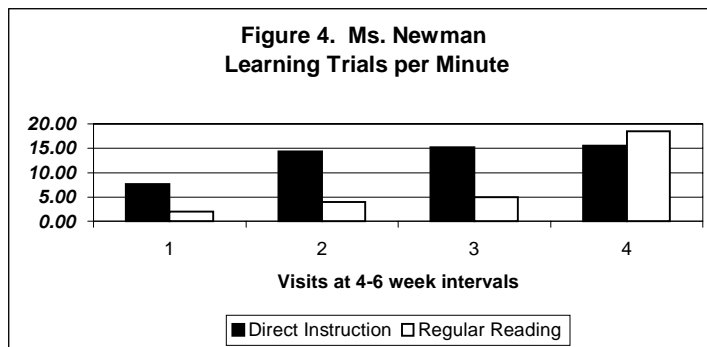
Ms. Oliver was the least faithful follower of the Direct Instruction curriculum. She did not want to teach Direct Instruction. She only taught it one time, and on that occasion she modified it in a more extreme fashion than did any other teacher observed. She used the teacher presentation book as a picture book but did not follow the script, and she used independent seatwork from her files instead of using the independent work designed by the program authors. When Direct Instruction experts from the publisher observed in her classroom a few months later, they watched her display a picture of a rabbit and teach the /r/ sound. They concluded that she was not implementing the program. Any reasonable person would agree with this conclusion.

Ms. Newman's fidelity of implementation. Ms. Newman taught in a first grade classroom. Hers was a very traditional classroom, using mainly whole-group

instruction directed by the teacher. She liked to sit on a student chair in the front of the room and gather the children around her on the floor to read a story. She conducted calendar activities and Direct Instruction teacher presentation activities from this same place, with the children sitting on the floor around her low chair. She used verbal corrections to control behavior much more frequently than she used praise. Similarly, she did not typically praise a child when she recognized a correct answer. For example, when she recognized a student for getting the right answer in naming the next color in a repeating pattern, she said, "And white it is." This is typical of the type of recognition given in Direct Instruction. For example, in the Direct Instruction script, when the students read the word "mask" correctly, the teacher will say, "Yes, mask." Typical Language Arts instruction in her classroom consisted of whole group instruction. Often the students took turns reading a story from the basal text, then Ms. Newman would ask several questions about the story content. Following the reading and questions, she would teach a skill, and students would practice the skill using the workbook that accompanied the text. Every day when students had finished their independent work, she provided them with center activities. Her centers consisted of activities on the computer, listening to a story on audiotape, using a toy "learning computer," and scores of teacher-made folder centers involving word study.

Ms. Newman followed the Direct Instruction program most faithfully during the first observation. She followed the script carefully and directed the students to sound out each word as the script dictated. Average learning trials per minute were 7.7 trials per minute and the accuracy of student response was 87% during the teacher presentation part of this lesson. During subsequent observations, she modified the script somewhat.

She did not demand that students sound out every word as the script dictated, she only made them sound out words that they could not identify easily. Thus she directed them to say the word, and if they had difficulty, she directed them to sound out the word using the usual Direct Instruction sounding and blending procedures. This resulted in a larger number of learning trials per minute, since the sounding procedure was fairly time consuming. As figure 4 below indicates, on subsequent visits, she taught at a rate of from 14.3 to 15.5 learning trials per minute. The accuracy of student response during Direct Instruction was fairly uniform in Ms. Newman’s class, ranging from 87% to 97%. She usually corrected students for content errors or when they did not respond in unison and always graded and returned independent work. Her students completed 100 lessons in the *Reading Mastery Fast Cycle* series. The students took five mastery tests. On the first two tests, all students achieved mastery level, on the next two tests all students except one achieved mastery level, and on the last mastery test, the mastery test following lesson 100, nine out of 13 students achieved mastery level.



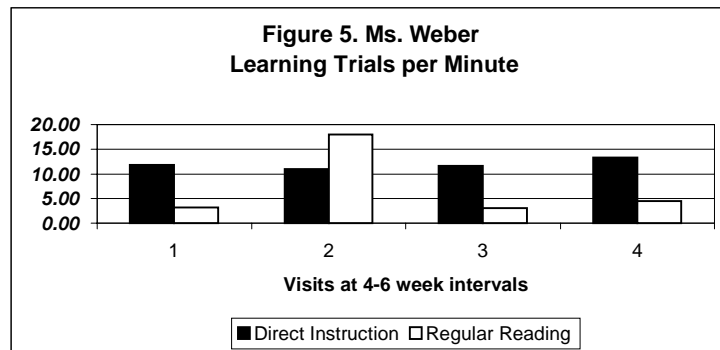
In general, Ms. Newman followed the Direct Instruction curriculum for *Reading Mastery Fast Cycle* fairly accurately. When Direct Instruction experts from the publisher observed in her classroom, they pointed out that she modified the presentation script, and

she did not follow the prescribed seating arrangement or post the reading rules as directed by the manual. However, Mrs. Newman felt her modifications were reasonable. She only modified the presentation script when she taught words that she felt the students had already mastered. She modified the seating arrangement because she had from 13 to 15 students in her group and she needed to have them all sit close to her so they could see the presentation book. She did not post the reading rules, “Sit tall, Eyes on book, Finger under the words,” because she thought they were not necessary in her room. Further, she conscientiously completed a lesson every day except days on which Direct Instruction was canceled, and she completed 100 lessons.

Ms. Weber’s fidelity of implementation. Ms. Weber taught in the second grade classroom at Purslane. She typically uses whole group instruction followed by individual work during her Language Arts lessons, but I also observed cooperative learning and partner learning during some exercises. I never saw her use small group instruction for teaching skills, but she reported having used such grouping in previous years. She used praise and positive reinforcement to shape behavior and to encourage correct academic responses. She asked frequent questions to check for understanding of directions and to check for student mastery of skills.

Ms. Weber had been exposed to Direct Instruction as a technique during an undergraduate reading course. She thought of it as one of many effective approaches to reading instruction. After teaching a few lessons and observing that the early lessons were too easy for her students, she decided to administer assessment tests early. After determining that students had mastered the skills involved, she decided to skip some of the lessons. She skipped lessons on two separate occasions and by doing so was able to

complete all 160 lessons in Reading Mastery II by the end of the school year. She was the only teacher to complete a whole year's curriculum during this first year of implementation. There were eight mastery tests in Reading Mastery II, and all her students reached or exceeded the 80% mastery level on each test. Her pace of instruction



was rapid and she corrected non-response and unison errors when she heard them. When the Direct Instruction experts from the publisher observed in her classroom, they pointed out that she did not follow the prescribed seating arrangement, since she had students sitting on the floor close to her chair during teacher presentation of the lesson. However, she had a large group of 16 students and did not use the prescribed seating because she needed her students to be able to see the presentation book during the teacher presentation part of the lesson. Her pacing of instruction was rapid, as evidenced by the number of learning trials per minute ranging from 10.9 to 13.3 (see figure 5). Student response was consistently accurate as evidenced by percentage correct in student response ranging from 88.1% to 93.9%. She would occasionally modify the Direct Instruction approach by using the words in the program to play a word game with the students. Also, before she would do a rate and accuracy check, she would give the students the opportunity to read to each other and check each other for accuracy. She

found that these modifications helped to make the program more interesting to her and to her students.

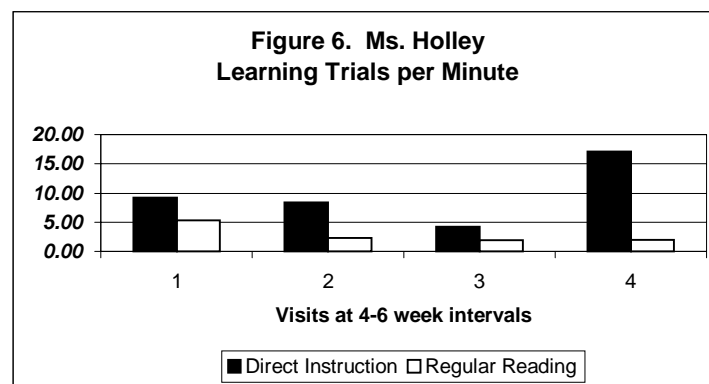
Ms. Weber followed the Direct Instruction curriculum the most accurately of the four teachers selected for in-depth study. Although she skipped lessons, when she was teaching a lesson she followed the script closely. She was both rapid and consistent in her pacing of instruction. She corrected errors routinely and corrected both content errors and errors of response, when the students were not responding or not responding in unison. She believed that the curriculum would help some of her students, and she was determined to move them through the curriculum at a pace that was rapid enough to bring about an increase in their skills. Of the teachers selected for in-depth study, she was the most proficient in implementing the Direct Instruction Reading program in the manner prescribed by the creators.

Ms. Holley's fidelity of implementation. Ms. Holley taught in one of the two third-grade classes at Purslane. Ms. Holley believed that third graders should be independent learners. In a typical reading lesson, she would ask questions about the content that was read the day before, then have students read aloud to the group or read in pairs to a partner, then ask questions about the passages just read. For a typical English lesson, she would give a rapid presentation of the new skill to be learned, ask questions to check for understanding of the skill, then assign independent work in practicing the skill. In questioning, she followed a traditional whole group questioning routine, she asked a question; the students raised their hands; she called on a student; the student responded; she gave feedback about the correctness of the response. When the student response was wrong, she sometimes gave a hint to prompt the correct response, sometimes called on

another student, and sometimes gave the correct response. In her classroom you frequently saw students working on independent work while Ms. Holley monitored their work, graded papers, or planned another lesson.

Ms. Holley taught Reading Mastery III to 14 students. It typically takes one hour and 15 minutes to complete a lesson from Reading Mastery III. Since the scheduled Direct Instruction period was 45 minutes long, those who taught Reading Mastery III taught half of the lesson one day, then reviewed the content of the story and finished the lesson the next day. This means that while most teachers were able to finish about 100 lessons in the course of the first year of implementation, those who taught Reading Mastery III only finished about 50 lessons.

When the Direct Instruction expert from the publisher observed in her classroom, the expert felt that because of scheduling Ms. Holley was not teaching enough lessons of Reading Mastery III to improve the reading of the students in this group. The expert also felt that Ms. Holley was not adhering to the script accurately. Looking at the range of learning trials per minute (see Figure 6), it also appears that Ms. Holley was inconsistent with pacing of lessons. All observations reflected in Figure 6 were of the beginning word study portion of the lesson, and on this part of the lesson Ms. Holley set a pace of about



eight or nine trials per minute on the first two visits. However, on the third visit her pace slowed to about 4 trials per minute, and on the last visit her pace increased to about 17 trials per minutes. On the third visit, she strayed from the script at least three times. One digression was to remind students that using the phrase “piece of pie” will help them to remember how to spell “piece” since “pie” in the first three letters of “piece.” Another digression was to remind students of the silent-e rule to help remember the pronunciation of “tube.” A third digression was to ask students several questions about the word “hoist” and to direct them to make the physical motions involved in hoisting a sail with a rope. These three digressions slowed the pace of the students’ responses and resulted in a lower number of learning trials per minute. On the fourth visit, Ms. Holley proceeded very rapidly and gave more students a chance to respond individually than she usually did. The students appeared to know these particular words very well and responded rapidly. Therefore, the number of learning trials per minute was higher during this lesson.

Ms. Holley demanded unison response from her students and was proud of the way her students responded correctly when she taught with the Direct Instruction materials. Her pacing of Direct Instruction was rapid enough to keep the interest of her students. Thirteen of her 14 students mastered the reading skills on the Mastery Test following lesson 20, and 12 of her 14 students mastered the reading skills on the Mastery Test following lesson 40. However, she did not follow the script faithfully. Besides the examples of digressions observed in the third visit, Ms. Holley made other changes to the script. For example, she asked the students to read with partners when the manual called for group reading, or asked all the boys to read, or all the blue-eyed students to read

instead of requiring the whole group to read. She would sometimes vary the correction procedure, and on at least one occasion, she showed a movie during the scheduled time for Direct Instruction. She believed these changes kept her students interested in the Direct Instruction activities.

Although she did not believe that the Direct Instruction curriculum that she was implementing was improving her students' reading skills, Ms. Holley was proud of her ability to require students to respond on signal. She was also proud of her ability to keep students interested. She was able to complete only about 50 of the 140 lessons of Reading Mastery III. However, most of her students mastered the skills presented in those 50 lessons. Her main flaw in terms of fidelity of implementation of Direct Instruction was that she did not follow the script faithfully.

Fidelity of implementation. In designing this study, I anticipated finding a relationship between fidelity of implementation and concerns about Direct Instruction. I thought that teachers who found Direct Instruction to be difficult to implement would be more concerned about the implementation process and less accepting of it. I thought that as those teachers became more proficient at the mechanics of implementation, they would have fewer concerns about the program and become more accepting toward it. Thus, I selected four teachers for in-depth study. I selected Ms. Weber and Ms. Newman because the trainers identified them as teachers who they thought would implement Direct Instruction easily, based on their response to training activities. I selected Ms. Oliver and Ms. Holley because the trainers identified them as teachers who they thought would have difficulty implementing Direct Instruction. I judged proficiency at implementation by measuring the pacing of learning trials and accuracy of response.

These results indicate that there was little relationship between proficiency at the mechanics of implementation and concerns about the program. All teachers, except Ms. Oliver, attained reasonable proficiency at the mechanics of implementation and then altered implementation to suit their own views of good instruction. Thus, there were no concerns about finding the program to be difficult to implement because the program mechanics were difficult to master. The concerns about implementing the program and suggestions for program change are detailed in the following section.

Factors that Help or Hinder Implementation

The concerns that teachers identified as factors hindering implementation were mainly the same concerns that emerged as themes when teachers were asked about their opinions of Direct Instruction. These themes follow: Direct Instruction stifled teachers professionally; teachers were not fully informed about Direct Instruction; scheduling of Direct Instruction was disruptive; and Direct Instruction was inappropriate for use with certain students. In addition to these concerns, teachers identified several specific logistical problems that they encountered.

Direct Instruction stifled teachers professionally. This theme relates to how teachers at Purslane felt tied down to using a very rigid scripted program in which there was no room for creativity and very little room for deviation. While this did not technically hinder implementation, it did hinder the faithful implementation of Direct Instruction because most teachers changed the program somewhat to conform more closely to the ways they customarily taught, introducing games and varying activities, as they judged necessary. When asked if the trainers and coaches could have done anything to make the implementation process better, Ms. Holley said, “If you just tell them, you

don't have to follow that book so rigidly, ... but that's the way it's scripted. That's the way it's supposed to be – boring. I mean, same old, same old. That's the way they [the program's creators] think that they're [the students are] learning.” Thus, Ms. Holley recognized that if the program were changed to be less rigid and more acceptable to her, it would not be acceptable to the creators of the program. The rigidity of the program and the teachers' expressed need for less rigidity represented a fundamental incompatibility between this program and this faculty. There appeared to be no middle ground that was acceptable to both the faculty and the proponents of this particular Direct Instruction program.

Teachers were not fully informed about Direct Instruction. This theme reflects teachers' concerns that they had only a vague idea of what Direct Instruction reading would be like when they voted for it in the spring before implementation began. None were aware that it would be a comprehensive program that would be phased in over three years. As they discovered what this program meant in terms of their day-to-day activities, some were outraged that more Direct Instruction was planned and they had little or no voice in the decision. The fact that teachers were not fully informed about the extent of the planned Direct Instruction program and did not truly consent to the program as it was planned definitely affected the implementation process of the program as a whole. Teachers became fearful that a program that they thought was to be a small part of their day would take up too much of their time. They became resistant, and when it was time to select a Math program for the second year of implementation, they did not select Direct Instruction Math. In this way, the course of the program was changed from

that planned by Ms. Praeger and Dr. Interland to a program that better suited the instructional methods of the classroom teachers.

Scheduling of Direct Instruction is disruptive. This theme relates to the almost universal dislike of the enforcement of a specific time when teachers exchanged students to create the homogeneous reading groups needed for Direct Instruction Reading. There were two aspects of scheduling that teachers found unacceptable. One aspect was that the scheduled time occurred at mid-morning when most teachers preferred to schedule their language arts lessons. The other aspect was that students were placed in homogeneous groups and teachers had to exchange students during this period so that students would be taught at their instructional level.

Teachers had very specific recommendations on how to make this situation better. However there was not universal agreement about the best approach. The teachers of kindergarten, first and second grade children wanted to continue using Direct Instruction Reading as a supplemental approach for all students, and they wanted to keep their own children in their classes and schedule the Direct Instruction periods at different times to fit each teacher's individual schedule. The teachers of third, fourth and fifth grades wanted to use Direct Instruction Reading only for those students achieving below the 56th percentile, and they wanted to schedule it during the last period of the day. The special education teachers wanted to only teach Direct Instruction to students identified as having disabilities, and they wanted to schedule it during the first period of the day. These solutions were consistent with the teachers' most pressing concerns.

Teachers of younger children, those in kindergarten, first and second grade, did not want their students to change classes. Further, they found that they could not make

efficient use of time when they did not control all the academic learning time of their students. They were also adept at teaching two or more instructional groups during the day. They were comfortable balancing small-group instruction with independent work, and with keeping track of individual student achievement. They found that the Direct Instruction materials fit the needs of most of their beginning readers for instruction in phonics-based word identification. If they could control the scheduling of Direct Instruction and place their own students in groups in their own classrooms, they felt they could fulfill their obligations to teach with Direct Instruction materials and also reach their own instructional goals.

Teachers of children in third, fourth and fifth grades were more comfortable with the idea of teaching specific content within a specific time period. They were more likely to adhere to a strict schedule than teachers of younger children. The two third-grade teachers exchanged classes frequently, so their students were accustomed to frequent changes of setting. The fourth- and fifth-grade students were even more adept at making rapid transitions from one subject to another. Therefore, these teachers were not concerned about students being disrupted by changing classes, but were concerned about the materials being inappropriate for their students. They preferred to schedule a separate time near the end of the day during which teachers exchanged students and taught Direct Instruction Reading to the students who needed it most, while the rest of the students participated in enrichment activities unrelated to Direct Instruction.

Special educators were most concerned about satisfying the obligations specified by their students' IEPs. They did not want to teach students without disabilities. They wanted to teach their students with Direct Instruction materials during the morning hours

when their students learned best. They wanted their Direct Instruction duties to be fully discharged when they met the obligations detailed in their students' IEPs. Thus the solutions of all the teachers were aimed at making the Direct Instruction obligations fit as closely as possible to their usual duties.

Direct Instruction is inappropriate for use with certain students. This theme reflects the belief that Direct Instruction was most appropriate for beginning readers and the least successful readers of any age. Teachers found that it was least appropriate for academically gifted students of any age and for successful older readers. They suggested that Direct Instruction be used only with younger readers and with less successful older students as described in the previous section. These suggestions took the general form of only using Direct Instruction with students for whom it would be appropriate. However, they also made suggestions for changes to the Direct Instruction materials that would make them more appropriate for use with all students.

The most common suggestion for changing Direct Instruction reading materials was to make them more complex and less repetitive. Besides that general recommendation, there were specific recommendations concerning teaching methods in *Reading Mastery I*, *Reading Mastery Fast Cycle*, *Reading Mastery II*, and *Reading Mastery III*. Teachers recommended that the curriculum follow standard capitalization rules in *Reading Mastery I*, *Reading Mastery Fast Cycle* and *Reading Mastery II*. These are the only Direct Instruction materials that follow non-standard capitalization rules, and all teachers using these materials recommended that this change be made. Teachers believed that their students needed to follow standard capitalization rules beginning in

first grade; they found that the use of only lower-case letters in these materials confused students.

Both third-grade teachers, the only teachers of *Reading Mastery III*, had specific suggestions for improving that curriculum. Both third-grade teachers suggested changing the content of the *Reading Mastery III* lessons that taught that Santa Claus, flying reindeer, and elves were fictional. They thought the curriculum should use different examples of fictional characters at the third-grade level, because they did not want to be the first to inform their students that Santa Claus and elves are not real. One teacher of *Reading Mastery III* thought the use of Centigrade scale in measuring temperature should be discontinued since Centigrade is not used in the regular third-grade math and science curriculum. The other teacher of *Reading Mastery III* thought that the lesson that used only text and pictures to teach about meters and centimeters should be changed to include more activities in measuring real objects so that students would really understand these concepts.

Teachers found that using Direct Instruction materials was not appropriate for all students. They thought it was most appropriate for younger children and children who had more difficulty in reading. However, they thought certain aspects of the Direct Instruction curriculum were not appropriate for any children, such as the use of non-standard capitalization rules and teaching young children that Santa Claus is not real. Thus they made suggestions for changes in the use of the curriculum to make it more acceptable.

Logistics that hindered implementation. In addition to the problems identified above, teachers identified several logistical problems that hindered

implementation. Early in the implementation process, some teachers did not have complete sets of materials. There were also several logistical problems that continued beyond the first month of implementation. These problems are described below.

The earliest and most obvious logistical problem was the inability to get the needed materials to the teachers when they needed them. Most materials were ordered in the summer and had arrived before the training sessions in August. However, the initial orders were made on the basis of guesses about the numbers of students who would be placed in each of the instructional levels. After the placement tests were given and the actual students needing instruction at each level were known, additional materials were ordered so that each group would have the materials it needed. However, materials from this early September order took a minimum of three weeks to arrive at the school. One of the *Language for Learning* kits that was ordered at this time did not arrive until after Thanksgiving. To meet the needs of the affected groups, copies were made of student materials, and teacher materials were borrowed from two of the trainers. In addition, two teachers shared a *Language for Learning* teacher's manual by unbinding the manual and removing the pages needed each day. Five teachers were affected by the late arrival of the materials, and each of these teachers mentioned materials as a concern.

Placement of students in the correct instructional group was a logistical problem that continued throughout the year. Ms. Knight, who taught kindergarten, had ongoing concerns about student placement in the program. After receiving placement results that placed her students in two instructional groups, one taught by her and one taught by her aide, Ms. Knight expressed her concerns about these placements. Her aide had been trained in implementing Direct Instruction materials, but Ms. Knight did not want her

aide to lead one of the instructional groups. She decided to teach both instructional groups but soon found that this arrangement placed too great a burden on her. She asked that another teacher be found for the second instructional group. This was accomplished when Ms. Lewis, the Speech and Language teacher, agreed to teach a *Language for Learning* group comprised of several students from Ms. Knight's class. Ms. Knight's concerns about placement and the composition of groups continued throughout the year. In the spring, she expressed concerns that her group of 15 kindergarten students was too large and that some of the slower students were holding other students back. She suggested that another teacher be found to split the group into two groups, so that one group would be able to go through the curriculum at faster pace. It was not possible to find a teacher who was free to take this group, so this concern was never addressed.

Other teachers had concerns about the placement of students. Ms. Newman expressed concerns about the placement of her students who she felt were being bored by the curriculum. She wanted to move the group to a more advanced lesson, but she was not able to find time to give her students individual tests to see whether they could move ahead in the curriculum. Ms. Weber and Ms. Taylor also had concerns about the proper placement of certain students after the program was in progress for a few months. This concern was not fully addressed. It might have been addressed by the assignment of additional staff to assist with mid-year placement testing of students.

Several teachers expressed concern about the size of their groups. Ms. Knight found that with 15 kindergarten students in a group, she was unable to monitor their responses effectively. Ms. Frazier, the substitute teacher who taught both *Reading Mastery IV* and *Reading Mastery V*, thought that her groups were too large to monitor

effectively. She noted that on the videotape of model Direct Instruction the group consisted of between five and seven students as compared to 14 students in the groups she taught. Ms. Taylor and Ms. Holley said that their groups were too large to monitor effectively. Ms. Tenney, who had seven students in her group, said that if she had very many more than seven it would be difficult because she needed to monitor individuals closely. When I did classroom observations and attempted to monitor whether students were responding or not responding, and whether or not they responded in unison, I found it very difficult to monitor accurately and decided to discard data on non-response and unison response, because I could not collect it reliably. The size of some groups made the proper monitoring of Direct Instruction, as prescribed by the program, very difficult.

Several teachers expressed a desire to split their groups so that some students could move through the program faster. Ms. Taylor, Ms. O'Dell, Ms. Newman, and Ms. Knight all would have preferred to split their groups. These concerns were not addressed because all teachers were already teaching Direct Instruction groups during the designated time for Direct Instruction. Ms. Taylor expressed her understanding of the limitations placed on the size of groups by the limited number of staff available. She said, "If we could make unlimited groups, I think my group could probably be split into two groups, one moving slower and one that could go ahead and move more rapidly. Of course, you can't have unlimited groups."

Scheduling of coaches remained a logistical problem throughout the first year of implementation. A coach experienced in Reading Mastery I, Reading Mastery Fast Cycle, and Reading Mastery II was able to provide modeling of lessons for teachers who requested them. However, a coach experienced in Reading Mastery III, IV and V and

Corrective Reading was only able to schedule one coaching visit to the school. This meant that when upper level teachers requested that a coach model a lesson in their classroom; these coaching sessions were either provided by an inexperienced coach or were not provided. Three teachers identified this as a problem.

Summary

I found that mastering the mechanics of the Direct Instruction teaching techniques was not a factor that helped or hindered the general effort at implementation. All participants considered Direct Instruction to be easy to implement. All participants were able to master the mechanics of Direct Instruction and all chose to alter the program to a greater or lesser degree. Five factors that hindered the smooth implementation of the program emerged. They were the rigidity of the materials, the absence of informed approval of the program by the teachers, problems with the schedule, the use of the materials with all students, and several logistical problems. The logistical problems included timely distribution of materials, placement of students in instructional groups, size of instructional groups, and availability of coaches to provide model lessons. Except for the first one, all of these factors could be resolved by changes made in the implementation process at the school. The rigidity of the program was found to be an unalterable factor in hindering implementation of Direct Instruction at Purslane Elementary.

Summary of Results

What were educators' opinions of Direct Instruction materials and how did these opinions change during the course of the first year of implementation? I found that four

of the seventeen teachers disliked Direct Instruction strongly enough that they refused to participate in the implementation process during the second year. Four teachers liked Direct Instruction and had very few concerns about it, and nine teachers had more serious concerns about Direct Instruction but were willing to continue using it. Five themes emerged from the data analyzed and helped explain the teachers' opinions: Direct Instruction stifled teachers professionally; teachers were not fully informed about Direct Instruction, scheduling of Direct Instruction was disruptive; Direct Instruction was inappropriate for use with certain students; and teachers felt devalued as professionals.

Did educators' perceptions of their teaching efficacy change during the course of the first year of implementation? The qualitative analysis of the data showed that teachers at Purslane believed that personal characteristics and home environment affected achievement and that they hesitated to attribute success or failure entirely to the teacher. The quantitative analysis found that teachers' beliefs in their own ability to improve achievement stayed about the same and teachers' beliefs that good teaching could overcome the effects of home environment increased slightly. The slight increase could not be attributed to teachers' beliefs that their increasing skills at using Direct Instruction techniques were increasing their ability to help students achieve as I had hoped. This is because teachers clearly did not believe that Direct Instruction was helping them become more skilled teachers.

Did attitudes toward inclusion change during the first year of implementation? They changed very little. Although scores on the ATIES showed a small change in the direction of being more accepting of children with disabilities, I could find no other corroboration that teachers were actually more accepting toward students with learning

problems. I examined changes in attitude of two teachers in the in-depth study. One teacher's change toward being less accepting toward students with physical disabilities could be attributed to her concerns about having a child with no vision assigned to her classroom for next fall. One teacher's change toward being slightly more accepting toward students with disabilities of behavior could be attributed to her success with a student with a behavior disorder. I did not see changes in teachers' acceptance of students with disabilities overall as evidenced by a change in teachers' behaviors toward students with disabilities over the course of the year. The teacher-student interactions that I observed in March were very similar to those I observed in November. Teachers' responses to interview questions that related to inclusion of students with disabilities did not change substantially from the beginning of the study to the end of the study. On the main three measures conducted in this study, interviews, classroom observations and the attitude scale, there was no evidence of change in behavior toward or attitude toward students with disabilities.

What factors do educators identify that help or hinder their implementing Direct Instruction curricula? Five factors hindered the implementation of Direct Instruction at Purslane. They were the rigidity of the materials, the absence of informed approval of the program by the teachers, problems with the schedule, the use of the materials with all students, and several logistical problems. The logistical problems included timely distribution of materials, placement of students in instructional groups and group size, and availability of coaches to provide model lessons. These factors suggest changes that can be made in the implementation process at the school. Only the incompatibility

between the teachers' preferred teaching style and the rigidity of the materials can not be changed by changes in implementation procedures.

This chapter has described results obtained from analyzing qualitative and quantitative data from various sources centered on the general question of how the process of implementing a Direct Instruction curriculum affected teachers during the first year of implementation. Four questions were chosen to illuminate the teachers' attitudes and behaviors during this process. These questions concerned the teachers' opinions of Direct Instruction materials and methods, their perception of teacher efficacy, their attitudes toward students with disabilities, and their identification of factors that hinder implementation. Each question was examined separately. The following chapter will discuss the meaning of these results in the light of prior research and draw some implications from these results.

CHAPTER 6

SUMMARY AND DISCUSSION

This final chapter restates the research questions and reviews the major methods used in the study. The final sections of this chapter summarize the results and discuss their implications.

Statement of the Problem

Direct Instruction has been shown to be effective at increasing achievement for students with and without disabilities (Adams & Englemann, 1996; Bereiter & Kurland, 1981-1982; Gersten, 1985; Gersten & Keating, 1987; Meyer, 1984). The current national interest in improving achievement outcomes for all children has sparked renewed interest in Direct Instruction in recent years (Cassidy & Wenrich, 1998-1999, Chaddock, 1999; Nadler, 1998). The teaching techniques learned through the successful teaching of Direct Instruction curricula can be beneficial for including all students in the academic life of the classroom. However, teachers sometimes find learning Direct Instruction techniques challenging to acquire (Englemann, 1988; Gersten, et al., 1995), and many teachers reject these curricula and methods after exposure to Direct Instruction (Ogletree & Dipasalegne, 1975; Ogletree & Ogletree, 1976). The few studies of the process that teachers go through as they learn to implement Direct Instruction have been silent about the reasons teachers reject Direct Instruction after using it. Furthermore, studies of implementation of Direct Instruction curricula have not adequately addressed the question of what steps staff developers and teacher educators can take to ease the learning process for teachers.

The present study was undertaken with these gaps in the research in mind. To that end the primary research question was: What are educators' views of the process of implementation of Direct Instruction curricula and the changes that process brings about? Specifically, the following four questions were examined in detail:

1. What are educators' opinions of Direct Instruction materials and techniques and how do they change during the course of the first year of implementation?
2. Do educators' perceptions of their teaching efficacy change during the course of the first year of implementation?
6. Do educators' attitudes toward inclusion of students with disabilities change during the course of the first year of implementation?
7. What factors do educators identify that help or hinder their implementing Direct Instruction curricula?

These four questions formed the structural framework for this study. A qualitative approach was used to study the school as a whole, with an emphasis on examining the views of four teachers selected for in-depth study as is described in the following section.

Review of Methodology

This yearlong qualitative study of implementation of Direct Instruction at Purslane Elementary employed formal and informal interviewing, classroom observation, and document review. I was employed at Purslane as one of the four Direct Instruction coaches, so I was able to make observations approximately twice a week during the school year. I conducted beginning- and end-of-year interviews with each of the 17

teachers implementing Direct Instruction. Four teachers were selected for in-depth study on the basis of their trainers' predictions of their potential for success with implementation. With these four teachers, two additional mid-year interviews were conducted. All formal interviews were audio-taped and transcribed. During visits to the school, field notes were made of informal conversations and observations made in classrooms, hallways, and offices around the school. In addition, formal classroom observations were made of the four teachers selected for in-depth study, both during Direct Instruction and during regular reading instruction. During some of these observations, coding was used to monitor aspects of the Direct Instruction curriculum that are important to student achievement: pacing of instruction, accuracy of student response and accuracy of student correction.

In addition to interviews and observations, I collected a broad variety of school materials for document review. These included the school Inclusion Plan, the school's Title I plan, memos from the principal, email messages from teachers, and lists of students organized by their Direct Instruction groups and by homeroom. I also administered two rating scales to participating teachers in order to provide quantitative corroboration of qualitative results. These scales were the Teacher Efficacy Scale (Gibson & Dembo, 1984) and the Attitude toward Inclusive Education Scale (Wilczenski, 1992).

Results emerged through the process of triangulation by using the multiple sources of data listed above. Through triangulation, results are confirmed through examining the meaning of a phenomenon by looking at it from multiple sources: Do the participants interpret the phenomenon the same way, do the observations and field notes

confirm the data from the interviews? Do the documents confirm the emerging interpretations?

Ethnograph v.5.0 computer software (Seidel, 1998) was used for data management. Using this software, I identified and coded idea units. Idea units that were not relevant to the study were ignored and relevant data were examined to see if the data clustered together. The clusters then emerged into themes, which expressed “the essence of [a group of] these clusters” (Hycner, 1985, p. 290). To check for potential biases I conducted “member checks” (Hycner, 1985) by sharing parts of my findings with the four teachers selected for in depth study for their comment. In all cases, the teachers confirmed the data collected. The themes that emerged formed the results of the study.

Reflection on Results

We use stories to make sense out of what is happening to us. The story of Purslane Elementary helps us make sense out of what is happening in professional development, school reform, and efforts at inclusion of students with disabilities. In the following section, I will summarize the results presented in the preceding chapter and then make sense of the results in terms of unexpected results and the relationship of these results to prior literature.

Opinions of Direct Instruction

I found that four of the seventeen teachers disliked Direct Instruction intensely enough that they refused to participate in the implementation process during the second year. Four teachers liked Direct Instruction and had very few concerns about it, and nine teachers had concerns about Direct Instruction but were willing to continue using it.

Most of the teachers' opinions of Direct Instruction were fairly consistent throughout this study. However one teacher, Ms. Newman, liked the program at the time of the first interview and disliked it two months later. She had several reasons for her growing dislike of Direct Instruction, including the repetitive nature of the activities, disruptions caused by the scheduling, the fact that young children were changing classes for Direct Instruction, and several concerns about the skills being taught. These concerns were not evident at the time of the first interview but, as the year went on, the repetitive nature of the materials, her judgment that skills taught were not appropriate, and the disruptions caused by scheduling and placement decisions became more frustrating to her.

Ms. Newman's explanations of why she did not like using Direct Instruction corresponded very well to the themes that emerged from analyzing the data collected from all the teacher interviews. The themes were: direct instruction stifled teachers professionally, teachers were not fully informed about direct instruction, scheduling of direct instruction was disruptive, direct instruction was inappropriate for use with certain students, and teachers felt devalued as professionals. Overall teachers felt that the program devalued teachers as professionals because it was highly structured and repetitive; it did not require highly qualified teachers since trained volunteers or paraprofessionals could implement the program; some aspects of using it conflicted with their professional judgment; and it was forced on them.

Making Sense of Teachers' Opinions of Direct Instruction.

I had anticipated that teachers would feel hesitant toward implementing the Direct Instruction curriculum and practices at the beginning of the study, yet become more

enthusiastic users of Direct Instruction as the year went on. This was the experience of Gersten, et al. (1986) in their study of the perceptions and concerns of 21 teachers and 21 aides who were implementing a Direct Instruction curriculum for the first time. In that study, educators who had expressed concerns initially were impressed by the achievement gains of their students and felt more positively toward Direct Instruction at the end of the year.

This was not the case at Purslane Elementary. The teachers' opinions and attitudes in this study aligned more closely with those expressed by teachers in the Ogletree and Dipasalegne (1975) and the Ogletree and Ogletree (1976) studies. In these studies, teachers found Direct Instruction to be effective, especially for slow learners and particularly for learning word attack skills. However, over half the teachers said they would use another reading method if given a choice. In the second study (Ogletree & Ogletree, 1976), only 14% thought Direct Instruction was effective with all children, and only 28% believed that it was effective with average learners. This parallels the current study where teachers found it to be inappropriate for use with average and above average students. Through their efforts at changing the direction of the implementation, the teachers were able to limit the number of children taught using the program in the second year. In addition, they chose not to implement a Direct Instruction mathematics program in the second year when given a choice, and several chose not to be a part of the implementation of the Direct Instruction reading program during the second year.

I am suggesting two possible explanations for some teachers at Purslane having rejected Direct Instruction as a reading method. The first is that reforms are very commonly rejected, that is, reforms in general are difficult to implement and sustain. The

second is that Direct Instruction as a method of teaching reading contradicted some of the teachers' beliefs about teaching and about themselves as professionals.

Rejecting a reform is a very common reaction to a reform. From the seminal Rand Change Agent Study in the 1970s (Rand Corporation, 1975) to more recent reports (Fullan & Miles, 1992; Huberman & Miles, 1986; Kennedy, 1997; McLaughlin, 1990), various authors have found that reform is initially difficult to implement. Even more importantly, they have found that once implemented, the reform often fades away, as teachers revert to more traditional practices a few years after the initial reforming drive. Cuban (1996), on an optimistic note, pointed out that there have been enduring and significant reforms in the twentieth century, including decreased student-teacher classroom ratios, use of small-group and individual instruction, and increased access of children with disabilities to the public school classrooms. However, given the number of reforms that have been attempted in the nation's schools, the dominant response to reform is either active rejection of the reform or passive disinterest.

The teachers at Purslane followed this trend, since most teachers at the school either rejected the reform or accepted it passively, implementing it without being convinced that the program was beneficial. At Purslane, teachers were accustomed to being required to implement new programs. Because of their prior experiences with reforms, they were also aware that a program might be implemented one year and forgotten the next. As a result, they may have acquired a skeptical view of new programs, and tried to protect teaching and learning opportunities that they considered important by committing minimal energy to new programs. The phenomenon of rejecting a new program after the initial implementation period was seen at a faculty

senate meeting in the spring of 2000, when teachers who had learned that their implementation of a new discipline program called SOAR had been evaluated and validated as correctly implemented asked if they had to continue using it. The school did, in fact, discontinue using SOAR in the 2000-2001 school year. Several other major instructional programs were implemented at Purslane for a short period of time, including the Caldwell Reading program which was implemented for just the 1998-1999 school year, and the Junior Great Books program which was used only briefly. These experiences may have caused teachers to regard new programs more as passing irritants than as ongoing initiatives that will be fully incorporated into the school culture. Therefore, one explanation of teachers' rejection of Direct Instruction was that it was seen in this light.

Arguably the most important result that arose from examination of the first question is that teachers found that using Direct Instruction materials stifled them and made them feel devalued as professionals. Of all the results, this gives the clearest explanation of why teachers rejected this program, beyond the fact that it is a relatively common practice for teachers to reject any type of reform.

Thus it follows that the second reason that I am advancing for teachers' rejection of Direct Instruction is that it contradicted their teaching beliefs and practices. Many teachers at Purslane expressed a belief that students learn best when working individually on practicing a skill, when working in a group on a project, or when they are taking responsibility for their own learning. These teachers had learned the value of self-directed learning, and were uncomfortable with the strongly teacher-directed focus of Direct Instruction. They found that the teaching practices mandated by Direct Instruction

Reading programs were different from their most commonly used practices, and they felt that their own practices were more effective.

Teachers in this study wanted the freedom to choose the conditions under which they taught. Under this program they were unable to choose their materials, their instructional methods, or even the words they used during teaching presentations. They were unable to choose which of their students used these materials or at which time the materials were used. This lack of freedom of choice made the other requirements under which they operated more difficult. For example, they found that they had difficulty scheduling enough time to adequately teach the required subjects and would have preferred to have more flexibility in choosing both when Direct Instruction was offered and how much time they were required to give to its implementation. Moreover, lack of freedom of choice made them feel they were being treated unprofessionally, since their professional judgement was not being valued and they had no control over the conditions of their work.

As Cuban (1988) asserts, researchers and reformists often fail to consider teachers' beliefs and values. Several authors (Gitlin, 1999; Joyce & Showers, 1995a; Mann, 1995; Richardson, 1994) stress the importance of collaboration with teachers when developing and implementing reform. In their view, involving teachers in decision-making, using peers to coach and mentor teachers, and, indeed, encouraging teachers to participate in the development of the proposed program, leads to reforms that are both effective in reaching their goals and long-lasting. These authors believe that acceptance of a given reform is caused in part by the fact that collaboration with teachers in the design of the reform resulted in a reform that was compatible with their beliefs and

practices. From this perspective, the Purslane implementation of a Direct Instruction Reading curriculum was not optimally successful, at least in part, because the teachers did not help design the program and were not given a true voice in selecting the program or the conditions of its implementation.

In summary, the teachers at Purslane had neutral or negative opinions toward the Direct Instruction Reading program overall. For most teachers these opinions and attitudes persisted or became more negative throughout the study. This result could be seen as part of the body of research that shows that reforms are commonly rejected, and that reforms are not continued past the first year or two of implementation (Fullan & Miles, 1992; Huberman & Miles, 1986; Kennedy, 1997; McLaughlin, 1990; Rand Corporation, 1975). This study also can be seen as contributing to the literature that stresses the importance of valuing the beliefs and practices of teachers when implementing reforms (Gitlin, 1999; Joyce & Showers, 1995a; Mann, 1995; Richardson, 1994), since the teachers in this study clearly felt that the program was forced on them and devalued them as professionals. The next section will review the results of the second question and provide an explanation of those results.

Teaching Efficacy

Did educators' perceptions of their teaching efficacy change during the course of the first year of implementation? Qualitative analysis of the data showed that teachers at Purslane believed that personal characteristics and home environment affected achievement and that they hesitated to attribute success or failure entirely to the teacher. This was evidenced by teachers' actual hesitating to answer questions about classroom successes, and frequently relating success stories of students who returned and declared

that they had learned well in the class of the particular teacher. Teachers identified personal and family characteristics, such as maturity, disability status, and the availability of helping adults at home, in their stories of successful and unsuccessful students. The belief that personal and family characteristics affected achievement was corroborated by their scores on the Teacher Efficacy Scale.

Examining the scores of the Teacher Efficacy Scale showed that, on average, each teacher would “moderately agree” to statements that reflect the belief that she or he is an effective teacher. This shows moderately high personal teacher efficacy. At the same time, teachers would “disagree slightly more than agree” to statements that indicate that the effects of home environment and personal characteristics can be overcome by good teaching. This shows that teacher outcome expectancy was lower than personal teacher efficacy for these teachers. This supports the themes that emerged from the qualitative analysis of interviews and field notes, especially the theme that personal and home characteristics affect teaching.

A quantitative analysis of scores on the Teacher Efficacy Scale across the year found that teachers’ beliefs in their own ability to improve achievement stayed about the same and teachers’ beliefs that good teaching could overcome the effects of home environment increased slightly. However, the slight increase could not be attributed to teachers’ beliefs that their growing skills at using Direct Instruction techniques were increasing their ability to help students achieve, for the simple reason that teachers did not believe that Direct Instruction was helping them become more skilled at teaching.

Making Sense of the Results on Teacher Efficacy

The moderately high scores that Purslane teachers obtained on personal teacher efficacy may partially explain their resistance to the new program. Guskey found that high teacher efficacy may inhibit teacher change (Guskey, 1986). It may be that high personal teacher efficacy scores reflected teachers' confidence in their own instructional methods, which made them resistant to change any part of their effective practices. Certainly, it is true that the teacher with the highest score in personal efficacy, Ms. Oliver, was the most resistant to implementing the Direct Instruction program, since she only used the materials one time, and on that occasion, she modified them radically.

As I planned this study, I had expected that teachers would become proficient at Direct Instruction techniques, which then would become incorporated into their routines and would be used by them in other academic subjects. Further, as the students became more proficient readers using these techniques, I assumed that the teachers' sense of their own effectiveness would increase, and they would feel that the effects of personal characteristics and home environment could be overcome by good teaching, resulting in increases in teacher efficacy beliefs. Fritz, Miller-Heyl, Kreutzer and MacPhee (1995) found that implementation of a professional development program that emphasized that the teacher is the key factor in student achievement resulted in an increase in teacher efficacy scores, and I expected this study to replicate their results.

This expected result failed to be verified, in part because the teachers did not incorporate Direct Instruction techniques into their teaching routines outside of the Direct Instruction time period. However, the most important reason for this result not being supported is that the teachers did not believe that Direct Instruction was responsible for increasing the achievement of their students. Teachers, in general, believed that the

increase in reading achievement of the school overall was due to one or more of three factors: 1) two weak teachers who had taught at Purslane last year were replaced by much stronger teachers; 2) this year, for the first time, each student was thoroughly instructed in test taking strategies for the SAT-9, including use of practice tests that were very similar in format and content to the SAT-9; and 3) the supplementary Direct Instruction reading program provided students with an additional 45 minutes of reading instruction every day. They felt that these three factors would almost certainly result in an increase in students' SAT-9 scores, and therefore, an increase of reading scores alone was not sufficient to prove that Direct Instruction was an effective program.

These are excellent reasons to explain why any increase in achievement scores for the school overall would fail to prove that Direct Instruction was responsible for the increase. The teachers at Purslane understood that, in the absence of a control group to control for confounding factors, the increase in achievement at Purslane could not be attributed to any one factor. For the most part, except for teachers of very low-functioning readers, they did not believe that Direct Instruction was responsible for the reading gains their students made.

Thus, regardless of the gains made in reading by Purslane students, the teachers did not believe that the gains were due to their use of Direct Instruction techniques. No claim can be made, therefore, that Direct Instruction increases teachers' beliefs in their own teaching effectiveness or in their belief that good teaching can help overcome the effect of personal characteristics or home environment.

Attitude toward Inclusion

In general the teachers selected for in-depth study had different approaches to working with students with disabilities. Ms. Oliver taught the youngest children with disabilities, and she placed them in small groups on a level as close as possible to their instructional level, and included them in all large group classroom activities. Ms. Newman had first graders and she accommodated the needs of students with disabilities by helping them with prompts to complete the required assignments. This practice was congruent with her usual classroom practice of providing prompts for students having difficulty. Ms. Weber had second grade students and she adjusted assignments and discipline procedures to accommodate the needs of her students. Ms. Holley taught third grade and emphasized independence. She expected her students to find work to do in her classroom that they could do independently, and her students with disabilities often worked on computer activities or assignments given to them by their special education teachers when they were not included in the whole group activity.

The themes that emerged from analysis of the qualitative data about inclusion showed that teachers expressed positive beliefs about inclusion. These positive beliefs were expressed in both their enumeration of the beneficial practices they used in their teaching and their opinion that inclusion developed in the students a feeling of belonging that teachers thought was important for students' feelings of self-worth. They understood the difficulties of implementing inclusive practices and expressed this in their belief that disruptive behavior made inclusion difficult and in their frustration when they were unable to meet the learning needs of all the students placed in their classes. The final theme that emerged was that the practice of dividing students into achievement level groups for the Direct Instruction Reading program resulted in moving many students with

disabilities from their homeroom groups into groups with other students with disabilities. The effect of taking teachers' suggestions about which students should be grouped together resulted in instructional settings during the Direct Instruction Reading time that were even less inclusive than those proposed by the program's organizers.

Overall, attitudes toward inclusion changed very little during the first year of implementation at Purslane. Although scores on the ATIES showed a small change in the direction of being more accepting of children with disabilities, I could find no other corroboration that teachers were actually more accepting of students with learning problems. There were no discernible changes in behavior toward students with disabilities observed in the four teachers studied in-depth. However, two of the teachers studied showed some changes in attitude as measured by the ATIES and corroborated by interviews and observations. One teacher's change toward being less accepting toward students with physical disabilities could be attributed to her concerns about having a child with no vision assigned to her classroom for the following school year. One teacher's change toward being slightly more accepting toward students with disabilities could be attributed to her success with a student with a behavior disorder.

Making Sense of the Results on Attitude toward Inclusion

When examining whether teachers' attitudes toward inclusion changed, the primary conclusion is that it stayed very nearly the same. Similar to my expectations on teacher efficacy, I had expected that teachers' attitudes toward inclusion would become more positive as they became more proficient at instructional techniques that were beneficial for students with disabilities. This was the result reported by Salend and Johns (1983) in their case study of the inclusion of a child with disabilities. It also would

conform to the results found by studies where lack of time, resources, and training corresponded to a more negative attitude toward inclusion (Scruggs & Mastropieri, 1996; Semmel, et al., 1991) or where teachers with more administrative support had a more positive attitude toward inclusion (Villa, et al., 1996). Furthermore, common sense would tell us that teachers who were using effective strategies with students with disabilities would feel more accepting, since they would feel less anxiety over whether they could meet the needs of all the students in their classes, and less frustration over not meeting certain students' needs.

Just as with the results concerning teacher efficacy, the result anticipated above failed to be realized because the teachers did not find the Direct Instruction techniques particularly helpful. They did not use them outside the prescribed Direct Instruction period. They did not perceive themselves as becoming more proficient at working with students with disabilities because of the Direct Instruction techniques. Thus, they did not develop a more positive attitude toward working with students with disabilities because they believed they had more powerful instructional materials and techniques available to assist them in this work.

However, the story of the implementation of a Direct Instruction Reading Program at Purslane does tell us many things about the inclusion of students with disabilities. I will attempt to make sense of the results regarding inclusion and inclusive attitudes by first examining the results of the two teachers studied in-depth whose attitudes appeared to change as measured by the ATIES, then by examining the stories of the inclusive practices of the four teachers in the in-depth studies. Following that, I will examine the two themes related to positive attitudes toward inclusion, and finally I will

examine the themes related to the difficulties of inclusion and beliefs that result in less inclusive practices.

Two Teachers Whose Attitudes Changed. Even though most teachers' attitudes stayed the same, two teachers had changes in attitudes as measured by the ATIES, and both of the changes in attitudes are consistent with previous research. In the first case, the teacher who was assigned a child with no vision was clearly concerned about not getting enough support to serve the child well. This aligns with studies that have suggested that teachers' lack of enthusiasm for the practice of inclusion may be due to lack of time, training and material support (Scruggs & Mastropieri, 1996; Semmel, et al., 1991, Villa, et al., 1996). These studies show that teachers are less accepting toward inclusion of students with disabilities when they anticipate that inclusion will not be supported with the resources necessary to include the children effectively. Conversely, the study by Villa and his colleagues (1996) shows that teachers who feel they have the resources to include students effectively feel more accepting toward students with disabilities. Thus, in the second case, when the first grade teacher was assigned a child with an identified behavior disorder, and she found that she was able to teach him effectively, she became slightly more accepting toward inclusion of students with deficits in behavior.

Stories of Inclusive Practices. Inclusion at Purslane was not the "full inclusion" observed at the schools described by Villa and his colleagues (1996), where all students with disabilities are included in the regular classroom for the whole school day, and special education services are delivered to them in the regular classroom. At Purslane, all students with mild disabilities were included in the academic instruction of

the regular education classroom for at least part of the day, and all students with IEPs were instructed in a special education resource room for at least part of every week. Co-teaching by special educators and regular educators was not evident, nor was collaboration a planned part of the instructional day. Thus, the stories of inclusive practices at Purslane are stories of the general education teacher teaching a group of children that includes students with disabilities for part of the day.

Comparisons cannot readily be made across the four case studies presented here, because each classroom is a different grade level and has students with disabilities of different types and severity. However, each teacher is seen as teaching students with disabilities in a manner that is consistent with her usual teaching practices. Ms. Oliver had a multi-age classroom, in which she taught basic skills, such as reading, writing and mathematics, to kindergarten and first-grade students who were placed in small groups based on achievement level. She taught other subject matter in a large-group setting with modifications for students who are above and below level. She was a strong proponent of multi-age classroom teaching. She was accustomed to accommodating the needs of learners at different instructional levels. Grouping by skill level for basic skill subjects and making accommodations for students in other subject areas was her preferred instructional pattern and her instruction of students with disabilities fell into the same pattern. Ms. Newman believed in traditional whole-group classroom instruction, and she fit the instruction of students with disabilities into this format by giving them prompts and cues to help them complete classroom assignments. Ms. Weber varied her instructional practices depending on the students involved. When she learned that her writing class would include students with disabilities who normally do not attend, she

adjusted her lesson so that students were included in cooperative learning groups in which they contributed to a group assignment and were graded with their group. Her belief in the inclusion of all students in the academic life of the classroom was reflected in her instructional practices. Ms. Holley valued student independence; her preferred teaching method was to “give them directions; they understand, and they’re able to respond back.” She assigned independent work to her students with disabilities, including computer-based instruction and individualized assignments from the special education teacher.

The teaching practices observed when students with disabilities are included in the classroom can be explained by tolerance theory as put forward by Gerber and Semmel (Gerber, 1995; Gerber, 1988; Gerber and Semmel, 1985). Tolerance here is used in the engineering sense, as a machined part might be tooled to a certain tolerance outside of which it will not work for its intended use. In this way teachers feel comfortable teaching students who fall within some measure of tolerance to their teaching. That is, by experience, teachers have determined that the students falling within certain characteristics will respond successfully to their teaching practices. According to this theory, students falling outside of this tolerance will require an influx of new instructional resources. These might be special education resources, or resources from some other source, such as technology-related resources, or an after-school-tutoring program, or a parent volunteer. Thus, we see that Ms. Oliver, Ms. Newman and Ms. Weber used a variety of strategies that were effective for teaching students with disabilities and including them in the academic life of the classroom. Ms. Holley, who taught the oldest students (third grade), relied on technology and assignments from the special education

teacher to give her students productive work on their instructional level. Tolerance theory would say that students with disabilities fell outside of the tolerance level of her teaching practices for the whole group. In the cases of Ms. Oliver, Ms. Newman and Ms. Weber, even though each had different typical teaching practices, they were more easily able to accommodate students with disabilities within those practices.

Themes Related to Positive Attitudes toward Inclusion. The two themes related to positive attitudes toward inclusion were the theme of recognizing beneficial instructional practices and the theme that inclusion promoted a feeling of belonging, which was an asset to the included student with a disability. The beneficial practices identified by the teachers at Purslane included individualizing assignments, collaborating with the special educator, providing reteaching using a different method from the method used when the child was not successful, having expectations that were high enough to challenge the student without frustrating him or her, using peer tutors, and making modifications and accommodations. These practices reflect the practices that teachers found to be beneficial for students with disabilities in their classrooms. This list parallels lists found in textbooks on teaching students with disabilities (Lewis & Doorlag, 1991; Smith, 2001). One item on the list, having expectations that are high enough to challenge without frustrating, is not found on common lists of practices since it is less an instructional practice and more a rule governing how to decide what instructional activities are appropriate for a given student. This rule involves knowing the student well enough to make instructional decisions that are appropriate for him or her. This shows that teachers at Purslane did not rely on the IEP alone to tell them what was instructionally appropriate for the students with disabilities. They also used their own

knowledge of the student, obtained from day to day interactions, to help them determine what activities would be challenging without frustrating the student. This points to the conclusion that, for students with disabilities to be successful in the regular classroom, general education teachers may need to become proficient in performing informal assessments to determine which activities they have planned will be appropriate for the students with disabilities. This is a skill that is required of special education teachers (CEC, 1998). However, the move toward inclusion may be making it more and more important in the general education setting as well.

The second theme showed that teachers believed that inclusion promoted a feeling of belonging, and that this feeling of belonging was a desirable result for students with disabilities, because it promoted positive self-image and appropriate social skills. This theme corresponds with the position of The Association for the Severely Handicapped (TASH), an advocacy group for individuals with severe disabilities, and others (Schaffner & Busnell, 1996; Stainback & Stainback, 1990; TASH, 1993) who believe that inclusion of students with disabilities in all aspects of the general education curriculum is beneficial for developing both a sense of belonging and real skills necessary for successful adulthood. The theme of belonging is a well-developed theme in the book *Primates in the Classroom* (Bernhard, 1988a; Bernhard, 1988b) which established the idea that child relationships in the classroom are related to the relationships of other primates in their societies. Belonging to the group, regardless of status, is important, and “learning of all primates occurs in a dynamic balance between the need to belong to the group and the need to acquire personal identity and status.” (p. 51) Further, Glasser (1993) asserts that belonging is one of the five basic needs:

survival, belonging, freedom, fun and power. To Glasser, belonging encompasses both love and friendship; in the context of the elementary classroom, this means the friendship of other students and the knowledge that the teacher cares about the child. Glasser directs teachers to behave in ways that increase feelings of belonging in children.

The student's experience of feelings of belonging has been systematized by Meyer, Minondo, and their colleagues (1998). In their work, they classified six frames of friendship based on observations of how staff, classmates and the included student behave in the regular classroom. The "ghost/guest" frequently gets passed over as if he or she were not there, or staff members talk about a change of placement if there is any problem. The "inclusion child" is distinguished from the others as being "included" and being accepted by staff on the basis of being different. The "helped" child is related to by the other children as a child that they work with so that they can help him or her. The "just another child" is related to by staff and the other students as being one of them, expected to participate just as the others do. The "regular friend" gets selected for play times without teacher prompting and may get invited to birthday parties with other children. The "best friend" is the preferred companion of one of the other students, and two best friends will call each other on the phone and, if conditions permit, visit each other outside of school on a regular basis (Meyer, et al., 1998, p 216). Using this classification system, in combination with observations made in the classrooms, I would classify a typical child with a disability included in Ms. Holley's third-grade room as "ghost/guest." I would call a typical child included in Ms. Weber's second-grade room as "inclusion child," one included in Ms. Newman's first-grade room as "helped child," and one included in Ms. Oliver's multi-age first-grade and kindergarten class as "just another

child.” It appears, based on these four classrooms, that the students at the lower grade levels are more actively included in the social life of the classroom, and those at higher grade levels are less actively included.

Using the frames of friendship described above (Meyer, et al., 1998) it appears that many students with disabilities at Purslane may not be developing a sense of belonging, if belonging means participating routinely in classroom activities and developing friendships. Thus, I have found by examining inclusion at Purslane that developing a feeling of belonging through inclusion, while seen as desirable, may be difficult to accomplish without significant support for the child and the teacher.

Themes related to Difficulties with Implementing Inclusion. Teachers identified two specific difficulties encountered while attempting to include students with disabilities in their classrooms. The first difficulty was that students with disabilities who exhibited disruptive behaviors made inclusion more difficult. This is consistent with research by Lloyd, Kauffman, and Kupersmidt (1990), who found that students with behavior problems are the least well tolerated in the regular classroom. In addition, case studies by Smith and Dlugosh (1999) showed that teachers who perceived themselves as unsuccessful implementers of inclusion had concerns about the disruptions caused by some of the included students with disabilities. The second difficulty encountered by Purslane teachers was that they felt frustrated when they were unable to meet the learning needs of all the children placed in their classes. This difficulty parallels the concerns of the educators in the case studies conducted by Smith and Dlugosh (1999), who were concerned about their inability to meet the instructional needs of all their students.

The last topic in this section relates to the finding that breaking students into Direct Instruction reading groups based on achievement tests resulted in the formation of several groups in which the percentage of students with disabilities was much higher than that of the school as a whole. Further, when teachers' suggestions for changes in placement in Direct Instruction reading were implemented, these changes resulted in the movement of students with disabilities from groups in which there were fewer students with disabilities to groups in which there were more students with disabilities, increasing the percentage of students with disabilities in a few groups still more. It is one of the ironies of this first year of implementation of Direct Instruction at Purslane that the process of forming the instructional groups resulted in less inclusive practices at the school. Direct Instruction was intended to increase the reading achievement of all students, but it was expected that it would be especially effective at increasing the reading achievement of students with disabilities and those at risk of school failure. Moreover, it was my hope that learning Direct Instruction techniques would give regular educators a new set of strategies to use with students with disabilities who are included in their classes. However, for the Direct Instruction period of the day, the program actually resulted in fewer students with disabilities being taught in the classrooms of most regular educators.

This finding would not be a surprising one to advocates for individuals with learning disabilities, who have taken the position that individuals with mild disabilities must have the option of a continuum of services that includes education in a separate special education classroom (Deshler, Johns, & McGrady, 1997; LDA, 1993). While advocates of full inclusion may disagree, for some students, education in a setting away

from the mainstream may be beneficial, especially to make achievement gains in specific skill areas. However, this finding, that placement testing resulted in less inclusive instructional settings needs to be addressed in future implementations of Direct Instruction programs. Some of the changes in implementation made by the teachers at Purslane for the second year of the program will result in more inclusive instructional settings. For example, during the second year, teachers of kindergarten through second-grade students will divide their students into reading groups based on placement tests and reading achievement, but keep their own students, teaching two or more groups during the direct instruction period. In this way, younger students with disabilities will be in more inclusive settings, and the teachers will experience using Direct Instruction materials and techniques with more students with disabilities than previously.

Factors that Hinder Implementation

What factors do educators identify that help or hinder their implementation of Direct Instruction curricula? Five factors were identified as hindering the implementation of Direct Instruction at Purslane: the rigidity of the materials, the absence of teachers' real approval about the initial use of the program, difficulties arising from placement and scheduling, the use of the materials with all students, and several logistical problems. The logistical problems included timely distribution of materials, placement of students in instructional groups and group size, and availability of coaches to provide model lessons. These factors suggest changes that can be made in the implementation process at the school. Only the incompatibility between the teachers' preferred teaching style and the practices dictated by the Direct Instruction program can not be influenced by changes in implementation procedures. Many of the points made in the section

entitled, “Making sense of teachers’ opinions of Direct Instruction” are pertinent here as well. However, the teachers’ delineation of factors that hinder implementation make an excellent platform from which to make recommendations for changes in the implementation process.

Recommendations for Changes in the Implementation Process

Many of the difficulties identified by teachers at Purslane that hindered the implementation of Direct Instruction during its first year can be addressed by better communication and planning and by more timely administrative decisions. The factors identified by the teachers were factors that were outside of their control: materials, placement decisions, scheduling decisions, scheduling of coaches. The primary recommendation arising from examination of the factors that hindered implementation of Direct Instruction at Purslane is to give teachers more ownership of the process. This recommendation is in line with best practices identified by Gitlin (1999) and Mann (1995). It is no longer possible to allow teachers the opportunity to have real decision making power about the initial approval of the program or to incorporate teachers into the planning process before implementation begins. However, steps can be taken that will give the teachers more ownership of the process now that it is underway: 1) meet with teachers at least monthly to examine the progress of students in Direct Instruction and other curricula and listen to suggestions from teachers regarding improvements that can be made in the program, 2) incorporate teachers’ ideas into the evaluation process by encouraging teachers to develop or critique the proposal for the evaluation of implementation (benchmarks), and 3) include teachers in an ongoing executive committee with powers (within the confines of the program’s budget) to order materials,

to make placement and scheduling decisions, to select and schedule coaches, and to plan and coordinate professional development opportunities.

The critical factor that will make these three steps possible is time. Without sufficient time for these meetings to take place, the steps that were suggested above to give teachers more ownership of the program would be seen as an additional burden to teachers. Any of the three methods already used in the district to give teachers extra meeting and planning time could be used to give Purslane teachers time to pursue these activities: 1) The monthly professional development and planning time scheduled for Faculty Senate days could be used; 2) Substitute teachers could be hired to give teachers additional meeting and planning time during the school day; and 3) Teachers could be paid an hourly rate for attending meetings outside the school day.

This chapter concludes with a summary of a discussion of key results, implications for practice, and recommendations for further research.

Summary of Key Results

In a study such as this, where several questions are examined in the context of a yearlong implementation of an instructional program, the selection of key results is an important part of making sense of the results. The two key results that I would like to re-examine here are the result that Direct Instruction stifled teachers and made them feel devalued as professionals and the result that separating students into reading groups for Direct Instruction resulted in less inclusive instructional groups than occurred most of the school day. These results come together for me as examples of clashing reforms. If we look at implementing Direct Instruction Reading as a reform and implementing ever more inclusive education of students with disabilities as a reform, then Direct Instruction

clashes with Inclusion. Students with disabilities almost always have significantly lower reading achievement than their peers. Therefore, when students are grouped on the basis of reading achievement, we have a choice of putting students with disabilities with younger children without disabilities or in groups that are composed of a higher proportion of students with disabilities than the school as a whole. This is not a complete impediment to implementing Direct Instruction in a school that believes that students with disabilities should be included in the regular classroom for the entire day, because virtually all schools believe in grouping for skills lessons. However, the more Direct Instruction a school uses, the less students with disabilities will be included in classrooms with their peers in a proportion similar to their proportion in the school as a whole. This situation may not be harmful to educational achievement or to affective dimensions of learning (Daniel & King, 1998). However, this is a movement away from full inclusion.

The second result, that implementing Direct Instruction stifled teachers and made them feel devalued as professionals, also exemplifies clashing reforms. In this case the reform that stands in opposition to Direct Instruction is School-Based Management. School-based management is intended to give teachers and other members of the school community more decision-making power in professional settings. In West Virginia, school-based management takes the form of a faculty senate where teachers act in an advisory capacity to administration. In addition to their advisory duties, they control a small budget that varies from school to school, but is set at a minimum of \$50 per teacher (WV Code 18-5A-5). This was a reform intended to empower teachers so that they would have the resources necessary to implement the state curriculum for West Virginia that each teacher is required to follow. This state curriculum was designed as West Virginia's

response to the national move toward higher educational standards. Faculty senates in West Virginia are seen as weak and ineffective cases of school-based management since teachers do not have real authority over budget, curriculum or personnel (Wohlstetter, 1995). However, Purslane has also participated since 1994 as a Professional Development School connected with West Virginia University. This collaboration has provided Purslane with opportunities to make plans for professional development and receive grants to fund these plans. In addition, teachers have met every two years to develop long-range plans for the school. At these long-range planning meetings, teachers have become more aware of what school-based management really means and they have begun to understand that valued professionals are given decision-making power and some control over the conditions of their work. As we have seen, the implementation of Direct Instruction at Purslane frustrated teachers by giving them little or no control over the conditions of their work.

The conflict between Whole Language and Direct Instruction is another example of clashing reforms that may have contributed to teachers feeling devalued as professionals. Not all teachers at Purslane used Whole Language consistently in their teaching, but all teachers were aware of the Whole Language philosophy and have implemented units of instruction based on Whole Language. In these units, the teachers have selected the primary text and have developed skill lessons using the text as a starting point for these language arts lessons. In Whole Language instruction, the teacher designs skill lessons with the needs of students in mind. All decisions about what, when and who to teach are made by the teacher, in direct contrast to the Direct Instruction curriculum.

Whole Language values the teacher as a professional with the knowledge and skill to make significant instructional decisions. Direct Instruction does not.

In this section, I have explained two key results of the study in terms of the phenomenon of clashing reforms. In the next section, I will discuss implications for practice.

Implications for Practice

The most obvious implication for practice has already been stated: Give teachers decision-making powers in the reform implementation process. While it may be theoretically possible to initiate and sustain a reform without teachers' consent and cooperation, it is difficult to imagine how it could happen.

A second implication for practice is that students with disabilities must be considered when planning reform efforts. Of course, students with disabilities will be included as participants in the reform program whenever it is appropriate. Additionally, other aspects of instructing students with disabilities should be considered, such as the effect of the reform on the instructional setting for students with disabilities. At Purslane, when grouping for instruction had the unintended effect of making instructional groups less inclusive for students with disabilities, this result could have been examined, and efforts made to ameliorate the situation.

A third implication for practice is to provide coaches who model lessons, rather than merely provide feedback. Teachers requested coaches who would model instructional practices. Such coaches are seen more as peers and less as supervisors (Joyce & Showers, 1982). This would have been advantageous for maintaining the reform efforts.

The final implication for practice is to provide adequate support for inclusion of students with disabilities in the regular classroom. At Purslane, teachers' concerns about disruptive students would point to the need for more supports for teachers of students known to have behaviors that disrupt class. These supports might include reducing the student-teacher ratio in classes containing students with disruptive behaviors and providing consultation in administering functional behavior assessments and developing behavior plans. Further, teachers' recognition of the need to know students well enough to modify instruction points to the need for training in informal assessment strategies so that teachers can determine what instructional practices are appropriate for students with disabilities and students at risk for school failure. Also, at Purslane, teachers' belief in the importance of creating a sense of belonging points to the need for both administrative practices and training in strategies that help ensure a feeling of belonging in the classroom.

Recommendations for Further Research

Because this implementation of Direct Instruction at Purslane was flawed by lack of decision making power by the teachers implementing the program and various administrative problems, it would be instructive to repeat the study at a school at which the teachers had a vital part in the decision making process. While the teachers clearly had a negative response to the rigidity of the materials, by controlling some of the other factors that influenced their negative opinion of the program one might be able to determine if the materials alone could elicit the same negative response.

The role of the principal in the implementation of a Direct Instruction program is a fertile area for further research. In the study of the implementation of a similar program at two schools in Oregon, researchers reported that

The direct instruction practices of Reading Mastery were not consistent with the educational practices of a few teachers, and we had to problem solve around these issues. For a small number of teachers this problem solving involved either transferring to other grades or schools or making a commitment to “get on board.” (Simmons, Kuykendall, King, Conracione, & Kameenui, 2000, p. 99).

It appears that the administrators involved in the study cited above were much more forceful in requiring teachers to participate in the Direct Instruction Reading programs at these schools. The administrators of the program at Purslane did not take this approach. In fact, Ms. Praeger, the principal, and Dr. Interland, the Direct Instruction consultant, tried to make the program as palatable as possible for the teachers, and if teachers did not want to teach using this program, the administrators allowed them to be non-participants. It may be necessary for the administrator to be more authoritarian than Ms. Praeger and Dr. Interland in order for the program to be implemented in spite of the reservations of some of the teachers. Thus, another possible course for future research would be to examine the role of the administrator in the implementation of Direct Instruction programs.

In summary, the first year of implementation of a Direct Instruction program at Purslane was not a smooth one. Several teachers expressed negative opinions of Direct Instruction and did not volunteer to participate in the second year. The teachers did not relate to the program as one that improved their teaching practices. Despite the fact that the school’s reading achievement scores improved over the year of the study, the teachers did not attribute that improvement to the Direct Instruction program. The Direct

Instruction program as implemented at Purslane can be seen as a reform that clashes with other reforms, such as Whole Language, School Based Management and Inclusion.

Direct Instruction is a program that has been redirected by the teachers at Purslane so that during the second year it was no longer used by all the students, but was used mainly by younger students and those older students who have low achievement scores in reading.

In this way the program was reduced and refocused like the reform programs described by Cuban when he said, "Thus, some basic changes get encapsulated, like a grain of sand in an oyster; they exist within the system but are often separated from mainstream programs." (1996, p. 77)

Seen in this light, this study can be a springboard to other studies that examine the inherent contradictions of reform initiatives: Does this reform contradict a previous reform? What in the culture of this school works to maintain or to dismantle the reform program? To what extent are teachers protecting themselves from the present reform by minimizing participation? By examining reform within the context of past and ongoing reforms in a particular setting, we can continue to improve our understanding of reforms, especially those that impact students with disabilities.

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APPENDICES

APPENDIX A

Semi-Structured Interview Questions - Initial Interview

Semi-Structured Interview Questions - Initial Interview

1. Record Gender _____. Years Teaching _____. Years Teaching Reading _____. Present Grade Level _____. Prior experience with Direct Instruction _____. Certification areas _____. Highest educational level _____. Additional coursework _____. In what area _____
2. How did you learn to read? (What reading approach?) Describe the experience.
3. What do you think helps students become better readers (catch on to reading)?
4. Describe your teaching style. How does Reading Mastery (or corrective reading or...) relate to your teaching style?
5. Tell me a success story you've had in teaching a student or students to read (or become better readers).
6. Tell me a success story you've had teaching a student with a disability to read (if not in reading, to succeed in some other area).
7. What factors do you think are critical to working with students with disabilities in the regular classroom?
8. What successes have you had in using Reading Mastery (or Corrective Reading or ...)? What parts have been easy for you?
9. How are your students responding to the curriculum? Are there some students who respond really well to Direct Instruction? What are those students like? Are there some students who do not respond well to Direct Instruction? What are those students like?
10. Talk about concerns you've had using Direct Instruction. Is there anything you can think of that would help with these concerns?
11. Is there anything else you want to tell me about your experience in teaching with the Direct Instruction materials?
12. Describe your philosophy of teaching reading. How does your philosophy of teaching reading relate to Direct Instruction?

APPENDIX B

Semi-Structured Interview Questions - Later Interviews

Semi-Structured Interview Questions - Later Interviews

1. Talk about your feelings about teaching Direct Instruction Reading? Has anything changed since our last interview?
2. Talk about your Reading Mastery class. ... (ask either Is there anything you can think of that would help with these concerns? Or What factors contributed to this positive outcome? Or Talk about your reasons for thinking/feeling ...)
3. How are the students responding to Direct Instruction? Are they achieving as you would like? What is their attitude toward Direct Instruction?
4. Talk about your students with disabilities? What has their experience been?
5. Talk about high achievers? What has their experience been?
6. What about next year? What are your thoughts about adding a research based math program next year? (probe: Why do you think...?)
7. Tell me a success story you've had since our last interview in teaching students to read (or become better readers)?
8. Tell me success story you've had since our last interview with teaching a student with a disability.
9. Is there anything else you want to tell me about Direct Instruction or how you feel about teaching it?

APPENDIX C

Teacher Efficacy Scale

TEACHER EFFICACY SCALE

1983, Sherri Gibson, Ph.D.

Name _____ Date _____

Please indicate the degree to which you agree or disagree with each statement below by circling the appropriate numeral to the right of each statement.

1=strongly disagree, 2=moderately disagree, 3=disagree slightly more than agree,

4=agree slightly more than disagree, 5=moderately agree, 6=strongly agree

- | | disagree | | | agree | | |
|---|----------|---|---|-------|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 1. When a student does better than usual, many times it is because I exerted a little extra effort. | | | | | | |
| 2. The hours in my class have little influence on students compared to the influence of their home environment. | | | | | | |
| 3. The amount that a student can learn is primarily related to family background. | | | | | | |
| 4. If students aren't disciplined at home, they aren't likely to accept any discipline. | | | | | | |
| 5. When a student is having difficulty with an assignment, I am usually able adjust it to his/her level. | | | | | | |
| 6. When a student gets a better grade than he usually gets, it is usually because I found better ways of teaching that student. | | | | | | |
| 7. When I really try, I can get through to most difficult students. | | | | | | |
| 8. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement. | | | | | | |
| 9. When the grades of my students improve it is usually because I found more effective teaching approaches. | | | | | | |
| 10. If a student masters a new math concept quickly, this might be because I know the necessary steps in teaching that concept. | | | | | | |
| 11. If parents would do more with their children, I could do more. | | | | | | |
| 12. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson. | | | | | | |
| 13. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him quickly. | | | | | | |
| 14. The influences of a student's home environment can be overcome by good teaching. | | | | | | |
| 15. If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty. | | | | | | |
| 16. Even a teacher with good teaching abilities may not reach many students. | | | | | | |

APPENDIX D

Attitudes Toward Inclusive Education Scale

Attitudes Toward Inclusive Education Scale
1992, Felicia Wilczenski, Ph.D.

Name _____ Date _____

This scale concerns 'inclusive education' as one method of meeting the legal requirements for placing students with disabilities in the 'least restrictive' education environment. Inclusive education means that all students with disabilities are mainstreamed and become the responsibility of the regular class teacher who is supported by specialists.

INSTRUCTIONS

On the black line, please place the number indicating your reaction to every item according to how much you agree or disagree with each statement. Please provide an answer for every item.

1=strongly agree, 2=moderately agree, 3=agree slightly more than disagree,
4=disagree slightly more than agree, 5=moderately disagree, 6=strongly disagree

- _____ 1. Students whose academic achievement is 2 or more years below the other students should be in regular classes.
- _____ 2. Students who are physically aggressive toward their peers should be in regular classes.
- _____ 3. Students who cannot move without help from others should be in regular classes.
- _____ 4. Students who are shy and withdrawn should be in regular classes.
- _____ 5. Students whose academic achievement is 1 year below the other students should be in regular classes.
- _____ 6. Students whose speech is difficult to understand should be in regular classes.
- _____ 7. Students who cannot read standard print and need to use Braille should be in regular classes.
- _____ 8. Students who are verbally aggressive toward their peers should be in regular classes.
- _____ 9. Students who have difficulty expressing their thoughts verbally should be in regular classes.
- _____ 10. Students who need training in self-help skills and activities of daily living should be in regular classes.
- _____ 11. Students who use sign language or communication boards should be in regular classes.
- _____ 12. Students who cannot control their behavior and disrupt activities should be in regular classes.
- _____ 13. Students who need an individualized functional academic program in everyday reading and math skills should be in regular classes.
- _____ 14. Students who cannot hear conversational speech should be in regular classes.
- _____ 15. Students who cannot follow school rules for conduct should be in regular classes.
- _____ 16. Students who are frequently absent from school should be in regular classes.

APPENDIX E

Classroom Observation Form

Classroom Observation Form

Teacher/Aide _____ Observer _____

Curriculum _____ Date _____

Time: Start _____ Stop _____ Total _____

Directions: Each learning trial is represented by a column in the tables below. For each learning trial, mark through the letter corresponding to the response you observe.

Student Response: C=correct
 E=error
 nr=no response
 u=unison error

Teacher Response*: EC=error corrected
 *mark only if there is a student error

Student	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E
	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u

Teacher	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC
---------	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Student	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E
	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u

Teacher	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC
---------	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Student	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E
	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u

Teacher	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC
---------	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Student	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E	C	E
	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u	nr	u

Teacher	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC	EC
---------	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

learning trials per minute = _____ % accuracy of student unison = _____

% acc. in student response = _____ % acc. in correcting errors = _____

Adapted from the classroom observation code used by Gersten, R.M., Carnine, D.W., & Williams, P.B. (1982). Measuring implementation of a structured educational model in an urban school district: An observational approach. *Educational Evaluation and Policy Analysis*, 4(1), 67-79.

Brenda Wilson, M.Ed.

VITA

Educational Background

1994-present	WVU, Doctoral student - Special Education, minor Instructional Technology
May, 1983	WV College of Graduate Studies, M.Ed. in Special Education
June, 1969	Catholic University, Washington, DC, A.B. in Mathematics

Professional Experience

Aug 2000 – present	West Virginia State College, Faculty Member, Education
Jan. 2000 – May 2000	Fairmont State College, Adjunct Instructor, Education
Jul. 1999 – present	Educational Consultant, part-time
Dec. 1998 – Jul. 1999	Director of Federal Programs, Calhoun County Schools
Jan. 1990 – Dec. 1998*	Glenville State College, Faculty Member, Education
Aug. 1989 – Jun. 1990	Calhoun County Schools, LD/MI Teacher, Elementary
Aug. 1985 – Jun. 1989	Pleasants County Schools, MI Teacher, Secondary
Aug. 1979 – Jun. 1985	Calhoun County Schools, LD/MI Teacher, Elementary

*Took professional leave to study at WVU from Aug. 1996-Jun. 1997.

WV Teaching Certification Areas

Mathematics	Major 7-12
Specific Learning Disabilities	Major K-12
Mental Retardation	Major K-12
Behavioral Disorders excluding Autism	Major K-12

Courses Taught at Glenville State College

EDUC 199	PPST Remediation	variable hours
EDUC 370	Technology in Education	3 semester hours
EDUC 4xx	Student Teaching Supervision	variable hours
SPED 225	Intro to Special Education	3 semester hours
SPED 330	Intro to Mental Retardation	3 semester hours
SPED 331	Intro to Learning Disabilities	3 semester hours
SPED 333	Mainstreaming Exc. & Cul. Div.	3 semester hours
SPED 335	Reading & Math for LD students	3 semester hours
SPED 351	Assessment of Exc. Students	3 semester hours
SPED 375	Guidance for Exc. Students	3 semester hours
SPED 408	Seminar in Special Education	3 semester hours
SPED 420	Special Education Practicum	3 semester hours

Course Taught at Fairmont State College

EDUC 306 Instructional Technology 3 semester hours

Current Professional and Academic Association Memberships

Council for Exceptional Children
Division for Learning Disabilities
Teacher Education Division
Division on Mental Retardation
Technology and Media Division
Association for the Advancement of Computing in Education
Phi Delta Kappa, WVU Chapter
T3: Technology, Teacher Education, Tomorrow (WV Organization to promote
technology use in teacher education, Secretary 1993-1997, Newsletter
Coordinator since 1997)

Honors

October 14, 1995, T3 Service Award for efforts at obtaining 501 C3 status and for
organizing workshops and conferences
April 20, 1997, With 3 colleagues, received the Outstanding Student Research Award
from the WVU Chapter of Phi Delta Kappa
June 7, 1999, Award for Outstanding Service to Calhoun County Schools

Publications

Butera, G., Klein, H., McMullen, L., Wilson, B. (1998). A statewide study of FAPE
and school discipline policies. *Journal of Special Education*, 32(2), 108-114.
Fitzgerald, G.E., Wilson, B., & Semrau, L.P. (1997). An interactive multimedia
program to enhance teacher problem-solving skills based on cognitive flexibility
theory: Design and outcomes. *Journal of Educational Multimedia and
Hypermedia*, 6(1), 47-76.
Butera, G., Belcastro, R., Friedland, B., Henderson, J., Jackson, C., Klein, H.,
McMullen, L., and Wilson, B. (1996). Suspension, discipline & disabilities:
Perspectives from practice. *The Special Education Leadership Review*, 3, 77-89.
Fitzgerald, G.E., Wilson, B., & Semrau, L.P. (1996). Designing Effective multimedia
programs to enhance teacher problem solving skills and cognitive flexibility.
*Proceedings of EdMedia '96 – World Conference on Educational Multimedia and
Hypermedia*, Boston, June 1996, 234-239.

Selected Presentations

- October 14, 1995 – At T3 Conference in Fairmont WV, co-led a workshop on *Using Endnote Software for Bibliographic Referencing*.
- October 19, 1995 – At AAMR Regional Conference in Lancaster PA, co-presented a paper on *How Practitioners View Suspension*.
- April 25, 1996 – At a Regional Social Work (NASW) Conference in Charleston WV, co-presented a paper entitled *WV Teachers and Administrators Speak Out about Suspension*.
- June 21, 1996 – At the World Conference on Educational Multimedia/Hypermedia in Boston MA, co-presented a paper on *Designing Effective Multimedia Programs to Enhance Teacher Problem Solving Skills and Cognitive Flexibility*.
- October 31, 1996 – At the 1996 East Coast AmeriCorps Renewal Conference in Washington DC, co-led a workshop on *Developing and Implementing an AmeriCorps Evaluation*.
- June 17, 1997 – At the World Conference on Educational Multimedia/Hypermedia in Calgary Canada, co-presented a poster session on *Comparing Multimedia and Traditional Instruction of Preservice Teachers in modeling Whole Number Algorithms*.
- November 5-6, 1998 – At the WV CEC Conference in Charleston WV, presented 2 papers: *SAT-9 and Alternative Assessment with Students with Disabilities* and *Four Views of Attention Deficit Hyperactivity Disorder*.
- April 30, 1999 – at the School to Work Best Practices Conference in Charleston WV, co-presented a paper on *Using Students as Tutors in After School Programs*.
- October 20, 1999 – For Calhoun County Special Educators, workshop on *Using the Computer in the IEP Process*
- November 16, 1999 – For Wirt County Special Educators, workshop on *Review of IEP Process*.
- Spring 2000 – Multiple workshops in the Wirt County Schools on *Using Microsoft Office Applications in the Classroom* and *Technology Integration* at all grade levels.

Selected Community Service

- Secretary of Heartwood in the Hills, a non-profit organization to promote the arts in rural West Virginia. (Member of board and officer since 1983)
- Fall of 1999 until present– Consultant to parents of home-schooled child with Autism.