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TEACHER RECEPTIVITY TO PEER TUTORING

by


Laurence R. Antil

A dissertation submitted in partial fulfillment
of the requirements for the degree of

Doctor of Philosophy

University of Washington

1997

Approved by 
Chairperson of Supervisory Committee

Program Authorized to Offer Degree College of Education

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University of Washington
Abstract
Teacher Receptivity to Peer Tutoring

by Laurence R. Antil

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This year-long study examined teachers' receptivity to Peer Tutoring (PT), an instructional practice designed to promote achievement for students with disabilities in inclusive settings (Mathes, Fuchs, Fuchs, Henley, & Sanders, 1994). The purpose of the inquiry was to assess: (1) teacher receptivity to the practice (from introduction to the idea to its implementation); (2) the relationship between teacher receptivity to PT and support for learning about the practice; and (3) the extent to which teachers' receptivity is affected by features of the practice itself, and by factors extrinsic to the practice.

Eighty classroom teachers who taught in grades 3 through 5 in 14 elementary schools participated. Teachers were assigned by school to one of two treatment groups which differed on support for learning about PT. Two classes of data were collected: (1) surveys recording the number of teachers expressing an interest in learning more about PT; acting to learn about PT; and instituting PT in their classrooms, and (2) questionnaires

seeking information on variables thought to affect receptivity--teachers' perceptions of the PT practice; their reading goals and beliefs, their instructional context, and themselves.

Four findings emerged from analysis of the data. First, receptivity to PT varied depending on the stage at which it was measured: results indicate that 84% (67) of the teachers expressed an interest in learning more about PT after an introductory one-hour overview of the practice. When offered one of two types of implementation assistance, 75% of teachers acted on their initial expression of interest by independent study of the manual or attendance at a one-day training session. Of the original 80 teachers, 40% instituted PT in their classrooms. Second, type of learning support did not affect the number of teachers who acted to learn more about or apply PT. Third, intrinsic factors were more predictive of interest in learning about PT and application of the practice than extrinsic factors. Fourth, a majority of teachers who did not apply PT indicated that factors intrinsic to PT outweighed factors extrinsic to the practice in their decisions not to learn more about or apply the practice.

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Chapter 1

Introduction

Increased ethnic, linguistic, and cultural diversity (Correa & Tulbert, 1991; Hodgkinson, 1991; Pallas, Natriello, & McDill, 1989; Worrall & Carnine, 1995), and social dislocations in the form of single-parent families, poverty, drugs, and violence (Donahoe, 1993) have radically changed the "Norman Rockwell vision" of the American schoolroom. The movement to fully include students with disabilities in general education classrooms (Fuchs & Fuchs, 1994) along with efforts aimed at reducing academic tracking (Oakes, 1985; Wheelock, 1992), has further increased classroom heterogeneity. Two recent studies estimated the average range of reading ability in fourth-grade classrooms at more than five and one-half years (Jenkins, Jewell, Leceister, & Troutner, 1990; Jenkins, Pious, & Peterson, 1990).

The challenge for instructional researchers interested in compensatory and special education has been to design effective instructional strategies for students with learning disabilities that general education teachers would embrace and use. My particular interest is twofold: (1) assessing teachers' receptivity to instructional practices designed by special education researchers for general education classrooms that include special education students, and (2) identifying factors that affect teachers' receptivity. In the remainder of the chapter I will develop a rationale for a focus on receptivity, discuss my conceptualization of the

degrees of receptivity, propose a new distinction among factors thus far identified in the literature as affecting teachers' receptivity, and introduce my research questions.

Assisting Students with Learning Problems in the Regular Education Classroom

Historically, schools' primary response to children with serious learning problems has been to remove them from the mainstream, but over the last decade researchers in the field of special education have tested alternatives to traditional pull-out programs (Reynolds & Wang, 1983; Wang, Reynolds, & Walberg, 1994; Will, 1986). Among the alternatives that special education researchers designed and tested were cooperative and peer-mediated instructional approaches (e.g., Johnson & Johnson, 1986; Stevens, Madden, Slavin, & Farnish, 1987), teacher consultation models (e.g., Graden, Casey, & Christenson, 1985), mainstream assistance teams (Fuchs, Fuchs, & Bahr, 1990), and coteaching approaches (Zigmond & Baker, 1994). The result has been a number of instructional systems that have in many instances demonstrated improved achievement outcomes (see Fuchs, Fuchs, Hamlett, Phillips, & Bentz, 1994; Good, Grouws, & Ebmeier, 1993; Johnson, Johnson, & Holubec, 1993; Madden, Slavin, Karweit, Dolan, & Wasik, 1993; Palincsar & Brown, 1984; Stevens et al., 1987).

Despite research successes, concerns remain about the quality of instruction for students with learning disabilities in regular education classrooms (Bacon & Schulz, 1991; Council for Learning Disabilities, 1993; Munson, 1986-1987; Myles & Simpson, 1989). Viadero (1990) summarized

results from two federal longitudinal studies of individuals with learning disabilities integrated into regular education; findings indicated that over one third of special needs students experienced failure: the more time they spent in regular education classes, the more likely they were to fail.

One reason proposed for these unsatisfactory outcomes is the low level of teacher acceptance of research-based practices (Berger, 1976; Florio-Ruane & Dohanich, 1984; Kaestle, 1993; Malouf & Schiller, 1995; Vacca & Gove, 1982). Medley (1977), and Sirotnik (1983) reported that classroom teachers are generally slow to accept research-based practices. The National Commission on Reading reported that reading instruction in many classrooms did not reflect the knowledge base on teaching effectiveness developed over the last two decades (Anderson, 1989). With regard to mainstreaming special education students, a question increasingly asked is whether the rate and degree to which research is being translated into practice is sufficient to accommodate the needs of students with learning disabilities (Kauffman, 1993). Teachers are the final arbiters of classroom practice (Clandinin, 1985; Fenstermacher, in press; Fullan, 1994; Griffin, 1991; Richardson, 1990), and increasing the rate and degree of research use is dependent on their positive perceptions of these alternative practices. Positive perceptions are prerequisite to acceptance and utilization.

Degrees of Receptivity

Following Vadasy, Jenkins, Antil, Phillips, and Pool (1997), my conceptualization of the process by which individual teachers embrace an innovation is a series of stages, or degrees of receptivity, that ends in sustained use of the innovative practice. Vadasy et al. (1997) proposed a

linear series of stages reflecting degree of receptivity: (1) judging an innovation as worthy of further examination, (2) acting to learn more about the innovation, (3) applying (field testing) the innovation, (4) mastering and refining the application, and (5) sustaining use of the innovation. Figure 1 depicts the 5 degrees of receptivity. Of course, at any point teachers may become nonreceptive and decide against pursuing the innovation.

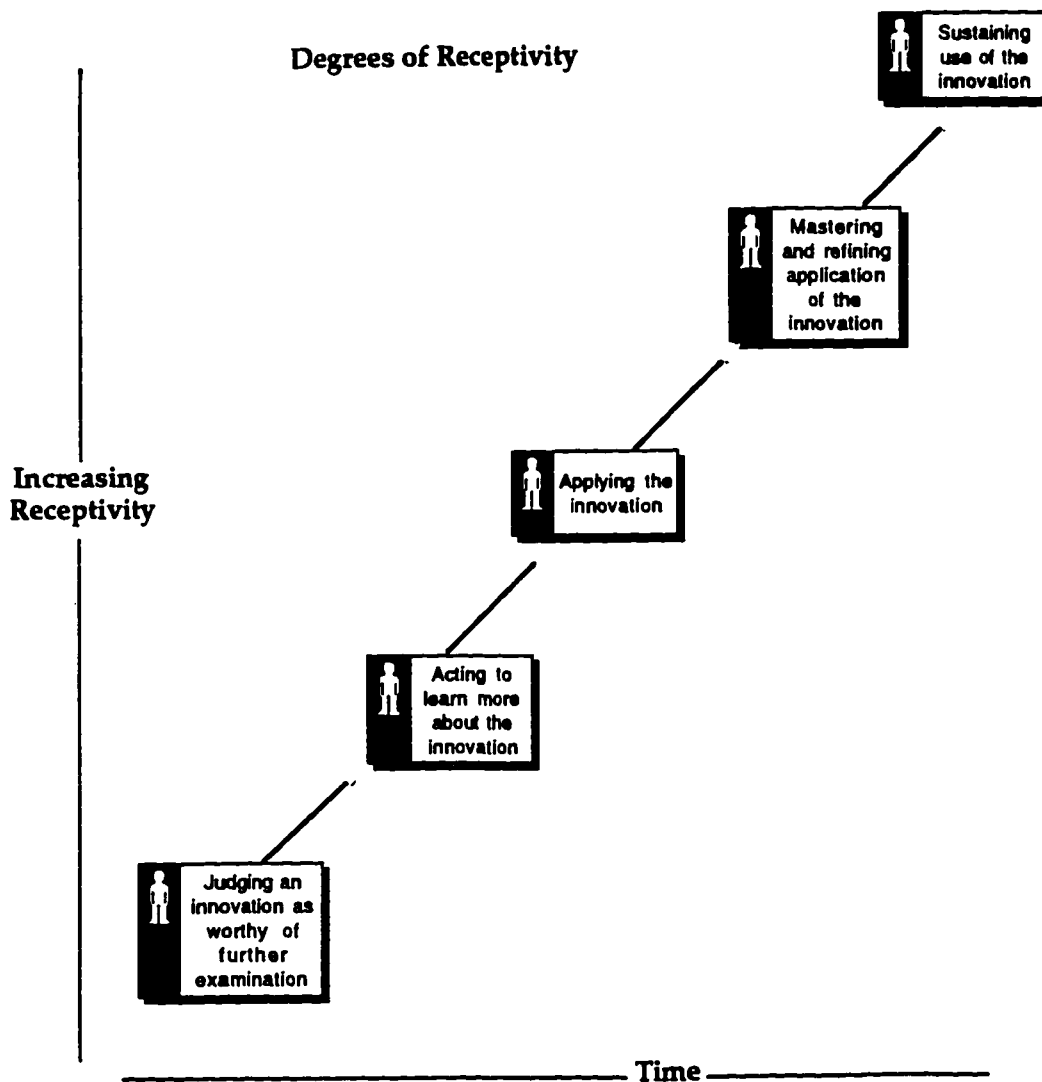


Figure 1. Degrees of Receptivity

Factors Affecting Receptivity: The Intrinsic-Extrinsic Distinction

The problem of assisting students with learning disabilities in the regular education classroom involves not only identifying strategies that work, but also identifying strategies that teachers will accept *and* be able to institute within supportive instructional settings. Holzner and Marx (1979) contend that adoption of innovative programs seems to be governed by complex interactions of factors associated with the innovation itself, the users and the disseminators, and the social and organizational context involved.

Why do teachers look more favorably on and incorporate some practices into their instructional repertoire more than others? Two classes of explanatory factors can be distinguished. The first class of explanations includes a small group of factors that are intrinsic to the innovations themselves, for example the magnitude of change necessitated by the innovation, and teachers' judgments of the innovation's compatibility with their current approach to teaching and their instructional context. The second class of explanations includes a larger, and more familiar group of factors that are extrinsic to the innovative practices themselves: factors in teachers' personal and professional lives that influence their willingness and ability to attempt innovations.

Teachers' receptivity to new practices may be affected by characteristics *intrinsic* to new practices. Instructional practices that call on teachers to dramatically shift their conceptions of how students learn best (Kennedy, 1991) are less well received than those which are less of a personal challenge. In one study, Gersten and Woodward (1992) reported

that some teachers saw their roles as presenting information and supervising assignments, but not necessarily making accommodations for, and spending more time with low-functioning students.

The "size" of alternative practices may also affect the likelihood of utilization in the classroom; teachers may be less receptive to large-scale innovations than to innovations smaller in scale and more easily integrated into the instructional routine. Some large-scale instructional models such as Cooperative Integrated Reading and Composition (CIRC) (Stevens et al., 1987), and Direct Instruction (Carnine, Silbert, & Kameenui, 1989; Gersten, Woodward, & Darch, 1986) require new or greatly modified curricula, and new materials, instructional procedures, or strategies for grouping students. Fullan and Hargreaves (1992) suggest that such practices are unlikely to be implemented because they exert high costs in terms of time, energy, effort, and sometimes financial resources.

Even innovations that are more modest in size and scope, and in the degree to which they require reconceptualizations of teaching do not always make it into practice. For example, research sometimes does not translate into practice because of factors that are largely *extrinsic* to a particular innovation. Classroom factors (e.g., the particular challenges of one's current students) and the social context of the school (e.g., principal and collegial support) can constrain teachers' freedom to adopt new practices (Malouf & Schiller, 1995): "Change might not manifest in practice; or the effects might be short-lived, because the political or cultural pressures of the school reasserted themselves" (Placier & Hamilton, in press).

Our knowledge of factors affecting educational innovations and teacher change stems primarily from research on large-scale innovations at the school or district level. Outside of large-scale change efforts, less is known about individual teacher's decision making regarding adoption of new practices. This is unfortunate because most change in classroom instruction occurs at the level of individual teachers deciding to do things differently. It is this aspect of innovation that I will address. My goal is to trace teachers' response to a new (for them), small-scale, research-based instructional practice, developed specifically to address problems of teaching low-performing students in general education classrooms like theirs. In order to examine teacher receptivity, I used Classwide Peer Tutoring in reading as an example of one such research-based instructional practice.

Research Questions

Beginning with their introduction to the idea of PT, I examine teachers' receptivity to this instructional practice at several points: Do they judge it worthy of further examination? Do they act to learn more about the innovation? Do they apply the innovation? I also examine the nature of support provided teachers for learning about PT, looking specifically at two kinds of support: compensated independent study and inservice training. Finally, as a test of the proposed intrinsic-extrinsic distinction, I attempt to identify factors predictive of two degrees of teachers' receptivity to PT: interest in learning more about PT, and application of PT in the classroom. Thus, the study seeks answers to the following questions:

1. How receptive are teachers to PT?

2. Does the type of learning support available affect teachers' receptivity to PT?

3. What factors predict receptivity?

In examining teacher receptivity to PT, I hope to develop information that can be used in both designing and disseminating new practices to classrooms where they are most needed. Study outcomes will lead to improved understanding of the obstacles teachers face when considering innovations and of supports for making implementation attractive and possible.

Chapter 2

Review of the Literature

The Problem

Although there is an abundance of instructional research to inform teaching practices (Lloyd & Anders, in press), teachers' perceptions of practices from special education research have received little attention, and the nature of the connection between the results of research and the use teachers may make of those results is not clear (Sparks, 1988). The common assumption, as stated by Tikunoff and Mergendoller (1983), is that if exposed to carefully presented and understandable research findings, teachers will recognize the wisdom of the results and apply them to their daily practice. This has been referred to as the linear model for translating research to practice (i.e., researchers discover effective practices, disseminate information on them, and teachers adopt them). However, teachers consistently report not using research results in their teaching when they hear about them (Berger, 1976; Florio-Ruane & Dohanich, 1984; Vacca & Gove, 1982). Although there is considerable disagreement on how teachers' self-reports of research use should be interpreted (Lloyd & Anders, in press), there is consensus on the observable lack of evidence for widespread and sustained use of research-based practices in regular education classrooms.

Selection of an Instructional Practice

Investigations into general education teachers' planning for students with disabilities within their classrooms indicate that teachers are more favorably disposed toward practices that can be used with the class as a whole rather than one that is geared to individual students (Schumm, Vaughn, & Leavell, 1994; Vaughn & Schumm, 1994). In response to this finding, special education researchers have worked to develop instructional approaches that are applicable to the whole general education class, and that are also effective in promoting growth of students with disabilities. Although researchers have demonstrated the efficacy of certain approaches under research conditions, we still do not know if teachers will embrace these approaches. I am proposing to study teacher receptivity to one such practice. To study teacher receptivity to research-based practices, I identified Classwide Peer Tutoring (PT) (Delquadri, Greenwood, Whorton, Carta, & Hall, 1986; Fuchs, Mathes, Fuchs, & Dempsey, 1994), a reading instructional practice that is relatively simple on the dimension of instructional complexity, yet effective in strengthening basic literacy skills for low-, average-, and high-achieving students as well as those students with learning disabilities (Delquadri, Elliott, Hughes, & Hall, 1983; Fuchs, Fuchs, & Mathes, 1993; Greenwood, Carta, & Hall, 1988; Kazdin, 1977).

The version of PT I used for this study was adapted and tested by researchers at George Peabody College, Vanderbilt University (Fuchs, Mathes, & Fuchs, 1993; Fuchs et al., 1994; Phillips, Fuchs, & Fuchs, 1994). In the Peabody model, classmates are systematically paired so that each pair

includes a more skilled and a less skilled reader. Within each pair, the role of tutor and tutee are reciprocal, with the more skilled reader performing each activity first to serve as a model for the less skilled reader.

Students participate in Partner Reading, Paragraph Shrinking (i.e., summarization), and Prediction Relay (i.e., text predictions)--the main practice components developed to strengthen both fluency and comprehension. In Prediction Relay for instance, the stronger reader begins by making a prediction about what is likely to happen next in the story, reads half a page, checks the prediction, and then makes a three part summary statement about the passage. After five minutes, the less skilled reader takes a turn following the same procedure. Students are trained to spot errors and to correct partners.

Pairs are assigned to teams which strive to earn points, awarded for accurate oral reading, engaging in the comprehension activities, and for behaving appropriately during tutoring sessions. At the end of an instructional week, points are tallied and a winning team is applauded. After four weeks, new pairs and teams are assigned. Mathes, Fuchs, Fuchs, Henley, and Sanders (1994) suggest that the point system combines competitive and cooperative features to maintain student motivation and to reinforce partner collaboration.

In PT, teachers can opt for a variety of reading materials, including basal reading texts and novels. PT provides students with opportunities to practice a variety of processing strategies--reviewing and sequencing textual information, summarizing paragraphs and pages, stating main ideas, and predicting and checking outcomes.

PT seems an ideal candidate for teachers seeking ways to improve instruction for a range of students in that it has demonstrated efficacy and modest requirements. The strategy has well documented procedures, concrete examples, and specific instructions to help teachers in getting it up and running. It is designed to permit flexibility in the use of reading texts, including basals, novels, library books, and content area books allowing for individualization of reading assignments (Greenwood, Carta, & Kamps, 1990; Mathes et al. 1994). Without supplanting the entire reading program, or espousing any one approach (e.g., holistic vs. reductionistic) or set of reading materials, PT engages students in strategic reading activities typically employed by teachers during directed, reading instruction (Fuchs & Mathes et al., 1993). Furthermore, research indicates that PT benefits students across the ability range (Fuchs et al., 1993), attesting to routines sufficiently powerful to improve the performance of students with disabilities as well as their more skilled peers.

Despite reports by its developers and others on PT's reasonable scope and its positive impact on student learning (see Gersten, Vaughn, Deshler, & Schiller, 1995), we do not know if teachers will embrace and use PT. Previous research on PT, designed to test its effects on fluency and comprehension, recruited teachers as study participants providing them with training, classroom support, and compensation for implementing it. In their treatise on translating research to practice, Carnine and McLaughlin (1995) underscored the importance of reexamining teaching practices that have been evaluated in research settings under circumstances representing typical conditions. As embodied in Research Question 2, this

study focuses on teachers' receptivity to PT when they are offered training but no implementation assistance, conditions that are more typical of those found in schools.

Factors Affecting Teacher Receptivity: A Conceptual Organization of the Literature

I have organized the research literature, arbitrarily grouping factors that have been said to affect receptivity. Factors closely associated with characteristics of the innovation itself are termed "intrinsic," and factors associated with teachers' instructional goals and beliefs about reading instruction, their instructional context, and themselves are termed "extrinsic."

Research on teachers' receptivity to and use of research-based practice (Goldenburg & Gallimore, 1991; Guskey, 1986; Holzner & Marx, 1979; Kaestle, 1993; Malouf & Schiller, 1995; McLaughlin, 1990; Walberg & Genova, 1982) generally takes one of the following perspectives on teachers' perceptions of: the specific *innovations* (Brophy & Good, 1974; Doyle & Ponder, 1977/78; Huberman & Miles, 1984; Sparks, 1988); *their reading goals and beliefs* (Anders & Richardson, 1991; Placier & Hamilton, in press; Richardson, Anders, Tidwell, & Lloyd, 1991); *their instructional context--classroom, school, district* (Berman & McLaughlin, 1977; Little, 1981, 1984; McLaughlin & Marsh, 1978); *and themselves* (Ashton & Webb, 1986; Barfield & Burlingame, 1974; Bender, Vail, & Scott, 1995; Berman & McLaughlin, 1977; Smylie, 1988; Sparks, 1988).

Figure 2 represents a conceptual organization of factors identified in the literature (or developed from a reading of the literature) as influencing receptivity to new practices.

I. Intrinsic Factors

Perceptions of the Innovation. Teachers' receptivity to new practices may be affected by factors intrinsic to the practices themselves, including their perceived practicality and value (Doyle & Ponder, 1977/1978). Berman and McLaughlin (1975) reported a close relationship between the value teachers place on a given program and the successful implementation of that program. Nevertheless, teachers' receptivity to specific research-based practices has received little attention in the literature, as has the relationship between perceptions and subsequent use of such practices (Sparks, 1988).

Teachers are also more likely to implement practices that they perceive as congruent with their philosophies of teaching and learning (Clark & Yinger, 1977; Doyle & Ponder, 1977/78; Good et al., 1983; Mohlman, Coladarci, & Gage, 1982; Sparks, 1983; Stein & Wang, 1988). From their investigations, Ignatovich, Cusick, and Ray (1979), Olson (1981), and Munby (1983) raise the possibility that conflict between teachers' implicit theories about good teaching and those of administrators and curriculum developers may explain historic and continuing difficulties in implementation of educational innovations.

In addition, teachers judge new practices in terms of compatibility with their current teaching context and instructional approach. In her study of effective teaching practices, Sparks (1988) found that teachers who

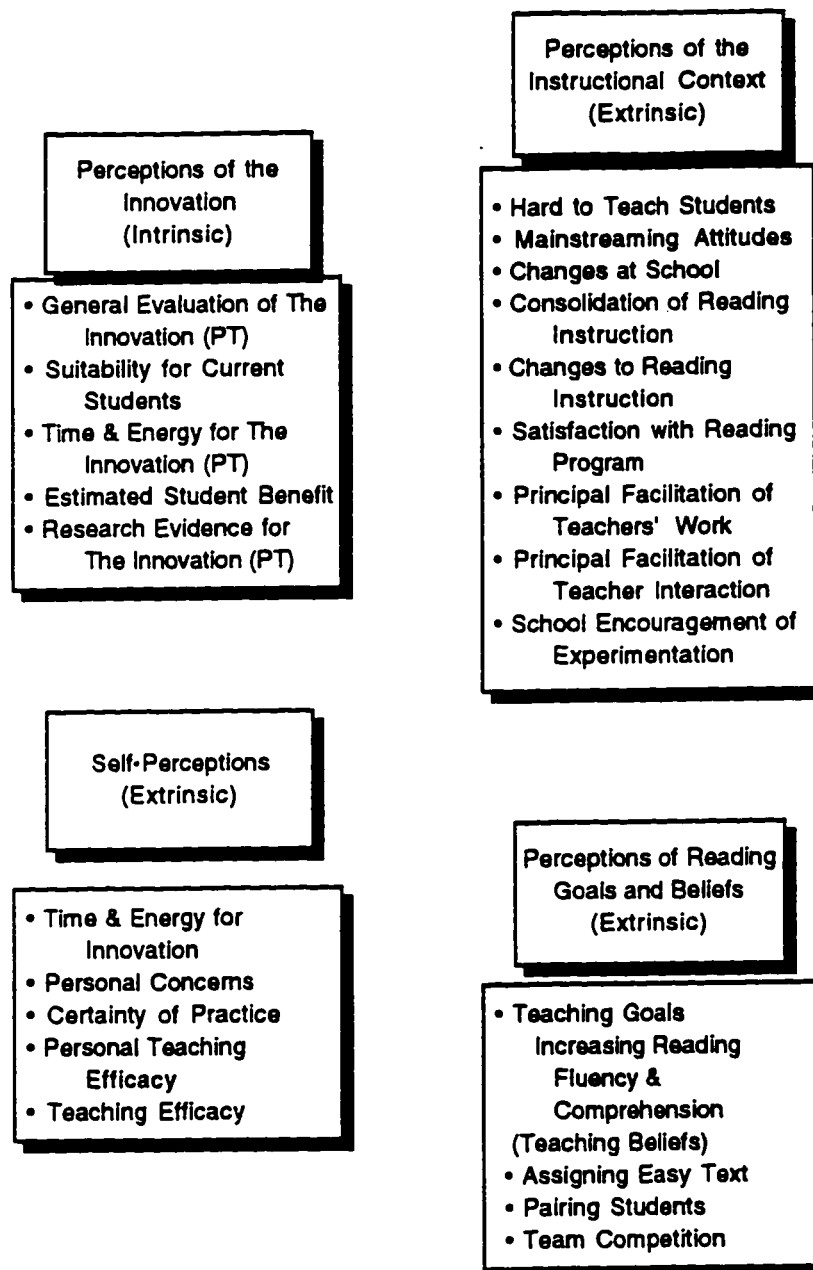


Figure 2. Conceptual Organization of the Literature for Intrinsic and Extrinsic Factors Affecting Teachers' Receptivity to New Practices

did not make substantive changes had not become convinced of the value or importance of making the recommended changes in their classes. Lack of change was attributed to teachers' inability to find congruence between the recommended practices and their teaching style and context. Even when teachers judge innovations of value in meeting their instructional goals and congruent with their teaching style, they may be skeptical of innovations that depend on "ideal" conditions or resources that do not exist in their school (Firestone & Herriott, 1981).

I developed items to address five intrinsic factors that reflect teachers' perceptions of one innovation, Peer Tutoring (see Figure 2). Under the first factor, General Evaluation of PT, I included items that asked teachers to rate such things as PT's value, practicality, and compatibility with their theory of teaching and learning and their current approach to reading instruction. Under the factor Suitability for Current Students, I included items asking teachers to rate their agreement with statements such as "PT would work in my current classroom," "PT would be liked by my students," and "I could make room for PT in my reading program." Under Time and Energy for PT, I asked teachers to rate their time and energy for learning about, preparing for, and trying out PT in their classrooms. In the category, Estimated Student Benefit, I asked teachers to estimate high-, average-, and low-ability student improvements in reading and social skills that would result from PT practice. Under research evidence for PT, I asked teachers to rate their level of agreement with the statement: "Research evidence supporting PT is an important consideration when I think about adopting the practice."

My conceptualization of intrinsic factors affecting teachers' receptivity to new practices is hierarchical. The first requisite for receptivity is a positive general evaluation of the specific practice (e.g., its rated value, practicality, and compatibility). Next is a positive assessment of its appropriateness for one's current group of students. The third is a judgment by teachers that they have time and energy to apply the practice in their classrooms. An estimate of student benefit from PT and a positive assessment of the research evidence for PT follow the first three requisites for receptivity.

II. Extrinsic Factors

Goals and Beliefs About Reading Instruction

The consideration of new practices and strategies for teaching is necessarily a part of teachers' planning process, however little is known about the direct relationship between adoption of innovations and teachers' instructional goals (Connelly, 1972; Eisner & Vallance, 1974; Toomey, 1977; Wise, 1976). Clark and Peterson (1986) argue that teachers' goals and beliefs are important considerations in understanding teacher change and adoption of new classroom practices. Kennedy (1991) noted that few developers of innovative instructional approaches in the 1970s and 1980s "took into account the deeply held and tacit convictions that teachers brought with them..."(p.14).

I developed items to assess teachers' goals for reading instruction focussing on goals that corresponded with aspects of PT. Goals rated by teachers included providing more reading practice to increase reading

fluency and fostering active application of comprehension skills during reading.

Researchers cited in the staff development literature found that teachers tended to accept innovations that were consistent with their beliefs about teaching and learning (Rich, 1990; Sparks, 1988). Using rating scales, I assessed teachers' beliefs about reading instruction practices that were inherent in PT, including pairing students for reading practice; using team assignments and points to motivate students to read; and assigning students easy text for reading practice. Aspects of PT such as team points, reading aloud, error corrections, and intrusive comprehension strategy, might appear artificial and unnatural to teachers who come from a strong whole language orientation, and could lead them to reject this instructional practice.

Perceptions of the Instructional Context. Teachers' receptivity to an innovation may be affected by extrinsic factors related to the instructional context. One such factor is the students they teach (Cohen, 1984; Hawley & Rosenholtz, 1984). Academic heterogeneity increases classroom complexity and may limit the extent to which teachers believe they can affect the learning of all students in the class (Hawley & Rosenholtz, 1984). Creating and maintaining classroom conditions within which academic learning can occur for the full range of student ability is potentially more difficult in heterogeneous classrooms (Hawley & Rosenholtz, 1984). Many teachers maintain or adopt routine, large-group instructional arrangements to more closely supervise student behavior (Cohen, 1984; Hawley & Rosenholtz, 1984; Oakes, 1982) rather than introduce innovations that

present a risk to classroom control (Blase, 1991). Given extreme academic heterogeneity, teachers may perceive the cost of trying new strategies and adopting innovations as too great.

Teacher judgments about the ability level of students is an important mediating variable in perceptions of personal teaching effectiveness (Medway, 1979) and subsequent use of alternative practices. Teachers behave differently in classes composed primarily of low-achieving students than in classes composed primarily of average- and high-achieving students (Brophy & Good, 1974; Cooper, 1979). Differential behavior patterns stem in part from expectations teachers hold for students (Brophy & Evertson, 1981; Good & Brophy, 1978; Silberman, 1969). Practitioners may believe that they are less successful in affecting student learning when teaching a classroom with a heavy concentration of low-achieving students and that it is futile to attempt to change classroom practice (Hawley & Rosenholtz, 1984).

Teachers' attitudes towards children with learning difficulties in the regular education classroom have been correlated with instructional modifications and use of new practices. Bender et al. (1995) found that teachers with more special needs students in their classes had more positive attitudes toward inclusion and tended to report more utilization of effective instructional strategies or modifications. Increasing the number of special needs students in regular education classes may also have the opposite effect. Munson (1986/1987) found that teachers with larger class sizes reported fewer modifications, suggesting that demand on teacher time may decrease the likelihood that special modifications will be

made and new practices adopted to cater for special education students. It remains unclear what the nature of the relationship is between use of new practices and overall student numbers and proportions of students with special needs in regular classrooms. A large body of research indicates that classroom teachers are more likely to be oriented toward students whom they consider teachable, as opposed to students considered more difficult to teach (Gerber & Semmel, 1985). When interacting with the lowest achieving students, teachers make few substantial modifications in instruction (Ammer, 1984; Durkin, 1990; Fulk & Smith, 1995; Horne, 1983; Zigmond, Levin, & Laurie, 1985).

Beyond teacher perceptions of students, other factors extrinsic to the practice may affect receptivity. These include perceptions of changes taking place in the school, principal facilitation of teacher work and interaction, and contextual support for experimentation. The process of experimenting with new activities and judging whether they work with particular students does not happen solely within the confines of the classroom. Teachers' work takes place within the social culture of the school (Little, 1981; Richardson & Anders, in press). A broader understanding of teachers' receptivity should include an examination of school-level factors in addition to other factors shown to influence change at the individual level.

Schools high in collegiality provide opportunities for teachers to discuss their practices with each other, offer each other support and critical feedback, and conduct experiments to test their practices (Lieberman, 1988; Little & Bird, 1983; Rosenholtz, Bassler & Hoover-Dempsey, 1986; Schwille

& Melnick, 1987). Huberman and Miles (1984) found that change occurred in schools with norms that supported collaboration, cohesive relationships, and a reasonable tolerance for diversity. McLaughlin and Marsh (1978) noted that good working relationships among teachers enhanced implementation of school improvement practices and promoted continuation of project methods and materials. They also suggested that the encouragement teachers receive from colleagues to experiment with new teaching strategies provides legitimacy for individual and school-level change efforts. Bos and Anders (in press) note that engaging in alternative practices is demanding and difficult virtually by definition, and for innovations to succeed they require support and legitimization from the school context.

On the other hand, collegiality and staff cohesiveness can also create pressure on individuals to conform to the majority's position, which may work against innovation (Blase, 1987). According to Little (1987), "An emphasis on cooperation may place a premium on coherence and uniformity at the expense of individual inventiveness and independent initiative" (p. 513). Another negative effect of closer relationships among teachers was identified by King (1983) and Page (1988), who suggested that colleagues may develop a shared image of their students, which in turn influences their instructional practices and their receptivity to change (i.e., a practice will or will not work with *our* students).

Teacher perception of the school context is also influenced by the principal's facilitation of their work. In one study, teachers identified positive, nonthreatening teacher-principal relationships as a factor that

nurtured their professional growth (Schwille & Melnick, 1987). McLaughlin and Marsh (1978) found that implementation of new practices was positively affected if the school was perceived as efficient and effectively managed by the principal. Less well-managed schools can produce high-stress working conditions, encouraging teachers to seek control and routine and to lower expectations for their own performance and for student achievement (Blase, 1986, 1991; Frymier, 1987; Johnson, 1990).

In addition to effective management of the school on a day-to-day basis, principals also play an important role in supporting prevailing norms of experimentation. In large-scale studies, effective schools had administrators who arranged the context (e.g., schedules, times, rewards, and incentives) to support professional collegiality, and allowed teachers to take the initiative for experimentation and innovation (Rosenholtz, 1989). Berman and McLaughlin (1977) and Little (1981, 1984) found that a prevailing norm of experimentation and lasting changes in teaching practice were associated with active principal support for school innovations, especially at the conclusion of the school improvement projects when the funding ran out and project support was withdrawn (McLaughlin & Marsh, 1978). In her study, Little (1981) reported that in the most adaptable and successful schools, improvement was a shared undertaking, sustained by norms for extensive collegial work and for experimentation with instructional practices.

I addressed nine aspects of instructional context (see Figure 2). In connection with students, I asked teachers to rate the teaching challenge

presented by the particular students in their reading group(s). I also asked teachers to rate the extent to which mainstreaming had been successful at their school in terms of social, behavioral, and academic benefits to special education students. Under the category "Changes at School," teachers rated their agreement or disagreement with the statement, "This year, changes at my school are consuming an unusually high amount of my time and energy." In connection with the classroom reading program, teachers rated the extent to which they were already making changes in their reading programs or attempting to consolidate their current programs. I also assessed teachers' perceptions of their current reading program by asking them to rate their satisfaction with the effects of their approach with high-, average-, and low-achieving students. Under "Principal's Facilitation of Teacher Interaction," teachers rated such things as their principal's encouragement of faculty to work cooperatively, to exchange ideas and opinions, and to collaborate towards making the school run more effectively. I assessed perceptions of the principal's facilitation of teachers' work by asking teachers to rate their level of agreement with statements such as "This school provides ample time for academic instruction" and "Pull-out programs often disrupt and interfere with my teaching." Finally, under encouragement for experimentation, teachers rated their schools on such things as discussion about and attitudes towards experimentation with new ways to teach students, as well as the use of innovative teaching practices.

Teachers' Self-perceptions

Factors such as teachers' openness to experimentation, their certainty of practice, and confidence in their personal teaching efficacy are also extrinsic to new practices, but are associated with teachers' receptivity to change and innovation.

Willingness to try new practices is dependent on teachers' self-perceptions of their time and energy for innovation. Obstacles to teacher innovation identified in the literature are insufficient time to learn enough about new practices in order to make informed decisions about them (Cohen, 1988; Fleming, 1988; Kaestle, 1993; Lortie, 1975; Wasley, 1991), and insufficient time to get new practices operational in the classroom (Purnell & Hill, 1992; Watts & Castle, 1993).

Research suggests that teachers' belief in their own technical competence, or certainty of practice, is also related to change in practice and implementation of school and district innovations (Berman & McLaughlin, 1978; McLaughlin & Marsh, 1978). Teachers who have confidence in their own ability to control their classrooms and affect student learning are more likely to adopt and implement new classroom strategies (Barfield & Burlingame, 1974; Smylie, 1988).

Teachers' certainty of practice, is closely related to personal self-efficacy (Woolfolk & Hoy, 1990). Self-efficacy has been defined as teachers' perceptions of their ability to influence student learning or performance (Ashton & Webb, 1986; McLaughlin & Marsh, 1978), even for those students who may be considered difficult or unmotivated (Guskey & Passaro, 1994). McLaughlin and Marsh (1978) found the most powerful

teacher attribute in the Rand analysis was teacher sense of efficacy or professional competence. Self-efficacy was positively related to percent of project goals achieved, the amount of teacher change, improved student performance, and the continuation of both project methods and materials. Perceived self-efficacy is the one teacher characteristic consistently found to be related to teacher change, successful implementation of innovative programs, and student learning (Aston & Webb, 1986; Armor et al., 1976; Bender et al., 1995; Berman & McLaughlin, 1977; Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979; Cohen, 1981; Edmonds, 1979; Guskey, 1984; Rutter, Maugham, Mortimer, Outon, & Smith, 1979; Smylie, 1988). On the other hand, teachers with lower self-efficacy take less responsibility for the learning of their students (Brookover & Lezotte, 1979), attribute low-achieving students' problems to the students' lack of ability or to poor background rather than to the teacher's ability (Cooper, 1979), and conclude that it is futile to attempt changes in their practice (Hawley & Rosenholtz, 1984).

I addressed five aspects of self-perceptions (see Figure 2). Teachers rated their time and energy to learn about and try out new instructional practices. Under the category "Personal Concerns," teachers rated their agreement or disagreement with the statement, "This year, factors in my personal life are consuming the time I'd ordinarily use to try out a new reading practice." In connection with certainty of practice, teachers rated such things as their knowledge about theories of teaching reading, their confidence in their ability to handle disruptive students and deal with heterogeneous classes, and their certainty about their instructional

methods. Under personal teaching efficacy, teachers rated their agreement or disagreement with statements such as "The hours of my class have little influence on students compared to the influence of their home environment," and "Even a teacher with good teaching abilities may not reach many students." Finally, under teaching efficacy, I assessed teachers' perceptions of external environmental limitations placed on teaching by asking them to rate their level of agreement or disagreement with statements such as "When I really try, I can get through to most difficult students," and "When a student does better than usual, many times it is because I exerted a little extra effort."

Although a review of the literature suggests any number of factors may influence teacher receptivity to and use of research-based practices, many of the speculations made have principally focused on factors which are largely extrinsic to new practices. Such speculations are based on findings from either large-scale district and school-wide reform projects or staff development case studies of small groups of teachers working with university-based faculty. In his examination of previously unexplored relationships among the organizational contexts of schools and classrooms, Smylie (1988) found that school-level variables had little direct or indirect influence on teacher change--results largely inconsistent with most previous research (see Fullan, 1982). Smylie found that the source of change seemed rooted in teachers' individual perceptions of themselves, perceptions of their experiences within their classrooms and, to an extent, perceptions of their interactions with colleagues. Emphasis on teachers' perceptions in Smylie's study can be traced to the absence of organizational

foci and collective pressures associated with school- or district-level change. In that study, no system-level innovations were at stake, no new programs or policies were introduced to provide a common objective to guide behavior and change, and there was no pressure from administrators or teaching colleagues for individual teachers to change their practice in the direction of program goals. The study outlined in the following chapter borrows from Smylie's study and focusses on a group of teachers who were free to choose a new practice. The study examines the little-explored area of teachers' perceptions of a specific new practice, as well as previously-studied perceptions of their own reading goals and beliefs, the instructional context, and themselves as factors both intrinsic and extrinsic to the practice which may affect receptivity.

The importance of providing effective instruction in inclusive educational settings through the widespread and sustained use of research-based practices underscores the need for additional research which addresses questions about teacher receptivity. Based on the preceding literature review, it remains unclear which intrinsic and extrinsic factors will effect teacher receptivity to a whole-class instructional practice, designed to improve the outcomes for special education students in the regular education classroom, *when instructional change is individual and voluntary*. Using PT as an example of a research-based practice that has modest requirements, well documented procedures, specific instructions, and demonstrated efficacy attesting to benefits for students across the ability range, I investigated the following issues: (1) teacher receptivity from initial perceptions of the practice through to classroom implementation

(How receptive are teachers to PT?), (2) the relationship between teacher receptivity to PT and the nature of support for experimentation (Does the type of learning support available affect teacher receptivity to PT?), and (3) the extent to which teachers' receptivity is affected by features of the PT practice itself, and by factors extrinsic to the practice (What factors predict receptivity?).

Chapter 3

Method

Subjects and Setting

Eighty classroom teachers in 14 elementary schools in a single school district in the United States participated in this study. Several of the schools were known to the researchers to be receptive to educational programs and projects associated with the university. Schools were not randomly selected from all schools in the district. The fourteen schools represented 23% of the elementary schools in the district.

Teachers in this study were 61 females and 19 males who taught in grades 3 through 5. The numbers of teachers in grades 3-5 were 29, 28, and 23 respectively.

Students were 593 third graders; 601 fourth graders; and 584 fifth graders. Of the total, 139 (8%) were special education students.

Design and Treatments

I assigned schools to one of two treatment conditions, which varied in the nature of support offered for learning about PT. In assigning schools, I matched them on size (number of classroom teachers) and percentage of students on free and reduced lunch, such that treatment groups did not differ on either variable. Two small schools were added to one condition to make the number of teachers in each approximately even. Demographic characteristics for the 14 schools are presented in Table 1.

The two treatment conditions of the study were Compensated Independent Study (CIS) and Inservice Training (IT). Teacher characteristics such as gender, years of teaching, years at school, years at

Table 1
School Demographic Characteristics

School	Percent Minority	Percent Free and Reduced Lunch
Compensated independent study		
1	43	31
2	52	47
3	53	45
4	80	64
5	54	57
6	61	61
7	75	55
8	49	38
Inservice training		
9	42	27
10	39	27
11	83	58
12	49	50
13	58	44
14	36	13

grade level, and highest educational degree received did not significantly differentiate between the treatment groups. Teacher demographic characteristics are presented in Table 2. Teachers in both the CIS and IT conditions were given a 60-minute overview presentation and a manual

instructing them in using PT. The manual was the same one used by the developers of the practice (Fuchs & Mathes et al., 1993).

In addition to receiving an overview presentation on PT and a manual, teachers in the IT condition attended a one-day training session on PT. The inservice was conducted by the author and focussed primarily on reading the manual, practicing the main instructional components, and discussing strategies for implementation.

Table 2
Teacher Demographic Characteristics

	Females	Males	Years Teaching	Years at School	Years at Grade	BA BS	MEd MS	EdD PhD
Compensated independent study ^a	32	9	<i>M</i> = 13.8 <i>SD</i> = 9.1	<i>M</i> = 7.2 <i>SD</i> = 4.8	<i>M</i> = 5.3 <i>SD</i> = 4.4	25	15	1
Inservice training ^b	29	10	<i>M</i> = 15.4 <i>SD</i> = 9.5	<i>M</i> = 7.3 <i>SD</i> = 6.3	<i>M</i> = 6.7 <i>SD</i> = 5.9	18	21	0

^a*n* = 41. ^b*n* = 39.

Dependent Measures

I collected two classes of data in this study: (1) the number of teachers for each degree of receptivity (i.e., expressing an interest in learning more about PT; acting to learn more about PT; and instituting PT in their classrooms), and (2) questionnaires seeking information on intrinsic and extrinsic factors thought to affect receptivity (i.e., teachers' perceptions of PT; their reading goals and beliefs; their instructional context; and themselves). Table 3 shows the timing and method of data collection for

each degree of receptivity, and Table 4 shows the timing and method of data collection for each intrinsic and extrinsic factor.

Interest in Learning More About PT. To indicate their interest in learning more about PT after hearing a 60-minute overview of PT, teachers responded to a simple yes-no questionnaire (see Appendix A for the Interest in Learning More About PT Questionnaire).

Table 3
Schedule of Measures for Degrees of Receptivity

Degree	Timing	Method
Interest in learning more about PT	After introductory overview	Questionnaire
Act to learn about PT	Within 2 months of overview	Attending inservice training day or completing independent study and evaluation of the implementation manual
Application of PT	January & March	Phone contact and mail survey

Note. PT = Classwide Peer Tutoring.

Acting to Learn About PT. I recorded attendance of teachers in the IT group who participated in the one-day training session.

Compensated Independent Study. I provided an implementation manual on PT to all teachers in the CIS group who indicated an interest in learning more about PT. I also offered compensation for time spent

reading it and asked them to complete an evaluation of the manual's clarity and appropriateness of content. I counted teachers as having read

Table 4
Schedule of Questions Relating to Factors Affecting Receptivity

Intrinsic (I) & extrinsic (E) factors	Timing	Method
Teacher perceptions of: (E) reading goals & beliefs, hard to teach students, changes at school, consolidation of/changes to reading instruction, time & energy for innovation, satisfaction with reading program, personal concerns	Before initial PT overview	Teacher perception of reading practices
Teacher perceptions of: (I) PT	After initial PT overview	PT Evaluation I
Teacher perceptions of: (E) principal facilitation of teacher work & interaction, school encouragement of experimentation, mainstreaming attitudes, certainty of practice, personal teaching efficacy, teaching efficacy	After initial overview, before training/independent study of the implementation manual	School context Teacher effectiveness Mainstreaming attitudes
Teacher perceptions of: (I) PT	After training /independent study of the implementation manual	PT Evaluation II
Teacher perceptions of: (I) PT (E) changes at school, consolidation of/changes to reading instruction, personal concerns	At any time after the initial PT overview	Exit Questionnaire

Note. PT = Classwide Peer Tutoring.

the manual if they returned the completed Peer Tutoring Manual Evaluation Form, or if they indicated on the Use Survey (described below) that they had begun to implement PT. Subsequent phone contacts with the latter group confirmed that they had read the manual. Appendix A contains a copy of the PT Manual Evaluation Form.

Use Questionnaire. Teachers were asked on two occasions to complete a brief questionnaire indicating whether they had started using PT in their classrooms or if they had plans to implement the practice in the current school year. Questionnaires were distributed at the end of January and again in March. Appendix A contains a copy of the Use Questionnaire.

Teacher Perception of Reading Practices Questionnaire. Respondents were asked to use a six-point Likert-type scale (Strongly Disagree = 1, Strongly Agree = 6) to rate their level of agreement or disagreement with statements relating to their priorities for and satisfaction with their current reading instruction practices. Respondents also rated statements about the effectiveness of their instruction for low-, average-, and high-achieving students, and their beliefs about effective reading instruction. In addition, respondents supplied demographic information on themselves and on the students in their reading class. Appendix A contains a copy of the Teacher Perception of Reading Practices Questionnaire.

Peer Tutoring Evaluation Questionnaire. This questionnaire was developed to assess teachers' reactions to PT. Using a six-point Likert-type scale respondents were asked on two occasions to rate their level of agreement or disagreement with statements relating to various aspects of

the practice (e.g., attractiveness of components, suitability for current students, and their own time and energy for PT). Appendix A contains a copy of the Peer Tutoring Evaluation Questionnaire.

Teacher Effectiveness Scale - Revised. Originally developed by Gibson and Dembo (1984), and later revised by Woolfolk and Hoy (1990), the Teacher Effectiveness Scale used in this study is a 16-item subset of relevant items from the latter scale. The instrument is a six-point, Likert-type scale that yields a score for personal teaching efficacy and another score for teaching efficacy. A high score on the former suggests that a teacher believes that he or she can make a difference in a student's life in spite of the student's problems. A high score on the latter indicates that a teacher believes that his or her teaching effectiveness may be limited by students' home or community circumstances. Appendix A contains a copy of the revised Teacher Effectiveness Scale.

Mainstreaming Attitudes Scale - Revised. The Mainstreaming Attitudes Scale, developed by Bender et al. (1995), was used to assess teachers' specific attitudes towards the full-time placement of students with special needs in the regular education classroom. Questions assess beliefs about the positive effects of mainstreaming in general, as well as beliefs about mainstreaming practices in teachers' particular schools. Items are totaled to generate a composite score indicating teachers' beliefs regarding benefits of mainstreaming for students with and without disabilities. Higher scores indicate more positive attitudes toward mainstreaming. I substituted a six-point Likert-type scale for the original

five-point scale. Appendix A contains a copy of the revised Mainstreaming Attitudes Scale.

School Context Questionnaire - Revised. I used items from the Encouragement of Experimentation Scale developed by Smylie (1988) to obtain teachers' perceptions of different aspects of their schools. This scale evolved from ethnographic research on teacher collegiality, staff development, and school change (Little, 1981, 1984). Another scale, the School Context Questionnaire, focusses on teachers' perceptions of how principals, colleagues, and their own certainty of practice facilitate innovation. For each item, respondents indicate on a six-point Likert-type scale their level of agreement or disagreement with statements (Not At All = 1, Very Great Extent = 6). Appendix A contains a copy of the revised School Context Questionnaire.

Exit Questionnaire. This 15-item questionnaire was developed for teachers who decided they were not interested in learning about or implementing PT. The questionnaire asked teachers to indicate their level of agreement or disagreement with statements of personal and professional reasons for their decision. I appended four open-ended items to allow respondents to identify and discuss other perceived obstacles to adoption and implementation of PT. Appendix A contains a copy of the Exit Questionnaire.

Instrumentation

The primary data for this research came from questionnaire items which I grouped into 23 scales. Each scale addressed a variable thought to influence teachers' receptivity to a new teaching practice. Seven of the 23

scales were taken from the literature on teacher change. In addition I created 16 new scales to assess variables not measured in the original seven. Items were assigned to the new scales through an iterative process and a review of the literature. Reversed items were recoded in the scoring process.

I assessed each scale's internal consistency using Chronbach Alphas, deleting items that detracted from scale consistency. Alphas on the new scales ranged from 0.73 to 0.93 and those on the scales taken from the literature ranged from 0.47 to 0.92. Scale names, Alpha values, number of items, range of item-scale correlations (subtracting the individual item from the scale before computation), scale descriptions, and all items are presented in Appendix B.

I classified the 23 scales according to the four categories shown in Figure 1. Five of the scales were related to teachers' perceptions of PT; four were grouped under teachers' goals and beliefs about reading; nine scales related to teachers' perceptions of their instructional context; and five scales related to teachers' perceptions of themselves.

I conceptualized the five scales associated with teachers' perceptions of PT as Intrinsic because they addressed this particular teaching practice. I conceptualized the scales related to teachers' perceptions of their reading goals and beliefs, their instructional context, and themselves as Extrinsic because they addressed influences that were independent of this specific teaching practice. I tested this intrinsic-extrinsic distinction with factor analysis (reported in Chapter 4).

Procedures

Recruitment of teachers occurred during the first few months of the school year. The author visited 14 elementary schools in the district and offered teachers in grades 3 to 5 an opportunity to attend an after-school presentation on a new practice in reading. Teachers were not told the precise topic of the presentation. Teachers were offered a \$25.00 honorarium as an incentive to attend the after-school presentation.

A return visit was made to all 14 schools and a one-hour overview of PT was given to 80 of 86 identified regular education teachers in grades 3 to 5. Of the six teachers who did not attend an after-school presentation, three were absent on the day scheduled for their school and the remainder had previous commitments (e.g., medical appointments). Although the six teachers were invited to subsequent PT presentations at other schools, none attended.

Before the presentation, teachers completed the Teacher Perception of Reading Practices Questionnaire which sought information on their beliefs about effective reading instruction and their satisfaction with their current practices. Following the presentation, teachers completed the Peer Tutoring Evaluation Questionnaire I to record their immediate reactions to the practice, and the questionnaire assessing their interest in learning more about PT. Teachers were then given a take-home packet which included the Teacher Effectiveness Scale, the Mainstreaming Attitudes Scale, and the School Context Questionnaire. These sought information on teachers' perceptions of themselves, their students, and their teaching

context. Teachers were offered a \$25.00 honorarium to fill out and return the take-home packet.

The same presentation was given to teachers at each of the 14 schools regardless of treatment. I presented my credentials as a classroom and a special education teacher; offered a rationale for why teachers might want to consider PT; gave an overview of the main components of the practice; showed a brief video cassette of students engaged in PT; provided teachers with research data attesting to the efficacy of PT; and concluded each presentation with a question and answer period.

At the end of the presentation, I asked teachers to indicate on a form whether they were interested in learning more about PT. For teachers in the CIS ($n = 41$) condition who indicated an interest in learning more about PT, I gave an implementation manual and a \$100.00 honorarium to compensate them for the time taken to read it and to prepare for implementing PT (if they chose to use PT). Teachers were told that participation in CIS did not obligate them to use PT. As a check on teachers' reading of the manual, I asked them to fill out an evaluation of the manual, and to include it with their voucher for the honorarium. Teachers were instructed to complete the Peer Tutoring Evaluation Questionnaire II to record their reactions to the practice after reading the manual, and to fill out the second Interest in Learning More About PT Survey to indicate how likely they were to implement PT in their classrooms.

For teachers in the IT ($n = 39$) condition who indicated an interest in learning more about PT, I gave a choice of several dates for teachers in

their school to sign up for an inservice day, and provided their school with payment for substitute teachers.

The training days were scheduled during November and December. Teachers attended one of the sessions in groups numbering 8 to 14. The author conducted all three inservice days and followed the same schedule of activities each day. The inservice focussed on reading the manual and practicing the main instructional components. I gave teachers feedback on their enactment of each component. Time was also devoted to making plans for implementing PT and discussing potential implementation problems. Suggestions were elicited from the group to address the issues raised. At the end of the inservice, participants completed the Peer Tutoring Evaluation Questionnaire II to record their reactions to the practice after having read the manual and practiced the components. In addition, they completed a questionnaire to indicate how likely they were to implement PT in their classrooms.

Teachers in both conditions were advised that if they decided to try PT, they should begin training students by early January to ensure that the 15-week practice could run its course by the end of the school year. I sent teachers the Use Questionnaire and occasionally telephoned them throughout the remainder of the school year to ascertain if they were using PT. Teachers responding that they had not begun using the practice by April, or that they were not intending to implement the practice, were asked to fill out the Exit Questionnaire and return it to the author in exchange for a \$5.00 honorarium. The Exit Questionnaire recorded teachers' personal and professional reasons for their decision not to

implement PT. The form also gave respondents an opportunity to identify and discuss other perceived obstacles to adoption and implementation.

Chapter 4

Results

Three main questions comprise this research. The first question addresses teachers' receptivity to PT. Here receptivity is conceptualized as a series of teacher decisions and actions taken in adopting or rejecting a specific teaching practice. Applied to PT, the degrees of receptivity are: *interest* in learning more about PT, *acting to learn* more about PT, and finally getting the practice up and running in the classroom, or *application* of PT. The second question asks whether the offer and provision of inservice training affects the degree of teacher receptivity at the Acting to Learn and Application stages. The third question assesses the relative contribution of intrinsic and extrinsic factors to explaining the degree of teachers' receptivity at Interest and Application.

Findings related to these questions, and the analyses which support the findings are reported in three parts. Parts I and II focus on the first two research questions, and report the numbers and percentages of teachers at each degree of receptivity--Interest in Learning More, Acting to Learn, and Application--for the total sample, by school, and by treatment group.

Part III addresses the third research question examining the relative effect of intrinsic and extrinsic variables on teacher receptivity to PT. Tests of the predictive validity of the scales are reported for Interest and Application. In Part III, I also revisit the third research question, and

investigate the contribution of intrinsic and extrinsic scales in the prediction of Application for a subset of teachers who acted to learn more about PT. In other words, for teachers who acted to learn about the practice, what variables were predictive of introducing PT in their classrooms?

In Part IV I examine the reasons teachers gave for their decisions not to learn more about or apply PT.

I. How Receptive are Teachers to PT?

Receptivity to PT varied depending on the degree at which it was measured. Early in the decision-making process about PT, a majority of teachers appeared receptive to the practice--that is, having listened to an overview of PT, they expressed interest in learning more about it. At the next degree, a similar number of teachers followed through on their initial interest, that is, they acted to learn more about the practice through either compensated independent study of the implementation manual or taking part in a one-day training session. However, receptivity declined at the third degree in that significantly fewer teachers actually applied the practice in their classrooms.

Table 5 shows the number and percentage of receptive teachers at each degree. For comparative purposes, a total sample and successive sample percentage is given for each degree of receptivity. The total sample percentages are based on the total number of teachers (80) who listened to an overview presentation of PT at the outset of the study. The successive sample figures are based on the number of teachers retained in the sample at each successive degree of receptivity. Conditions at two schools pre-

empted teachers' decisions about PT at two different degrees: Interest in Learning More About PT, and Application of PT. Teachers at these schools were removed from the sample before measuring receptivity at those two degrees (details given later).

Interest in Learning More About PT was subdivided into Initial and Supported. The figure for Initial Interest, was derived from teacher responses to the question: "Are you interested in learning more about PT?", asked immediately following an overview presentation on PT. Of the teachers in the total sample, 60/80 (75%) expressed an initial interest in PT. The successive sample figure for the first degree of receptivity was 60/75 (80%), after removing one school where teachers were not free to choose PT. The 67/80 (84%) figure for Supported Interest includes all teachers expressing Initial Interest plus seven who initially said they were not interested, but became interested after they were told about available support for learning about the practice (i.e., either compensated independent study of the manual or a one-day training session). The successive sample figure was 67/75 (89%) when calculated on the reduced sample size.

The figure for the second degree of receptivity represents the number of teachers who acted to learn about PT, either by reading the instructor's manual or attending the training session. Overall 60/80 (75%) of the total sample acted to learn more about PT. The successive sample figure was 60/75 (80%). Of the 60 who acted to learn about PT, 54 came from the Initial Interest group and the remainder were six of the seven

teachers who expressed interest in learning more after they heard about the specific learning supports.

Finally, the figure for the degree of receptivity at Application, 32/80 (40%), represents the number of teachers who reported getting PT up and running in their classrooms. The successive sample figure was 32/69 (46%) after extracting a second school where teachers were not free to implement PT.

Table 5
Teachers' Degrees of Receptivity to PT

Degree	Total sample	Successive sample
Interest		
Initial	60/80 (75%)	60/75 (80%)
Supported	67/80 (84%)	67/75 (89%)
Acting to learn	60/80 (75%)	60/75 (80%)
Application	32/80 (40%)	32/69 (46%)

Note. PT = Classwide Peer Tutoring.

II. *Does the type of learning support available affect teacher receptivity to PT?*

The type of support did not differentially affect the number of teachers who acted to learn more about or apply PT, that is, there was a similar proportion of receptive teachers in both support groups. Table 6 shows the number and percentage of teachers receptive at the Act to Learn and Application degrees for the two groups, Compensated Independent Study, and Inservice Training. Chi-square tests comparing the percentage

of receptive teachers in the two groups were not significant either at Act to Learn $\chi^2 (df) = 1.616 (1), p = .20$, or Application $\chi^2 (df) = .587 (1), p = .44$.

Table 6
Degrees of Receptivity to PT for Two Treatment Groups

Degree	Compensated independent study	Inservice training
Acting to learn	31/41 (76%)	29/39 (74%)
Application	17/41 (41%)	15/39 (38%)

Note. PT = Classwide Peer Tutoring.

Although the type of support teachers received or were offered did not influence the degree of their receptivity to PT at Act to Learn or Application, the *offer* of support appeared to affect their interest in learning more (i.e., the difference between Initial and Supported Interest). Recall that immediately after listening to an introductory overview of PT, 60 teachers indicated interest in learning more about the practice. After response forms were collected and teachers informed about the learning support they could expect, seven teachers asked to change their responses from "no" to "yes." Four of these teachers were in the CIS condition and three were in the IT condition. Excluding teachers from School 14 (which disallowed PT), these seven teachers accounted for 47% of the group initially not interested in PT. Later, six of these seven did act to learn more about PT through one of the modes of assistance.

III. What factors predict receptivity?

This section addresses the third research question and is divided into four sections: (1) predictors of Interest in Learning More About PT, (2) predictors of Application of PT, (3) predictors of Application for teachers who acted to learn more about PT, and (4) resolving discrepancies in the results. For the sets of results for sections 1 and 2, I rely on measures taken directly after teachers listened to the overview presentation on PT (Time 1). For section 3, I rely on measures taken both before and after teachers had acted to learn more about PT (Time 2). For section 4, I compare primary variables at Time 1 and Time 2 predictive of Application for teachers who acted to learn more about PT.

1. Predictors of Interest in Learning More About PT

Three intrinsic scales (General Evaluation of PT, Suitability for Current Students, and Time and Energy for PT) contributed significantly to the prediction of interest in learning more about PT.

Here I trace the steps taken to arrive at this answer. I begin by reporting mean scale item responses and standard deviations for the 15 scales, broken down by teachers who were interested in learning more about PT, and those who were not. I then test for school effects using one-way ANOVAs and Hierarchical Linear Modeling (HLM). This is followed by factor analysis of the scales, paying special attention to the intrinsic-extrinsic distinction. Next I present the correlation matrix displaying the interrelationships among the predictors, and between predictors and Interest in Learning more about PT. I then report the results of

hierarchical regression and HLM analyses examining the specific predictors of Interest.

Means and Standard Deviations For all Scales. Table 7 gives mean item responses and standard deviations on all scales for teachers who were interested in learning more about PT, and those who were not. Recall that the primary data for this research came from questionnaire items which I grouped into 23 scales. Each scale addressed a variable thought to influence teachers' receptivity to a new teaching practice. Seven of the 23 scales were taken from the literature on teacher change, and 16 new scales were created to assess variables not measured in the original seven.

One-way ANOVAs and HLM Analyses Testing for School Effects. With one exception, the school in which teachers worked was not a significant factor affecting interest in learning more about PT. The 80 teachers in the sample were nested within 14 schools. Table 8 shows the number and percentage of teachers at each school for the first major degree of receptivity: interest in learning more about PT.

I explored the effect of School on interest in learning more about PT with one-way ANOVAs comparing all 14 schools for the percentage of teachers passing the Interest degree. The school effect on Interest was significant $F(13, 66) = 2.70, p < .01$. A post hoc Tukey-HSD test indicated that the mean for Interest for School 14 was significantly different ($p < .05$) from the means for 7 of the remaining 13 schools.

Table 7
Mean Scale Item Response and SD for Teachers Who Were or Were Not Interested in Learning More About PT

Scale	Interest (n = 60)		Non-Interest (n = 15)	
	Mean	SD	Mean	SD
General evaluation of PT	4.7	.05	3.8	0.8
Suitability for current students	4.7	0.5	3.7	0.6
Time and energy for PT	4.2	0.8	2.4	0.9
Research evidence for PT	4.9	0.7	3.8	1.4
Teaching goals	5.2	0.7	5.2	0.8
Assigning easy text	3.6	1.2	3.7	1.0
Pairing students	3.6	1.4	3.9	1.2
Team competition	3.7	1.1	3.2	1.1
Hard to teach students	3.9	1.4	2.9	1.6
Changes at school	4.4	1.4	4.3	1.3
Consolidation of reading instruction	4.6	1.1	4.1	1.2
Changes to reading instruction	3.9	1.2	3.6	1.5
Time and energy for innovation	4.0	1.2	4.3	1.5
Satisfaction with reading program	4.0	0.8	4.4	0.9
Personal concerns	3.1	1.5	2.5	1.2

Note. 6 = Strongly Agree, 1 = Strongly Disagree.
 PT = Classwide Peer Tutoring. The five teachers from school 14 were eliminated because they could not use PT.

Table 8
*Number and Percentage of Teachers by School
 for Interest in Learning More About PT*

School	<i>n</i>	Interest	
		Number	Percent
1	11	8	73
2	2	2	100
3	6	6	100
4	7	5	71
5	8	5	63
6	5	5	100
7	8	5	63
8	7	5	71
9	4	4	100
10	5	5	100
11	4	2	50
12	4	4	100
13	4	4	100
14	5	0	0

Note. PT = Classwide Peer Tutoring.

These tests were supported by HLM. Because HLM offers the advantage of correcting for any nesting that may occur, the analysis takes into account the degree to which teachers within schools are similar (Bryk & Raudenbush, 1989). HLM analysis showed significant school-to-school variation for Interest $\chi^2 (df) = 35.073 (13), p = .001$.

A discussion with teachers at School 14 disclosed that they had received a federal grant to develop a specific reading curriculum, one which was incompatible with PT. Because teachers at School 14 were not free to decide to adopt PT, I excluded this school from further analyses.

Subsequent one-way ANOVAs, without School 14, yielded no differences among schools at Interest $F(12, 62) = 1.17, p = .33$. HLM confirmed this result, showing no significant school-to-school variation

for Interest $\chi^2 (df) = 13.963 (12), p = .30$. In subsequent analyses, no further provisions were made to control for school; however, as teachers are nested within schools, I continued to use HLM to confirm results of analyses when assessing variables affecting teachers' receptivity to PT .

Factor Analyses of All Scales. Next I computed a factor analysis to examine the nominal division of intrinsic and extrinsic scales. In my conceptualization of influences on receptivity, I grouped scales under four broad categories addressing teachers' perceptions of: (1) PT itself (intrinsic), (2) their own goals and beliefs regarding reading instruction (extrinsic), (3) their instructional context (extrinsic), and (4) themselves, including their own time and energy for innovation (extrinsic). An exploratory factor analysis revealed that all four scales classified as intrinsic to PT loaded moderately-to-strongly on a single factor, with loadings ranging from .60 to .89. The intrinsic factor was composed of scales: General Evaluation of PT, Suitability for Current Students, Time and Energy for PT, and Research Evidence for PT. The remaining scales loaded on five other factors. The conceptual groupings underlying the latter five factors were not obvious. Factor analysis results appear in Appendix 2.

A second confirmatory factor analysis (CFA), performed using EQS version 5.1 (Bentler & Wu, 1995), was conducted on the scales to compare two competing models, one representing the conceptual model of teacher receptivity, with one intrinsic factor and multiple extrinsic factors (multiple factor model), and a second model with one intrinsic factor and a single, omnibus extrinsic factor (single factor model). Maximum Likelihood Estimation was used to calculate the estimated variance-

covariance matrices from the raw data. For the multiple factor model, the $\chi^2 = 62.505$ (42 *df*) and the comparative fit index (CFI) was .924. For the single factor model, the $\chi^2 = 64.994$ (42 *df*) and the CFI was .921. Given that the CFI and chi-square values indicate nearly equivalent models with a good fit to the data (Bentler, 1990), the single factor model with an intrinsic factor and one extrinsic factor is a more parsimonious representation of the data.

Scales in the exploratory and confirmatory factor analyses were examined for normality, linearity, and homoscedasticity. No violations of assumptions for conducting a multivariate analysis were found. Mahalanobis distance with a $p < .001$ criterion located a single multivariate outlier among the cases on two scales. I decided to retain this case based on the following reasoning: (1) the negligible effect the two offending scale scores would have on the analyses, (2) the relatively small n of the study and, (3) the likelihood that the outlier was properly part of the population from which the sample was drawn (Tabachnick & Fidell, 1989).

Correlation Matrix of All Variables. Table 9 presents a correlation matrix displaying the relationships among the scales and Interest. Intrinsic scales involving various aspects of teachers' perceptions of PT accounted for a preponderance of significant correlations. All four scales measuring perceptions of PT (e.g., General Evaluation of PT, Suitability for Current Students) correlated significantly ($p < .01$) with teachers' expression of interest in learning more about the practice. The mean correlation of intrinsic scales with Interest was .58. In contrast, none of the scales in

Table 9
Intercorrelations Among the Scales and Interest in Learning More About PT

Outcome measure & scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Interest in learning about PT	--															
Perceptions of PT																
2. General evaluation of PT	.52	--														
3. Suitability for students	.59	.85	--													
4. Time and energy for PT	.74	.67	.74	--												
5. Research evidence for PT	.47	.40	.43	.47	--											
Reading goals and beliefs																
6. Teaching goals	.00	.15	.06	.06	-.04	--										
7. Assigning easy text	-.01	-.09	-.04	-.04	.02	.14	--									
8. Pairing students	-.07	.06	-.04	.04	.06	.20	.03	--								
9. Team competition	.18	.00	.03	.06	.04	-.08	.05	-.10	--							
Instructional context																
10. Hard-to-teach students	.27	.23	.05	.22	.33	.20	-.13	.05	.14	--						
11. Changes at school	.04	.18	.09	.08	.05	.29	-.12	.17	.08	.33	--					
12. Consolidation of reading instruction	.18	.06	.02	.18	-.08	.18	.14	.02	.21	.18	.03	--				
13. Changes to reading instruction	.10	-.06	-.01	.01	.06	.26	-.07	-.04	.00	-.00	.30	-.14	--			
14. Satisfaction with reading program	-.15	-.14	-.10	-.08	.04	-.12	.03	.25	.05	-.10	.03	-.11	-.00	--		
Self-perceptions																
15. Time and energy for innovation	-.09	-.07	-.05	.00	.04	.16	.22	.28	-.21	.04	-.00	.06	.17	.04	--	
16. Personal concerns	.15	-.11	-.11	-.03	-.03	-.24	.04	-.25	.20	.09	.02	.04	.01	-.10	-.19	--

Note. $n = 75$. PT = Classwide Peer Tutoring. Correlations greater than .21 in absolute value are significant at the .05 level. Correlations greater than .28 are significant at the .01 level.

Reading Goals and Beliefs related significantly to Interest. The same was true for scales assigned to Instructional Context, with the exception of Hard to Teach Students, which was significantly ($p < .05$) related to Interest. Finally, none of the scales assigned to Self-perceptions related significantly to Interest. Overall, the mean correlation of all extrinsic scales with Interest was .11.

Zero-order correlations however, do not address the issue of the specificity in the relationship between the scales and Interest. Thus, I carried out a series of hierarchical regressions to examine contributions of specific scales to the prediction of Interest in Learning More About PT.

Hierarchical Regression and HLM Analyses. To examine the contribution of specific scales to explaining Interest, I computed a hierarchical regression entering only scales that had significant zero-order correlations with the outcome measure. My conceptualization of the primary intrinsic factors affecting receptivity is hierarchical. The first requisite for receptivity is a positive general evaluation of the specific practice. Next is a positive assessment of its appropriateness for one's current group of students. The third is a judgment by teachers that they have time and energy to apply the practice in their classrooms. Other intrinsic and extrinsic scales significantly correlated with Interest (Research Evidence for PT, and Hard to Teach Students) were entered after Time and Energy for PT in the proposed hierarchy of scales. Hierarchical regressions ordered in this fashion were conducted to test the contribution of each scale to the explanation of Interest.

In a preliminary analysis of the data (not reported here), Time and Energy for PT and Time and Energy for Innovation were significantly correlated ($r = .31, p < .01$). Recall that Time and Energy for PT is intrinsic to the practice and Time and Energy for Innovation, a more general assessment of teachers' time and energy, is extrinsic to the PT practice. In order to examine the specific role of teachers' time and energy for PT in the prediction of interest in learning more about the practice, I wanted the two scales to be as uncorrelated as possible. To this end, I used partial correlations which had the effect of residualizing one scale on the other. As shown in Table 9, residualizing Time and Energy for Innovation on Time and Energy for PT resulted in a zero-order correlation between these variables. The same procedure was followed for all subsequent hierarchical regressions assessing the contribution of Time and Energy for PT in the prediction of the outcome measures.

Table 10 presents the results of a hierarchical regression in which General Evaluation of PT, Suitability for Current Students, and Time and Energy for PT were entered as the first three steps in predicting Interest in Learning More About PT. Each scale in turn accounted for significant additional variance. Judgments of PT's suitability for current students accounted for 7% additional variance above the 27% variance accounted for by General Evaluation of PT. Time and Energy for PT, entered as the third step, accounted for an additional 20% of the variance after controlling for General Evaluation of PT and Suitability for Current Students. As a set, these scales resulted in a multiple correlation of .74. When entered after the first three scales in the equation, Research Evidence for PT did not

Table 10
*Hierarchical Regression Analysis Predicting Interest
 in Learning More About PT*

Step/scale	R	R ² change	F to enter	Final β	Final F
1. General evaluation of PT	.523	.273	27.46*	-.012	.00
2. Suitability for current students	.589	.073	8.01*	.095	.32
3. Time and energy for PT	.741	.204	32.09*	.677	32.09*

Note. $n = 75$. PT = Classwide Peer Tutoring.

* $p < .01$.

contribute additional significant variance. This was also the case for the only extrinsic scale significantly correlated with Interest, Hard to Teach Students. Although these latter scales correlate with teachers' interest in learning about PT, they did not add to its prediction after the three primary variables were entered. On the right-hand side of Table 10 are the standardized beta weights and final F values for the three variables in the final simultaneous equation.

HLM analysis which offers the advantage of correcting for the nesting of teachers within schools, corroborated these findings. A one-way ANOVA in HLM disclosed no school effect for Interest $\chi^2 (df) = 13.963 (12)$, $p = .30$, confirming the earlier simple ANOVA. Because hierarchical regression is not offered in HLM, the scales in the analyses had to be entered at the same time. Because of this, I wanted scales to be as uncorrelated as possible. To accomplish this, I used partial correlations which had the effect of residualizing each variable on the other two. The

HLM analyses confirmed the earlier findings: General Evaluation for PT, Suitability for Current Students, and Time and Energy for PT all make unique contributions to predicting Interest. When added separately to the equation containing the first three scales, Research Evidence for PT and Hard to Teach Students did not make unique contributions to predicting Interest. Table 11 shows the estimated coefficients, standard errors and *t* ratios for the variables in the final HLM analysis predicting Interest.

Table 11
HLM Regression Analysis Predicting Interest in Learning More About PT

Scale	Estimated coefficient	SE	<i>T</i>
General evaluation of PT	.02	.00	6.36**
Suitability for current students	.04	.01	3.44*
Time and energy for PT	.13	.02	5.74**

Note. *n* = 75. PT = Classwide Peer Tutoring.
p* < .01. *p* < .001.

2. Predictors of Application of PT

Two intrinsic scales (General Evaluation of PT, Suitability for Current Students) contributed significantly to the prediction of application of PT.

Once again I trace the steps taken to arrive at this answer. I begin by reporting mean scale item responses and standard deviations for the 15 scales, broken down by teachers who introduced PT in their classrooms, and those who did not. I then test for school effects using one-way ANOVAs and HLM. Next I present the correlation matrix displaying the

interrelationships among the predictors, and between predictors and Application of PT. I then report the results of hierarchical regression and HLM analyses examining the specific predictors of Interest.

Means and Standard Deviations For all Scales. Table 12 gives mean scale item responses and standard deviations on all scales for teachers who produced PT in their classrooms, and those who did not. A discussion with teachers at School 3 disclosed that a new basal reading program had been adopted throughout the building and they had been instructed to use a grouping plan that precluded using PT. Because teachers at this school were not free to apply PT, I excluded this school from all further analyses, thereby reducing the sample size to 69.

One-way ANOVAs and HLM Analyses Testing for School Effects. Table 13 shows the number and percentage of teachers at each school for the second major degree of receptivity: Application. One-way ANOVAs without School 3 yielded no differences among schools at Application $F(11,57) = 0.92, p = .52$. HLM confirmed this result, showing no significant school-to-school variation for Application $\chi^2(df) = 10.460(11), p > .50$. In subsequent analyses, no further provisions were made to control for school, however, as teachers are nested within schools, I continued to use HLM to confirm results of analyses when assessing variables affecting teachers' receptivity to PT.

Table 12
*Mean Scale Item Response and SD for Applying and
 Non Applying Teachers*

Scale	Application (<i>n</i> = 32)		Non- Application (<i>n</i> = 37)	
	Mean	SD	Mean	SD
General evaluation of PT	4.8	0.5	4.3	0.8
Suitability for current students	4.8	0.5	4.2	0.7
Time and energy for PT	4.2	0.9	3.5	1.2
Research evidence for PT	4.8	0.5	4.6	1.3
Teaching goals	5.2	0.7	5.2	0.9
Assigning easy text	3.6	1.2	3.7	1.2
Pairing students	3.7	1.3	3.7	1.4
Team competition	3.7	1.0	3.6	1.1
Hard to teach students	3.5	1.5	4.0	1.5
Changes at school	4.3	1.5	4.5	1.3
Consolidation of reading instruction	4.5	1.0	4.6	1.1
Changes to reading instruction	3.6	1.3	4.0	1.3
Time and energy for innovation	4.1	1.0	4.1	1.5
Satisfaction with reading program	4.1	0.8	4.1	0.9
Personal concerns	2.6	1.2	3.2	1.6

Note. *n* = 69. 6 = Strongly Agree, 1 = Strongly Disagree.

Table 13
*Number and Percentage of Teachers by School
 for Application of PT*

School	<i>n</i>	Application	
		Number	Percent
1	11	3	27
2	2	1	50
3	6	0	0
4	7	5	71
5	8	3	38
6	5	3	60
7	8	2	25
8	7	5	71
9	4	2	50
10	5	3	60
11	4	1	25
12	4	1	25
13	4	3	75

Note. PT = Classwide Peer Tutoring.

Correlation Matrix of All Variables. Table 14 presents a correlation matrix displaying the relationships among the scales and Application. Intrinsic scales involving various aspects of teachers' perceptions of PT accounted for a preponderance of significant correlations with Application. Three scales measuring perceptions of PT (General Evaluation of PT, Suitability for Current Students, and Time and Energy for PT) correlated significantly ($p < .01$) with the application of PT. The mean correlation of intrinsic scales with Application was .25. In contrast, none of the scales in Reading Goals and Beliefs, Instructional Context, and Self-perceptions was significantly related to Application. Overall, the mean correlation of all extrinsic scales with Application was .07.

Table 14
Intercorrelations Among the Scales and Application for PT

Outcome measure & scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Application of PT	--															
Perceptions of PT																
2. General evaluation of PT	.32	--														
3. Suitability for students	.40	.88	--													
4. Time and energy for PT	.34	.68	.75	--												
5. Research evidence for PT	.11	.41	.42	.48	--											
Reading goals and beliefs																
6. Teaching goals	.01	.16	.08	.06	-.02	--										
7. Assigning easy text	-.05	-.12	-.04	-.05	.03	.14	--									
8. Pairing students	.01	.05	-.01	.07	.07	.21	.01	--								
9. Team competition	.04	.01	.06	.09	.08	-.11	.07	-.12	--							
Instructional context																
10. Hard-to-teach students	-.14	.23	.09	.23	.38	.19	-.16	.08	.15	--						
11. Changes at school	-.08	.20	.09	.08	.06	.30	-.16	.20	.10	.33	--					
12. Consolidation of reading instruction	-.06	.05	.09	.21	-.04	.16	.12	-.05	.19	.17	.00	--				
13. Changes to reading instruction	-.17	-.05	-.06	-.02	.04	.30	-.07	.01	.06	-.00	.29	-.10	--			
14. Satisfaction with reading program	.00	-.16	-.08	-.08	.05	-.13	-.01	.22	.05	-.12	.01	-.17	.03	--		
Self-perceptions																
15. Time and energy for innovation	-.03	-.10	-.04	-.01	.08	.15	.20	.31	-.27	.02	-.01	-.02	.22	.03	--	
16. Personal concerns	-.20	-.12	-.17	-.06	-.08	-.22	.03	-.23	.31	.10	-.02	.17	-.06	-.11	-.14	--

Note. $n = 69$. PT = Classwide Peer Tutoring. Correlations greater than .23 in absolute value are significant at the .05 level. Correlations greater than .30 are significant at the .01 level.

Hierarchical Regression and HLM Analyses. I next carried out a series of hierarchical regressions to examine contributions of specific scales to the prediction of Application. Table 15 presents the results of a hierarchical regression in which General Evaluation of PT, Suitability for Current Students, and Time and Energy for PT were entered as the first three steps. Only General Evaluation of PT and Suitability for Current Students were significant, accounting for 17 percent of the variance. As a set, the three variables resulted in a multiple correlation of .42. On the right-hand side of the table are the standardized beta weights and the final *F* values for the three scales in the final simultaneous equation.

My next analysis used HLM to address the same question. Recall that HLM controls for effects associated with nesting of teachers within schools. Because all the scales had to be entered together and I wanted the measures as uncorrelated as possible, I again used partial correlations.

Table 15
Hierarchical Regression Analysis Predicting Application of PT

Step/scale	<i>R</i>	<i>R</i> ² change	<i>F</i> to enter	Final β	Final <i>F</i>
1. General evaluation of PT	.321	.103	7.67**	-.153	.42
2. Suitability for current students	.410	.065	5.16*	.470	3.25
3. Time and energy for PT	.414	.004	.29	.101	.29

Note. *n* = 69. PT = Classwide Peer Tutoring.

p* < .05. *p* < .01.

Table 16 shows the estimated coefficients, standard errors and *t* ratios for the variables in the final HLM. The table shows that HLM mimicked the hierarchical regression results. Only teachers' General Evaluation of PT and Suitability for Current Students were significant predictors of Application.

Table 16
HLM Regression Analysis Predicting Application of PT

Scale	Estimated coefficient	SE	T
General evaluation of PT	.02	.01	2.69*
Suitability for current students	.05	.02	2.23*
Time and energy for PT	.02	.04	0.59

Note. $n = 69$. PT = Classwide Peer Tutoring.

* $p < .05$.

That two intrinsic scales figured prominently in predicting Application is not surprising, given the role of intrinsic scales in predicting interest in learning more about PT. Teachers who positively evaluated PT and perceived the practice as suitable for their students were more likely to apply it than teachers who were less positive toward the practice. Even so, the two variables accounted for only 16% of the variance in the prediction of Application, a figure which contrasts with the prediction of interest in learning about PT, for which General Evaluation of PT, Suitability for Current Students, and Time and Energy for PT accounted for over 50% of the variance.

Next, I examine predictors of Application for the subset of teachers who acted to learn more about PT. Within this group which intrinsic and extrinsic variables lead teachers to try out PT?

3. Predictors of Application for Teachers Who Acted to Learn More About PT

Here I revisit the third research question and investigate the contribution of intrinsic and extrinsic scales in the prediction of Application for teachers who acted to learn more about PT.

For the following analyses, I rely on a total of 23 measures taken both before *and* after teachers had acted to learn more about PT. I have included measures taken after teachers had acted to learn more about PT because by then teachers presumably had become better acquainted with the practice, either through independent study or via inservice training. Specifically, I replaced the original measures of General Evaluation of PT, Suitability for Current Students, and Time and Energy for PT with similar measures taken after teachers had acted to learn more about PT. I refer to these later measures as General Evaluation of PT II, Suitability for Current Students II, and Time and Energy for PT II. I added another intrinsic scale (Estimated Student Benefit) in which teachers estimated the achievement benefits of PT for their students. I also added several extrinsic scales measuring teachers' perceptions of their: principal's facilitation of teacher work and interaction; school's encouragement of experimentation; certainty of practice, mainstreaming attitudes, teaching efficacy, and personal teaching efficacy. Finally, I retained 12 earlier measures taken before teachers had acted to learn more about PT (e.g., Research Evidence

for PT, Teaching goals, Hard to Teach Students, and Changes at School) because teachers' perceptions in these areas presumably were likely to be fairly stable in the time period between listening to an overview of PT and acting to learn more about the practice.

For this subgroup, Application of PT was significantly predicted by general evaluation of the practice along with perceptions of its suitability for their students and the sense that they had the time and energy to start it in their classrooms.

Following is a summary of the analytic steps from which this result is derived. I begin by reporting mean scale item responses and standard deviations for the 23 scales, broken down by teachers in the subgroup who produced PT in their classrooms, and those who did not. I then test for school effects using one-way ANOVAs and HLM. This is followed by factor analysis of the scales, again paying special attention to the intrinsic-extrinsic distinction. Next I present the correlation matrix displaying the interrelationships among the predictors, and between predictors and Application of PT. Finally, I report the results of hierarchical regression and HLM analyses examining the specific predictors of Application.

Means and Standard Deviations of All Scales. Table 17 gives mean scale item responses and standard deviations on all scales for applying and nonapplying teachers.

One-way ANOVAs and HLM Analysis Testing for School Effects. I explored the effect of School on Application for teachers who acted to learn more about PT, using one-way ANOVAs on the percent of teachers from different schools who passed the Application degree. No differences were

Table 17
*Mean Scale Item Response and SD for Subset of Applying and Non
 Applying Teachers Who Acted to Learn More About PT*

Scale	Application (<i>n</i> = 32)		Non-Application (<i>n</i> = 28)	
	Mean	SD	Mean	SD
General evaluation of PT II	4.9	0.4	4.7	0.6
Suitability for current students II	5.0	0.4	4.3	0.7
Time and energy for PT II	5.3	0.7	4.2	0.8
Estimated student benefit	4.8	0.5	4.5	0.8
Research evidence for PT*	4.8	0.5	4.9	1.0
Teaching goals*	5.2	0.7	5.3	0.8
Assigning easy text*	3.6	1.2	3.9	1.1
Pairing students*	3.7	1.3	3.6	1.4
Team competition*	3.6	1.0	3.7	1.1
Hard to teach students*	3.4	1.5	4.6	1.1
Mainstreaming attitudes	4.2	0.8	4.3	0.9
Changes at school*	4.3	1.5	4.7	1.1
Consolidation of reading instruction*	4.5	1.1	4.7	1.1
Changes to reading instruction*	3.5	1.3	4.0	1.1
Satisfaction with reading program*	4.1	0.8	3.9	0.9
Principal facilitation of teacher interaction	4.8	1.0	5.0	0.7
Principal facilitation of teacher work	3.6	1.0	3.5	0.8
School encouragement of experimentation	4.3	0.4	4.3	0.4
Time and energy for innovation*	4.0	1.0	4.4	1.2
Personal concerns*	2.6	1.2	3.4	1.6
Certainty of practice	4.9	0.6	4.6	0.6
Personal teaching efficacy	3.7	0.5	3.4	0.6
Teaching efficacy	4.5	0.5	4.5	0.5

Note. *n* = 55. PT = Classwide Peer Tutoring. 6 = Strongly Agree, 1 = Strongly Disagree.

* Denotes measures that were taken before acting to learn.

found among schools $F(11,42) = .49, p = .90$. HLM confirmed this result, showing no significant school-to-school variation for Application $\chi^2 (df) = 5.468 (11), p > .50$. As in earlier analyses for the total sample, no further provisions were made to control for school in subsequent regression analyses. However, as teachers are nested within schools, I continued to use HLM to confirm results of regression analyses.

Factor Analyses of all Scales. A factor analysis examining the nominal division of intrinsic and extrinsic scales showed that four of the five scales thought to measure features intrinsic to PT loaded moderately-to-strongly onto a single factor with loadings ranging from .58 to .69--General Evaluation for PT II, Suitability for Current Students II, Time and Energy for PT II, and Estimated Student Benefit. The remaining intrinsic scale, Research Evidence for PT, loaded moderately (.51) onto another factor along with Principal Facilitation of Teacher Work (.52). Three other scales measuring variables considered extrinsic to PT--Teaching Goals, Hard to Teach Students, and Changes at School--loaded moderately (.49 to .52) on a third factor. The 14 remaining scales loaded onto five additional factors. The conceptual groupings underlying all but Factor 1 were not obvious. Factor analysis results appear in Appendix 2.

Scales in the factor analysis were examined for normality, linearity, and homoscedasticity. No violations of assumptions associated with multivariate analysis were found. Mahalanobis distance with a $p < .001$ criterion failed to locate multivariate outliers among the cases.

Correlation Matrix of All Variables. Table 18 presents a correlation matrix for the 23 scales and Application. The five intrinsic scales displayed

Table 18
Intercorrelations Among Scales and Application for Subset of Teachers Who Acted to Learn More About PT

Outcome measure & scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Outcome measure																										
1. Application of PT	--																									
2. General evaluation of PT II.	.24	--																								
3. Suitability for students II.	.59	.58	--																							
4. Time and energy for PT II.	.18	.65	.41	.43	--																					
5. Estimated student benefit	-.10	.41	.03	.04	.28	--																				
6. Research evidence for PT							--																			
7. Teaching goals	-.06	.14	-.04	-.04	.07	.08	--																			
8. Assigning easy text	-.14	-.01	-.13	-.14	-.01	-.00	.07	--																		
9. Pairing students	.03	.11	.06	.17	.02	.05	.23	.07	--																	
10. Team competition	-.02	.22	.12	.05	.07	-.04	-.25	.13	-.24	--																
Instructional context											--															
11. Hard to teach students	-.40	.03	-.29	-.23	-.00	.20	.26	-.08	.10	.13	--															
12. Mainstreaming attitudes	-.12	-.06	-.09	-.07	-.18	-.05	.19	-.22	.23	-.05	--															
13. Changes at school	-.15	.19	.12	.08	.09	.13	.27	-.05	-.25	-.01	.30	-.02	--													
14. Consolidation of reading instruction	-.12	-.04	.00	-.13	.03	.17	.08	.12	-.02	.20	.32	.08	.02	--												
15. Changes to reading instruction	-.22	-.08	-.14	-.09	.05	.21	.21	-.06	-.14	-.05	.00	.02	.20	-.09	--											
16. Satisfaction with reading program	-.10	.13	.12	.06	.01	-.12	-.08	.07	.13	-.04	-.17	.14	.08	-.18	.05	--										
17. Principal facilitation of teacher interaction	-.14	.15	.07	.11	.18	.21	.12	.03	.09	.07	.15	.37	.32	.40	-.03	.03	--									
18. Principal facilitation of teacher work	.05	-.03	.10	.07	-.21	.04	-.17	.03	-.03	-.02	-.12	.23	-.32	-.17	-.09	-.02	.00	--								
19. School encouragement of experimentation	-.12	.11	.10	.02	.04	.13	.39	.03	.08	-.33	.02	.10	.29	.33	.19	-.07	.41	.04	--							
Self-perceptions																										
20. Time and energy for innovation	-.18	.03	-.03	-.07	.01	.16	.19	.12	.37	-.37	.14	-.33	.14	.01	.26	.23	-.15	.03	.17	--						
21. Personal concerns	-.28	-.07	-.25	-.34	-.05	.05	-.30	.16	-.27	.42	.12	.24	-.13	.16	-.13	-.03	.14	-.10	-.21	-.31	--					
22. Certainty of practice	.24	.03	.17	.17	-.11	-.08	.16	.05	.28	.05	-.09	.09	.10	-.04	.08	.48	.11	.12	.05	.24	-.17	--				
23. Personal teaching efficacy	.29	.33	.44	.33	.29	.12	.12	.06	.15	-.11	-.14	-.06	-.03	-.03	.09	-.18	-.10	.11	.12	.04	-.08	.03	--			
24. Teaching efficacy	.02	.24	.21	.18	.22	.06	.32	.27	.15	-.04	.02	.14	.33	.22	.19	.30	.35	-.02	.24	.20	-.05	.34	.14	--		

Note. $n = 55$. PT = Classwide Peer Tutoring. Correlations greater than .25 in absolute value are significant at the .05 level. Correlations greater than .32 are significant at the .01 level.

modest within-construct validity with correlations ranging from .03 to .78 ($M = .41$). One nominal intrinsic scale, Research Evidence for PT, accounted for the majority of insignificant correlations among intrinsic scales. Intrinsic scales were weakly correlated with extrinsic scales: -.14 to .22 ($M = .09$) for Reading Goals and Beliefs; -.29 to .21 ($M = .11$) for Instructional Context; and -.34 to .44 ($M = .14$) for Self-perceptions.

Zero-order correlations indicate that intrinsic scales were more highly correlated with Application than were extrinsic scales. The mean correlation between intrinsic scales and Application was .35, with 2 of 5 scales significant: Suitability for Current Students II ($r = .59, p < .01$), and Time and Energy for PT II ($r = .63, p < .01$). In contrast, the mean correlation between extrinsic scales and Application was .15, with 3 of 18 scales significant: Hard to Teach Students ($r = -.40, p < .01$), Personal Concerns ($r = -.28, p < .05$), and Personal Teaching Efficacy ($r = .29, p < .05$).

Hierarchical Regression and HLM Analyses. Again I employed hierarchical regression to examine the contribution of specific scales to the prediction of Application, entering scales with significant zero-order correlations with the outcome measure. The regression, reflecting my hierarchical conceptualization of receptivity, tested whether Suitability for Current Students II accounted for unique variance after controlling for General Evaluation of PT II, and whether Time and Energy for PT II accounted for variance after controlling for both General Evaluation of PT II and Suitability for Current Students II.

Table 19 shows that Suitability for Current Students II, and Time and Energy for PT II were significant predictors of Application, and each in

turn accounted for significant additional variance when entered in that order. General Evaluation of PT II, approached significance, accounting for 6% of the variance. When entered second, Suitability for Current Students II accounted for 30% of the variance not accounted for by General Evaluation of PT II. Time and Energy for PT II, entered third, accounted for an additional 8% of the variance. As a set, the three variables resulted in a multiple correlation of .67.

Extrinsic factors were not predictive of Application, once intrinsic factors were controlled. When entered after the three intrinsic scales, the three extrinsic scales which had significant correlations with Application (Hard to Teach Students, Personal Concerns, and Personal Teaching Efficacy) did not contribute additional significant variance. On the right-hand side of the table are the standardized beta weights and final *F* values for the three intrinsic scales in the final simultaneous equation.

Table 19
Hierarchical Regression Analysis Predicting Application for Subset of Teachers Who Acted to Learn More About PT

Step/scale	R	R ² change	F to enter	Final β	Final F
1. General evaluation of PT II	.236	.056	3.07	-.183	1.99
2. Suitability for current students II	.599	.303	24.09**	.329	3.31
3. Time and energy for PT II	.665	.083	7.45*	.464	7.45**

Note. $n = 55$. PT = Classwide Peer Tutoring.

* $p < .01$. ** $p < .001$.

That General Evaluation of PT accounts for the least variance seems reasonable, given that all teachers in this group had already expressed a strong positive evaluation of PT, which probably accounted for their decision to learn more about the practice.

Using partial correlations, HLM corroborated the regression results: both Suitability for Current Students II and Time and Energy for PT II made unique contributions to the prediction of Application. Unlike the hierarchical regression, General Evaluation for PT II was also significant. Finally, when added separately to the equation containing the first three variables, Hard to Teach Students, Personal Concerns, and Personal Teaching Efficacy did not make unique contributions to predicting Application. Table 20 shows the estimated coefficients, standard errors and *t*-ratios for scales in the HLM, with Suitability for Current Students II, and Time and Energy for PT II making the largest contributions.

Table 20
HLM Regression Analysis Predicting Application for Subset of Teachers Who Acted to Learn More About PT

Scale	Estimated coefficient	SE	T
General evaluation of PT II	.02	.01	2.49*
Suitability for current students II	.07	.01	5.31**
Time and energy for PT II	.09	.03	2.84*

Note. $n = 55$. PT = Classwide Peer Tutoring.
* $p < .05$. ** $p < .001$.

4. Resolving Discrepancies

The variables predicting Application and the amount of variance accounted for differed, depending on the sample of teachers examined. Analyses conducted on the larger sample of teachers ($n = 69$) who worked in schools that allowed them to use PT revealed that only two variables, General Evaluation of PT and Suitability for Current Students, predicted Application. In this analysis, the intrinsic variables accounted for 16% of the variance. In contrast, for teachers who acted to learn more about PT ($n = 55$), Suitability for Current Students II and Time and Energy for PT II were significant predictors of Application, and in the HLM analysis General Evaluation of PT II was added as a significant predictor. This time, the intrinsic variables accounted for just under 50% of the variance. The different results for the two samples could arise from (1) sample differences, or (2) the timing of the measures. Recall that the prediction of Application for teachers who acted to learn more about PT was based on an enlarged battery of measures including readministration of the three primary intrinsic measures (e.g., General Evaluation of PT II, Suitability for Current Students II, and Time and Energy for PT II) given after compensated independent study or inservice training. To determine if the different findings for Application could be attributed to sample differences or timing of the measures, I held the sample constant (focussing on the group who acted to learn more about PT) and conducted a second analysis using their responses on the three primary intrinsic scales from the first measurement period (i.e., those gathered immediately after the overview

presentation of PT)--General Evaluation of PT, Suitability for Current Students, and Time and Energy for PT.

Correlation Matrix of the Primary Intrinsic Variables. Table 21 presents a correlation matrix displaying the relationships among the original (Time 1) intrinsic scales and Application for teachers who acted to learn more about PT.

Table 21
*Intercorrelations Among Time 1 Intrinsic Scales
and Application of PT*

Outcome measure & scale	1	2	3	4
1. Application of PT	--			
Perceptions of PT				
2. General evaluation of PT	.15	--		
3. Suitability for current students	.29	.83	--	
4. Time and energy for PT	.19	.57	.66	--

Note. $n = 55$. PT = Classwide Peer Tutoring. Correlations greater than .25 in absolute value are significant at the .05 level. Correlations greater than .32 are significant at the .01 level.

Hierarchical Regression and HLM Analyses. Again, I employed hierarchical regression to examine the contribution of the specific scales to the prediction of Application. Table 22 shows that only Suitability for Current Students was a significant predictor of Application. As a set, the three variables resulted in a multiple correlation of .34. General Evaluation of PT accounted for 2% of the variance. When entered second, Suitability for Current Students accounted for 9% of the variance not

accounted for by General Evaluation of PT. Time and Energy for PT, entered third, did not account for additional variance. On the right-hand side of the table are the standardized beta weights and final F values for the three scales in the final simultaneous equation.

Table 22
Hierarchical Regression Analysis Predicting Application for Subset of Teachers Who Acted to Learn More About PT Using Time I Measures

Step/scale	R	R^2 change	F to enter	Final β	Final F
1. General evaluation of PT	.152	.023	1.23	-.293	1.50
2. Suitability for current students	.336	.090	5.15*	.535	4.18
3. Time and energy for PT	.336	.000	.00	.001	.00

Note. $n = 55$. PT = Classwide Peer Tutoring.

* $p < .05$.

Using partial correlations, the HLM corroborated the regression results: only Suitability for Current Students II made a unique contribution to the prediction of Application. Table 23 shows the estimated coefficients, standard errors and t ratios for scales in the HLM. Thus, comparing the results of Time I versus Time II predictors for the same sample of teachers (i.e., those who acted to learn more about PT), suggests that the timing of the measures (after initial presentation versus after acting to learn) accounts for at least a portion of the different results obtained for the two samples of teachers in earlier analyses (i.e., the larger sample which included teachers who did and did not act to learn more about PT, versus the smaller sample of those who acted to learn).

Table 23
*HLM Regression Analysis Predicting Application for Subset of
 Teachers Who Acted to Learn More About PT Using Time 1 Measures*

Scale	Estimated coefficient	SE	T
General evaluation of PT	.01	.01	.85
Suitability for current students	.06	.03	2.44*
Time and energy for PT	.01	.05	.15

Note. $n = 55$. PT = Classwide Peer Tutoring.

* $p < .05$.

IV. Teachers' Rationale For Decisions Not To Learn More About or Apply PT

Factors intrinsic to PT outweighed factors extrinsic to the practice in teachers' decisions not to learn more about or apply the practice.

An exit questionnaire was distributed to teachers who indicated they were not interested in learning more about PT (Interest degree); who did not act to learn more about PT by reading the manual or attending the training inservice (Act to Learn degree); and who did not apply the practice in their classrooms (Application degree). Of the 37 teachers who decided not to learn more about or apply PT, 28 (88%) returned the Exit Questionnaire--the source for the findings reported in this section.

To further investigate the role of intrinsic and extrinsic factors in teachers' decision-making about PT, I examined responses to two items on the Exit Questionnaire. Teachers' reasons were then categorized as either intrinsic to PT or extrinsic to the practice, in keeping with the focus on the intrinsic-extrinsic distinction in earlier analyses. I associated each reason

for not pursuing PT with one of the scales used in the earlier analyses. Scale assignment was made on the basis of how closely teachers' reasons matched the focus of a scale. Table 24 shows the two questionnaire items and provides examples of how teachers' reasons for not pursuing PT were matched to scales and classified as either intrinsic or extrinsic to the practice. Because teachers tended to respond to the two items similarly--by citing obstacles to their implementation of PT--I combined responses to the items into a single group. If teachers gave the same response to both items, I counted the response only once. Responses were then sorted according to the degree of receptivity at which teachers filled out the questionnaire.

Table 24
Examples of Exit Questionnaire Response Categorization by Scale and Type

Questionnaire item	Response examples	Scale	Type
What might have induced you to try PT this year?	"Time to organize a program that is not mandatory when so many others are."	Time & energy for PT	Intrinsic
Were there specific obstacles that prevented you from trying PT this year?	"If our school hadn't undergone so many changes this year, I would have had time to try PT."	Changes at school	Extrinsic

Note. PT = Classwide Peer Tutoring.

Of the total number of teachers who were not receptive to PT, 7 teachers were not interested in learning more about PT, 4 teachers did not act to learn more about PT, and 17 teachers did not apply PT. Table 25 shows the total number of scale response matches for the three degrees of receptivity, and the total number of intrinsic and extrinsic reasons for not

Table 25
Scale Assignment and the Intrinsic-Extrinsic Classification of Teachers' Reasons for Not Pursuing PT

Stage of receptivity Reasons as related to scales used in prediction of receptivity	Not interested in learning about PT (n = 7)	Not acting to learn more about PT (n = 4)	Not applying PT (n = 17)
Negative evaluation of PT	4	--	3
PT not suitable for students	--	--	4
No time and energy for PT	2	3	8
Insufficient research evidence for PT	1	--	--
		Total intrinsic = 25	
Students very difficult to teach	--	--	1
Too many changes at school	--	1	4
Emphasis on consolidating current program of reading instruction	--	--	1
Satisfaction with current reading program	1	--	1
Too many personal concerns	--	1	4
		Total extrinsic = 14	

Note. n = 28. PT = Classwide Peer Tutoring.

pursuing PT across the three degrees. Only scales with one or more response matches are included in the table. Some teachers gave multiple responses to the items, particularly at the third degree of receptivity. At the first degree of receptivity, teachers most often cited a negative evaluation of PT as their reason for a disinterest in learning more about the practice (e.g., "The PT program doesn't appeal to me."). For the second and third degrees of receptivity, teachers most often cited a lack of time and energy for PT as their reason for not acting to learn more about or apply the practice (e.g., "I have no time to read the manual."). Other often-cited reasons for not applying PT included its unsuitability for students (e.g., "A more mature group of children would have made PT possible and fun."); the fact that too many changes were taking place at the school (e.g., "We have been inundated with new things by our principal and superintendent."); and that personal concerns were consuming teachers' time and energy for trying new practices (e.g., "If I had not gone on health leave, I would have tried PT."). No teachers cited a difference between their own goals for and beliefs about reading instruction and the procedures of PT as a reason for not learning more about or applying the practice. Nor did teachers cite an absence of support or encouragement for experimentation at their school or by their principal as a reason for not pursuing PT. Table 25 indicates that factors intrinsic to PT outnumber factors extrinsic to the practice at each degree of receptivity and across all three degrees.

Table 26 shows the number of teachers at each degree of receptivity and their classification on the basis of whether they gave reasons intrinsic

Table 26
*Numbers of Teachers and Intrinsic-Extrinsic Classification of Reasons Given
 for Not Pursuing PT by Degree of Receptivity*

Degree of receptivity Classification of reasons for decisions	Not interested in learning more about PT (n = 7)		Not acting to learn more about PT (n = 4)		Not applying PT (n = 17)
Intrinsic to PT only	6		2		7
Extrinsic to PT only	1		1		5
Both intrinsic and extrinsic to PT	0		1		5

Note. n = 28. PT = Classwide Peer Tutoring.

to PT only, reasons extrinsic to PT only, or both intrinsic and extrinsic reasons for not learning more about or applying the practice. At the first degree, interest in learning more about PT, 6 of the 7 teachers gave reasons intrinsic to PT only, with the remaining teacher giving an extrinsic reason for disinterest in learning more about the practice. At the second degree, acting to learn more about PT, 2 of the 4 teachers gave intrinsic reasons only, 1 gave an extrinsic reason, and 1 gave both an intrinsic and an extrinsic reason for decisions not to act to learn more about PT. At the third degree, application of PT, reasons for deciding not to apply the practice were more evenly distributed with 7 teachers giving intrinsic reasons only, 5 giving extrinsic reasons only, and 5 giving both intrinsic and extrinsic reasons. Thus there was a trend for extrinsic factors to take on added importance as teachers moved through the degrees of receptivity.

Chapter 5

Discussion

Over three decades of research on change and implementation of educational innovations has led many to conclude that the products of research rarely find their way into classrooms (Fullan, 1992; Gersten, Darch, Davis, & George, 1991; Gersten, Woodward, & Morvant, 1992; Huberman, 1990; Kaestle, 1993; Leinhardt, 1990; Shavelson, 1988; Tushnet, 1992; Verstappen, 1991)--even when the research has produced substantial knowledge related to problems of real-world importance (Malouf & Schiller, 1995). Teachers themselves consistently report not using research results in their teaching (Berger, 1976; Florio-Ruane & Dohanich, 1984; Vacca & Gove, 1982; Waxman et al., 1986). The validity of the "linear model" of research-to-practice (see Malouf & Schiller, 1995), where researchers develop and validate instructional practices which teachers are expected to embrace (see Tikunoff & Mergendoller, 1983), has been questioned because of the putative absence of research-based practices in classrooms. Where in the linear model do problems arise? What are the prospects for research-based instructional practices when they come to the attention of teachers?

In this study, I examined teachers' receptivity to a specific research-based teaching practice and investigated factors that affected their receptivity. Before discussing the results, I would like to emphasize three

aspects of this study. First, teachers' receptivity to research-based instructional practices is important because teachers are the final arbiters of instructional innovation (Goodlad, 1983; Lieberman & Miller, 1984; Little, 1987; Lortie, 1975). The learning-to-teach and teacher change literatures indicate that teachers exercise primary control over most implementation decisions (Richardson, 1990). Such control stems from the very nature of teaching, a process Dreeben (1973) argues, which is conducted in isolation, subject to a relatively low level of surveillance or intervention.

Second, this study is unique in that our knowledge of factors affecting educational innovations and teacher change stems primarily from research on large-scale innovations at the school or district level. Outside of large-scale change efforts, less is known about individual teacher's decision making in adopting new practices, and it is this aspect of innovation that I addressed.

Third, generalizability from the case of PT to other research-based practices is uncertain. I chose PT as an example of the type of practice that has been suggested in the research literature as having the greatest potential for acceptance by teachers serving students with learning disabilities in their general education classrooms (Kennedy, 1991; Fullan & Hargreaves, 1992; Gersten & Woodward, 1992). I used several criteria in choosing PT as a case of special education research with potential for classroom application. PT was designed to help teachers solve an important classroom problem (i.e., accommodating a wide range of individual differences in reading ability); it has been demonstrated effective in improving reading skills of a broad range of students; and

adopting PT does not require wholesale, radical alterations of instructional practice.

I. Teachers' Receptivity to PT

I examined the degree of teachers' receptivity to PT by assessing their: interest in learning more about the practice, acting to learn more about the practice, and application of the practice in the classroom. Most teachers were receptive to the idea of PT. After listening to a brief description of PT, 84% of 3rd-5th grade teachers expressed an interest in learning more about it. When teachers were given an opportunity to learn more about PT, 60 (75%) of the original 80 teachers took advantage of the opportunity, either engaging in independent study of an implementation manual or attending inservice training. Indeed, 90% (60 of 67) of those who had expressed an initial interest in learning more about PT, acted on their interest. These results indicate that special education researchers have succeeded in developing an instructional practice that teachers find acceptable, at least to the extent that teachers are willing to make an effort to learn more about it.

Measured at the point of classroom application, degree of receptivity declined. Even then, however, 40% (32) of the original 80 teachers produced a version of PT in their classrooms. The 32 teachers who applied PT represented just under 50% of the 67 who had expressed an interest in learning more about PT, and just over 50% of the 60 who had acted to learn more about it.

It is instructive to trace the receptivity of this group of teachers from initial exposure to the practice to its classroom application. A few teachers (16%) immediately decided against the practice after listening to an overview. Another 9% who had expressed an interest in learning more about it did not take the step to increase their knowledge. A larger group (47%) acted to learn more about it, but did not implement it in their classrooms. Nevertheless, a full 40% of the teachers who listened to a brief presentation on PT ended up giving it a try in their classrooms. They did this with modest extrinsic inducements, either a paid substitute teacher to allow them to attend a one-day inservice, or \$100.00 to compensate them for their time to read and evaluate the implementation manual.

If this sample of teachers and schools is representative, then most would agree that the level of teacher receptivity to PT is encouragingly high. If classroom try-out is used as the validity criterion for the linear model of research to practice, then this model appears valid, at least for practices like PT.

Because the circumstances of this study were somewhat unusual, the 40% application level for PT may overestimate its acceptance under different conditions. I did not inform teachers in this research in advance of the topic of my initial presentation; rather they were invited to attend a presentation on a strategy for reading instruction for which they would receive an honorarium. All but a handful of teachers, who were absent or had another after school obligation, attended the presentation. This situation contrasts somewhat from some cafeteria style staff development. Huberman (1985) has characterized the latter as a "roll of the dice" where

teachers choose from a variety of topics and innovations, based on their interest. Were teachers given PT as one of several choices for an inservice presentation, some might have opted for another topic. Thus receptivity to PT may have been high in part because virtually all eligible teachers listened to an overview of it. It is unlikely that as many teachers would have attended an overview presentation of PT had they been given a choice of PT among a number of other alternatives, or had they not been paid to attend. On the other hand, it is not uncommon for schools to invite a guest speaker to give staff an overview presentation on some topic of interest. It was this circumstance that I attempted to approximate by paying teachers to listen to my initial presentation.

Also, there is a strong likelihood that conditions of my study influenced the percent of teachers who gave PT a field test in their classrooms. It is unlikely that as many teachers would have implemented PT had they not been compensated for reading and evaluating the implementation manual or provided with a substitute so that they could attend a PT inservice training.

There is an additional factor that may have contributed to high levels of receptivity. Because of procedures associated with the research program itself, I was in communication with interested teachers over several months. For example, I contacted teachers to obtain completed questionnaires, arrange for compensation, and schedule classroom observations. Such contacts may have encouraged teachers to keep PT in mind, even though I repeatedly assured them they were under no obligation or expectation to proceed further in learning about or using it.

II. Type of Learning Support for PT

Inservice support for learning about new instructional practices is thought to play a role in teachers' adoption of innovations (Bennett, 1987; Harrison, 1980; Joslin, 1980; Wade, 1984). In this study teachers were offered one of two types of support: some were offered compensation for independently studying the manual; others were offered a one-day inservice training. Of the 41 teachers offered CIS, 76% read the implementation manual and 41% went on to apply the practice. Of the 39 teachers offered IT, 74% attended inservice training and 38% applied the practice in their classrooms. In short, a comparable number of teachers acted to learn more about PT under each type of support. Similarly, type of support did not influence the number of teachers who got the practice up and running in their classrooms. I had anticipated that teachers in the IT group would be more likely to produce PT in their classrooms because the day's inservice training afforded them opportunities to ask questions about PT, to practice the component activities, and to have discussions with their peers about strategies for applying it in the classroom. In contrast, teachers in the CIS group had to make their own time for studying the manual and contemplating how they would approach application. In addition, because IT involved groups of teachers from the same schools who learned PT together, I expected that the potential for collegiality and mutual support that comes from learning together to affect the number of teachers who tried out PT.

Contrary to my expectations the findings indicate that inservice training and self-study were equally promotive of application. Perhaps

even with its opportunities for practice and peer discussion, a single day of IT wasn't sufficiently different from independent study to produce more application. McLaughlin (1990) and Showers, Joyce, and Bennett (1987) note that for change to take place, teachers need *ample* time to discuss or think through reasons for changes to their practice. Gersten et al. (1995) suggest that in order to build conceptual understanding of an innovation, and to apply this knowledge to their own classrooms, implementation efforts and professional development activities must include *multiple* opportunities for teachers to discuss the new strategies with colleagues and to troubleshoot anticipated problems. Talbert and McLaughlin (1994) argued that meetings and informal arrangements to work together were crucial to innovation. In my case, these predictions did not appear to hold. Although neither CIS or IT was sufficiently promotive as to inspire all teachers to field test PT, both were successful in providing support for teachers to move forward in the adoption process.

Perhaps the comparable application rates observed for the IT and CIS groups, despite the expected advantage of the IT group, can be traced to the quality of the implementation manual. The PT manual appears exceptionally clear and thorough. Teachers who learned about PT through independent study were asked to evaluate the manual, using a 6-point Likert-like scale (1= Strongly Disagree, 6 = Strongly Agree). Mean item responses for three global assessments of the manual indicated that teachers thought it was easy to follow (5.1), well organized (5.4), and thorough enough in detail so that they could apply PT independently and correctly (5.1). If the criterion is getting the practice up and running in the

classroom, then the fact that most teachers thought the manual provided enough information to do this says much about the off-the-shelf nature of PT.

On the other hand, the comparable application rates for the IT and CIS groups may be explained by the fact that CIS teachers were required to read the implementation manual and fill out an evaluation form in order to earn \$100.00 compensation. The evaluation task may have encouraged CIS teachers to read the manual carefully, thoroughly processing the information so that learning was comparable to that occurring in the guided reading and discussions that took place for those teachers who attended inservice training.

While inservice training is a common approach to professional development, compensated independent study is not. The cost to schools is about the same, and at least for some outcomes the effects are equal. Based on the reported findings, schools might consider monetary compensation for independent self-study as a means of professional development. For minimal compensation, nearly all invited teachers were willing to attend a one-hour overview presentation of PT. For an additional modest outlay and the inclusion of a simple evaluation task, most teachers read the manual, and nearly half the original sample eventually got it up and running in their classrooms. If the validity criterion for professional development is classroom try-out of new instructional approaches, then multiple inservice days, outside experts, and on-going implementation support may not be necessary for a satisfactory return on investment, at least for some instructional practices.

(Although I recognize quality of implementation is an important outcome, it is not within the scope of this dissertation, and I do not know if it would have been differentially affected by either form of support.)

III. Factors That Predict Receptivity

Interest in Learning More About PT. Recall that I proposed a hierarchical conceptualization of intrinsic factors affecting receptivity to new instructional practices. First a positive general evaluation of the specific practice is required, second a positive assessment of its appropriateness for one's current student group, and third a judgment that one has sufficient time and energy to learn about and apply the practice. I tested this hypothesis using three intrinsic scales: General Evaluation of PT, Suitability for Current Students, and Time and Energy for PT. Entered in order, each scale in turn accounted for significant additional variance. Judgments of PT's suitability for students accounted for 7% additional variance above the 27% variance accounted for by General Evaluation of PT. Time and Energy for PT, entered at the third step, accounted for an additional 20% of the variance after controlling for General Evaluation of PT and Suitability for Current Students. As a set, these scales accounted for over 50% of the variance in the prediction of interest in learning more about PT. That all three scales were significantly predictive of teachers' interest in learning about PT implies that teachers made up-front discriminations about the practice: its general value and practicality, its appropriateness for their students, and their own time and energy for learning about the practice.

Earlier, Doyle and Ponder (1977/1978) noted the importance of “the practical” in teachers' receptivity to instructional suggestions from consultants and other change agents. Later research has also emphasized the need for practical and realistic innovations that have specific straightforward procedures (Gersten et al., 1995; McLaughlin, 1990). Successful change efforts are said to have as their core concrete and usable remedies for instructional problems (Crandall, 1981; Huberman & Miles, 1984; Loucks & Zacchei, 1983). In special education research, Schumm and Vaughn (1991) reinforced this theme, stressing the importance of teachers' concern for the feasibility of proposed adaptations for students with learning disabilities. Gersten et al. (1992) refer to this concern as “the reality principle,” that is for research to be useful, it must be translated into manageable and comprehensible teaching strategies and procedures which ultimately reflect and fit within the details of day-to-day classroom instruction.

Classroom Application of PT. When measured immediately after receiving an introductory overview of PT, teachers' general evaluation of the practice and their estimates of its suitability for their students accounted for 16% of the variance in their application of PT (i.e., getting it up and running in their classrooms). Suitability of PT for Current Students accounted for 6% more variance above the 10% accounted for by General Evaluation. Time and Energy of PT was not predictive of application.

Thus, the three intrinsic factors were relatively more successful in predicting teachers' interest in learning more about PT (accounting for 50%

of the variance) than in predicting application (accounting for 17% of the variance). This is reflected in the relative correlations of the three primary intrinsic factors with interest in learning more about PT versus application of PT: .52 versus .32 for General Evaluation of PT; .59 versus .40 for Suitability for Current Students; and .74 versus .34 for Time and Energy for PT. Gersten, Carnine, Zoref, and Cronin (1986), Guskey (1984), and Sparks (1988) also found that teachers' attitudes toward an innovation *prior* to the staff development experience was not a strong predictor of implementation.

Understanding why intrinsic factors predicted interest in learning more about PT better than its application is complicated by several factors. First, the measure of interest in learning more was taken immediately after teachers evaluated PT, its suitability for their students, and their time and energy for applying it. In contrast, application was measured several months later when teachers gave PT a try in their classrooms. Significant events transpired between the time I assessed teachers' perceptions of PT and the point of application or non application of it. In the interim, some teachers acted to learn more about PT, developing a better idea of its value, practicality, and relevance for their classrooms. In one school, teachers learned that they would not be permitted to apply PT. Although they were subsequently dropped from the analyses for predicting application, the experience of teachers at this school does present a valid case of why research-based innovations sometimes don't fare well in practice. Other circumstances also may have changed in teachers' classrooms (e.g., new students) or in their lives (unexpected events affecting time and energy)

that weakened the relation between early perceptions of PT and its later application. Nevertheless, despite the passage of time and interim events, initial measurements of intrinsic factors still accounted for significant variance in application of PT.

The three intrinsic factors fared better in predicting application when teacher perceptions were measured *after* they had acted to learn more about PT. Recall that this latter analysis was performed on the subset of 55 teachers who acted to learn more about PT and whose school programs permitted its application. Using updated perceptions of PT on measures taken after learning more about PT (Time II measures), HLM analyses indicated that General Evaluation of PT II, Suitability for Current Students II, and Time and Energy for PT II (entered in this order) were all significant predictors of application.

Measured after learning more about PT (Time II), intrinsic factors were more predictive of application than when measured after the initial presentation (Time I). Comparing the relative correlations with application for Time I versus Time II intrinsic measures reveals higher correlations for the latter: .15 versus .24 for General Evaluation of PT; .29 versus .59 for Suitability for Current Students; and .19 versus .63 for Time and Energy for PT. Overall, Time II measures accounted for 44% of the variance in the prediction of application, versus 11% for Time I measures, with Suitability for Current Students II and Time and Energy for PT II supplying the greatest contributions.

My interpretation of the findings for the relatively better predictions from Time II measures is that teachers, upon learning about PT, were

better able to assess its potential for meeting their students' needs. Those who saw PT as beneficial for their students were more likely to apply it. Of course, it is also possible that mere temporal proximity between the Time II measures and application was an important factor.

IV. Extrinsic Factors and Receptivity

Explaining the role of extrinsic factors on teachers' receptivity to PT is more complicated. We observed evidence of the influence of a specific extrinsic factor (compatibility of PT with the curriculum/instructional focus at the school level), but no evidence for the influence of other extrinsic factors thought by many to be important. Extrinsic factors that were influential operated at the school level, where teachers in two schools were prevented from trying out the practice. In one school, teachers reported that their participation in a federally supported project to develop a reading curriculum precluded them from adding new reading practices for at least the remainder of the year. In the other school, teachers reported having to shelve their initial plans to apply PT when their principal informed them that student pairing practices suggested in PT were incompatible with the school's newly adopted reading curriculum. Teachers at this school acceded to their administrator's instructions, deciding against PT. The fact that external factors beyond their control stopped consideration of PT by teachers in 2 of 14 schools illustrates the sometimes decisive effect that external factors can have on teachers' receptivity to new practices.

Another external factor of some weight was the availability of support for learning about PT. Recall that when surveyed directly after an

overview presentation on PT, 7 of the 15 (47%) teachers who had initially indicated they were not interested in learning more about the practice changed their mind when they heard about available support for learning (i.e., compensation for independent study of the manual, or a one-day training session).

Additional evidence that extrinsic factors affect receptivity turned up in questionnaire responses by “unreceptive” teachers. I had administered a questionnaire to three groups of teachers who became unreceptive to PT during the course of this investigation: (1) Those who indicated they were not interested in learning more about PT, (2) those who had expressed an interest in learning more but did not act on this interest, and (3) those who acted to learn more about the practice, but did not apply it in their classrooms. Of the 28 who responded to the questionnaire, 7 cited extrinsic factors exclusively (e.g., too many changes taking place at their school, personal problems), 6 cited a combination of extrinsic and intrinsic factors, and 15 cited intrinsic factors exclusively (e.g., negative evaluations of characteristics of PT). In all, I classified as extrinsic 34% of the reasons teachers gave for not pursuing PT.

Extrinsic reasons the teachers gave included satisfaction with current reading programs and too many changes taking place at their schools. The finding that teachers were reluctant to consider using PT because they felt too many other changes were taking place at their school is consistent with findings from previous studies of teacher use of research knowledge. Huberman (1983) reported that frequent changes in school environments (e.g., new policies, new curriculums) negatively influenced

teacher innovation. Directives to implement a school-wide curriculum or grouping practices reduce the functional autonomy of individual teachers and generate a set of control mechanisms that are typically absent from the normal teaching environment, bypassing teacher decision-making (Apple & Teitelbaum, 1985; Fraatz, 1987; Frymier, 1987).

Nevertheless, many other putatively important extrinsic factors appear not to have influenced teachers' receptivity to PT. Recall that I grouped extrinsic scales into three categories: Reading Goals and Beliefs, Instructional Context, and Self-Perceptions. In the category of Reading Goals and Beliefs, teachers' goals for reading instruction, their beliefs about student pairing practices, their use of easy text to enhance reading skills, and their motivation of students through team competition (all of which are inherent aspects of the PT model they learned) were not significantly correlated with receptivity to PT. In the category of Instructional Context, only teachers' perception of hard-to-teach students was significantly correlated with receptivity. Notable scales in this category that did not relate to receptivity included Changes at School, Principal Facilitation of Teacher Work and Interaction, and School Encouragement of Experimentation. Interestingly, Hard-to-teach Students was *positively* correlated with interest in learning more about PT, but for those teachers who had acted to learn more about the practice the scale was *negatively* correlated with application of PT. Even so, Hard to Teach Students did not account for significant additional variance for either outcome measure after the primary intrinsic variables had been entered into regression and HLM analyses. Finally, in the category of teachers' self-perceptions,

measures such as Personal Concerns and Personal Teaching Efficacy, even though significantly correlated with Application, did not account for significant additional variance in application after controlling for intrinsic factors. Thus, despite other evidence for a role for extrinsic factors (e.g., administrative fiat and availability of support for learning), none of the extrinsic factors measured by my rating scales accounted for differences in degree of receptivity.

To summarize, teachers in this study were highly receptive to learning more about PT, and almost half managed to get it up and running in their classrooms. Compensated self-study and evaluation of an implementation manual (as a comprehension check) was as effective as support in the form of a one-day inservice training in providing teachers with enough detail on PT for them to venture an application in their classrooms. Both intrinsic and extrinsic factors were found to influence receptivity. On the intrinsic side (i.e., variables specifically related to the particular instructional practice), three hierarchically ordered factors played significant roles. These were teachers' ratings of: PT's overall worth, its suitability for their current students, and their time and energy for it. Although rating scale measures of three categories of extrinsic factors (i.e., Reading Goals and Beliefs, Instructional Context, and Self-perceptions) did not add to the predictions of receptivity, other informally measured extrinsic factors did play a decisive role in teachers' receptivity. In 2 of 14 schools, teachers were not free to choose PT due to factors beyond their immediate control, a funded literacy curriculum in one case, and a new basal reading program in the other. The availability of learning support

also affected receptivity for some teachers. Finally, some teachers who decided not to pursue PT tied their decision to extrinsic factors such as competing demands on their time.

These results are instructive to special education researchers, whose hopes for improving student outcomes are founded on a linear research-to-practice model. First, special education researchers who developed PT have succeeded in designing an instructional practice that is not only effective but appealing to a majority of general education teachers. Aspects of PT that may contribute to this receptivity include its modest requirements, well documented procedures, concrete examples, and specific instructions that help teachers get it up and running with minimum disruption. Moreover, the practice incorporates strategic reading comprehension activities that appeal to teachers. Finally, PT appears to benefit students across the ability range, attesting to routines sufficiently powerful to improve the performance of students with disabilities as well as more normally achieving students.

Second, provision of a clearly written implementation manual along with compensation for time to study it appears to be sufficient help for many teachers to produce a version of PT in their classroom. Third, a significant percentage of teachers who indicated an intent to apply PT did not, suggesting the need for support beyond that provided by training and self-study. Fourth, both intrinsic and extrinsic factors played a significant role in teachers' receptivity to PT. Fifth, although intrinsic scales accounted for significant variance, they by no means accounted for all of the variance in teachers' decisions to pursue a new instructional practice.

We need to uncover yet unidentified factors and/or develop better measures of those factors believed to affect receptivity.

That receptivity to PT was so strongly influenced by characteristics intrinsic to the practice suggests that teachers, as active constructors of knowledge, were testing externally developed research knowledge against their internally developed practice knowledge (i.e., knowledge gained from experience) (Colton & Sparks-Langer, 1993; Richardson, 1992). In other words, teachers were evaluating PT as professionals, relying on their wisdom of practice. Educational researchers would do well to recognize the contribution that teachers bring to the research-to-practice problem as “Beta Testers” of instructional innovations. The distinction between beta testing and field testing is crucial here. Field testing indicates whether a “product” works. Beta tests, on the other hand, indicate whether consumers will use the product. When field tests are positive but consumers don’t use a product, one normally concludes that the failure lies with the product, not with the consumer. Even if field tests of an instructional innovation are promising (e.g., showing large student gains), researchers must still consider their consumers’ receptivity. Teachers appear to use new practices that they judge as practical and useful, appropriate for their students, and for which they have time and energy.

The findings for this study suggest a new paradigm for research on instructional practices, or at least the addition of a second layer of testing. Between documenting a practice’s efficacy and disseminating the practice, researchers need to examine receptivity to the practice. Unless researchers acknowledge teachers’ wisdom of practice, and their role in evaluating

new teaching practices, then even the very best of research-based practices will fail to gain widespread application.

Assessing teachers' receptivity to new practices, at least ones that are clearly spelled out, may not require extensive inservice or specialized training, but it does require bringing them into the development process. My study suggests that getting teachers to evaluate a new practice may require relatively minor inducements: a minimal honorarium to attend the initial PT presentation, and a substitute and inservice training day or modest monetary compensation to read and evaluate a manual.

Using a new paradigm for applied research, one that includes beta testing, researchers might consider reexamining practices that have not caught on in the classrooms (e.g., precision teaching and forms of cooperative learning) to determine how the practices might be modified so as to make them more attractive to teachers.

As a next step in the investigation of teachers' receptivity to PT, I would like to further explore the differences between receptive and unreceptive teachers. Informal focus groups might provide useful information on aspects of PT that deterred teachers from using it. Secondly, it is important to examine the generalizability of my findings to receptivity of other instructional practices. The similarity of PT to other research-based practices and their defining characteristics is an important determinant in the extent to which the results of this research may be generalized.

Finally, recall that I introduced my study by stating that the translation of research to practice has been hypothesized by Vadasy et al.

(1997) as a sequence of steps or degrees of receptivity: judging an innovation as worthy of further examination, acting to learn more about the innovation, applying the innovation, mastering and refining application of the innovation, and finally sustaining use of the innovation. This investigation and the findings reported here addressed only the early degrees of receptivity (i.e., determining a practice is worth learning more about, acting on that determination, and trying out the practice in the classroom). I did not address either quality of implementation or sustained use. It is possible that different factors would emerge as influential for those greater degrees of receptivity. Accounting for unexplained variance at earlier degrees, and examining receptivity at later degrees are some of the issues that need to be addressed by the research community as it deepens its knowledge about the role of instructional research in practice improvement.

References

- Ammer, J. J. (1984). The mechanics of mainstreaming: Considering the regular educators' perspective. *Remedial and Special Education, 5*, 15-20.
- Anders, P. L., & Richardson, V. (1991). Staff development that empowers teachers' reflection and enhances instruction. *Language Arts, 68* (4), 316-321.
- Anderson, S. (1989). *The management and implementation of multiple changes in curriculum and instruction*. Unpublished doctoral dissertation, University of Toronto.
- Apple, M., & Teitelbaum, K. (1985). Are teachers losing control of their jobs? *Social Education, 49*, 372-375.
- Armor, D., Conry-Oseguera, P., Cox, M., King, N., McDonnell, L., Pascal, A., Pouly, E., & Zellman, G. (1976). *Analysis of the school preferred reading program in selected Los Angeles minority schools* (Report No. 2007-LAUSD). Santa Monica, CA: The Rand Corporation.
- Ashton, P., & Webb, R. (1986). *Making a difference: Teachers' sense of efficacy and student achievement*. New York: Longman.
- Bacon, E. H., & Schulz, J. B. (1991). A survey of mainstreaming practices. *Teacher Education and Special Education, 14*, 144-149.
- Barfield, V., & Burlingame, M. (1974). The pupil control ideology of teachers in selected schools. *Journal of Experimental Education, 42*, 6-11.
- Bender, W. N., Vail, C. O., & Scott, K. (1995). Teachers' attitudes toward increased mainstreaming: Implementing effective instruction for students with learning disabilities. *Journal of Learning Disabilities, 28* (2), 87-94.
- Bennett, B. (1987). *The effectiveness of staff development training practices: A meta-analysis*. Unpublished doctoral dissertation, University of Oregon, Eugene, OR.

- Bentler, P. M. (1990). Comparative fit indices in structural models. *Psychological Bulletin*, 107, 238-246.
- Bentler, P. M., & Wu, E. J. C. (1995). *EQS for Macintosh User's Guide*. Encino, CA: Multivariate Software, Inc.
- Berger, A. (1976, August). *Implications of reading research on classroom teachers and administrators*. Paper presented at the Sixth World Congress on Reading, Singapore. (ERIC Document Reproduction Service No. ED 126 471).
- Berman, P., & McLaughlin, M. (1975). *Federal programs supporting educational change, Vol. IV: The findings in review*. Santa Monica, CA: The Rand Corporation.
- Berman, P., & McLaughlin, M. (1977). *Federal programs supporting educational change: Vol. VII. Factors affecting implementation and continuation (R-1589/7-HEW)*. Santa Monica, CA: Rand.
- Berman, P., & McLaughlin, M. (1978). *Federal programs supporting educational change: Vol. VIII. Implementing and sustaining innovations*. Santa Monica, CA: Rand Corporation.
- Blase, J. (1986). A qualitative analysis of sources of teacher stress: Consequences for performance. *American Educational Research Journal*, 23, 13-40.
- Blase, J. (1987, April). *A qualitative analysis of political interactions among teachers: Implications for the sociocultural context of the school*. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.
- Blase, J. (1991). The micropolitical perspective. In J. Blase (Ed.), *The politics of life in schools* (pp. 1-18). Newbury Park, CA: Sage.
- Bos, C. S., & Anders, P. L. (in press). The study of student change. In V. Richardson (Ed.), *Teacher change and the staff development process: A case of reading instruction*. New York: Teachers College Press.
- Brookover, W. B., Beady, C., Flood, P., Schweitzer, J., & Wisenbaker, J. (1979). *School social systems and student achievement: Schools can make a difference*. New York: Praeger.

- Brookover, W. B., & Lezotte, L. W. (1979). *Changes in school characteristics coincident with changes in student achievement*. Occasional Paper No. 17. Michigan State University, East Lansing, Institute for Research on Teaching.
- Brophy, J. E., & Evertson, C. (1981). *Student characteristics and teaching*. New York: Longman.
- Brophy, J. E., & Good, T. L. (1974). *Teacher-student relationships: Causes and consequences*. New York: Holt, Rinehart and Winston.
- Bryk, A. S., & Raudenbush, S. W. (1989). Methodology for cross-level organizational research. *Research in the Sociology of Organizations*, 7, 233-273.
- Carnine, D., & McLaughlin, M. J. (1995). *Developing guidelines for research use: Identifying research needs, increasing accessibility of research, and transferring research into practice*. Unpublished Report: Federal Grant, Project Directors Meeting.
- Carnine, D., Silbert, J., & Kameenui, E. (1989). *Direct instruction reading*. Columbus, OH: Charles Merrill.
- Clandinin, J. (1985). Personal practical knowledge: A study of classroom images. *Curriculum Inquiry*, 15, 361-386.
- Clark, C. M., & Peterson, P. L. (1986). Teachers' thought processes. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 255-296).
- Clark, C. M., & Yinger, R. J. (1977). Research on teacher thinking. *Curriculum Inquiry*, 7, 279-304.
- Cohen, D. K. (1988). Teaching practice: Plus que ca change... In P. W. Jackson (Ed.), *Contributing to educational change: Perspectives on research and practice*. Berkeley, CA: McCutchan.
- Cohen, E. (1984). The desegregated school: Problems in status, power and inter-ethnic climate. In N. Miller & M. Brewer (Eds.), *Groups in contact: The psychology of desegregation* (pp. 77-96). Orlando, FL: Academic Press.

- Cohen, M. (1981). Effective schools: What the research says. *Today's Education, April-May*, 46-50.
- Colton, A. B., & Sparks-Langer, G. M. (1993). A conceptual framework to guide the development of teacher reflection and decision making. *Journal of Teacher Education, 44* (1), 45-54.
- Connelly, F. M. (1972). The functions of curriculum development. *Interchange, 3*, 161-177.
- Cooper, H. (1979). Pygmalion grows up: A model for teacher expectation communication and performance influence. *Review of Educational Research, 49*, 389-410.
- Correa, V., & Tulbert, B. (1991). Teaching culturally diverse students. *Preventing School Failure, 35*, 20-25.
- Council for Learning Disabilities. (1993). Concerns about the "full inclusion" of students with learning disabilities in regular education classrooms. *Learning Disability Quarterly, 16*, 126.
- Crandall, D. P. (1981). Emulation and replication. *Teacher Education and Special Education, 4* (2), 13-22.
- Delquadri, J., Elliott, M., Hughes, V., & Hall, R. V. (1983). Parent peer tutoring in reading: An approach for increasing instructional time and achievement with disadvantaged learning disability children. In M. Monteiro (Chair), *Interrelationship between behavior analysis and Direct Instruction*. Symposium presented at the Ninth Annual Convention of the Association for Behavior Analysis, Milwaukee.
- Delquadri, J., Greenwood, C. R., Whorton, D., Carta, J. J., & Hall, R. V. (1986). Classwide peer tutoring. *Exceptional Children, 52* (6), 535-542.
- Donahoe, T. (1993). Finding the way: Structure, time, and culture in school improvement. *Phi Delta Kappan, December*, 298-305.
- Doyle, W., & Ponder, G. A. (1977/1978). The practicality ethic in teacher decision-making. *Interchange, 8* (3), 1-12.

- Dreeben, R. (1973). The school as a workplace. In R. M. W. Travers (Ed.), *Second Handbook of Research on Teaching*. Chicago: Rand McNally.
- Durkin, D. (1990). Matching classroom instruction with reading abilities: An unmet need. *Remedial and Special Education*, 11 (3), 23-28.
- Edmonds, R. R. (1979). Effective schools for the urban poor. *Educational Leadership*, 36, 15-27.
- Eisner, E. W., & Vallance, E. (1974). *Conflicting conceptions of curriculum*. Berkeley, CA: McCutchan.
- Fenstermacher, G. D. (in press). The place of practical arguments in the education of teachers. In V. Richardson (Ed.), *Teacher change and the development process: A case of reading instruction*. New York: Teachers College Press.
- Firestone, W., & Herriott, R. (1981). Images of organization and the promotion of educational change. *Research in Sociology of Education and Socialization*, 2, 221-260.
- Fleming, D. S. (1988, April). *The literature on teacher utilization of research: Implications for the school reform movement*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Florio-Ruane, S., & Dohanich, J. (1984). Research currents: Communicating findings by teacher/researcher deliberation. *Language Arts*, 61 (7), 724-730.
- Fraatz, J. (1987). *The politics of reading*. New York: Teachers College Press.
- Frymier, J. (1987). Bureaucracy and the neutering of teachers. *Phi Delta Kappan*, September, 9-14.
- Fuchs, D., & Fuchs, L. S. (1994). Inclusive school movement and radicalization of special education reform. *Exceptional Children*, 60 (4), 294-309.

- Fuchs, D., Fuchs, L. S., & Bahr, M. W. (1990). Mainstream assistance teams: A scientific basis for the art of consultation. *Exceptional Children, 57* (1), 128-139.
- Fuchs, L. S., Fuchs, D., Hamlett, C. L., Phillips, N. B., & Bentz, J. (1994). Classroom curriculum-based measurement: Helping general educators meet the challenge of student diversity. *Exceptional Children, 60*, 518-537.
- Fuchs, D., Fuchs, L. S., & Mathes, P. G. (1993, April). *Peer-mediated learning strategies: Effects on learners at different points on the reading continuum*. Paper presented at the annual meeting of the American Educational Research Association, Atlanta.
- Fuchs, D., Mathes, P. G., & Fuchs, L. S. (1993). *Peabody Classwide Peer Tutoring Reading Methods*. Unpublished Teacher's Manual. (Available from Douglas Fuchs, Box 328, George Peabody College, Vanderbilt University, Nashville, TN 37203).
- Fuchs, D., Mathes, P. G., Fuchs, L. S., & Dempsey, S. (1994, April). *Peer-mediated learning in reading: Adapting instruction for all students*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.
- Fulk, C. L., & Smith, P. J. (1995). Students' perceptions of teachers' instructional and management adaptations for students with learning or behavior problems. *Elementary School Journal, 95* (5), 409-419.
- Fullan, M. G. (1982). *The meaning of educational change*. New York: Teachers College Press.
- Fullan, M. G. (1992). *Teachers as critical consumers of research*. Paper commissioned by OECD for Seminar on Producers and Consumers of Research, Washington, DC.
- Fullan, M. G. (1994). *Change forces probing the depths of educational reform*. London: The Falmer Press.
- Fullan, M. G., & Hargreaves, A. (Eds.). (1992). *Teacher development and educational change*. Washington, DC: The Falmer Press.

- Gerber, M. M., & Semmel, M. I. (1985). The microeconomics of referral and reintegration: A paradigm for evaluation of special education. *Studies in Educational Evaluation, 11* (1), 13-29.
- Gersten, R., Carnine, D., Zoref, L., & Cronin, D. (1986). A multifaceted study of change in seven inner city schools. *Elementary School Journal, 86*, 257-276.
- Gersten, R., Darch, C., Davis, G., & George, N. (1991). Apprenticeship and intensive training of consulting teachers: A naturalistic study. *Exceptional Children, 57*, 226-237.
- Gersten, R., Vaughn, S., Deshler, D., & Schiller, E. (1995). *What we know (and still don't know) about utilizing research findings to improve practice: Implications for special education*. Unpublished discussion paper.
- Gersten, R., & Woodward, J. (1992). The quest to translate research into classroom practice: Strategies for assisting classroom teachers' work with at-risk students and students with disabilities. In D. Carnine & E. Kameenui (Eds.), *Higher cognitive functioning for all students* (pp. 201-218). Austin, TX: Pro-Ed.
- Gersten, R., Woodward, J., & Darch, C. (1986). Direct instruction: A research-based approach to curriculum design and teaching. *Exceptional Children, 53* (1), 17-31.
- Gersten, R., Woodward, J., & Morvant, M. (1992). Refining the working knowledge of experienced teachers. *Educational Leadership, 49* (7), 34-39.
- Gibson, S., & Dembo, M. H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*, 569-582.
- Goldenberg, C., & Gallimore, R. (1991). Local knowledge, research knowledge, and educational change: A case of early Spanish reading improvement. *Educational Researcher, 20* (8), 2-14.
- Good, T. L., & Brophy, J. E. (1978). *Looking in classrooms*. New York: Harper & Row.

- Good, T. L., & Grouws, D. A., & Ebmeier, H. (1983). *Active mathematics teaching*. New York: Longman.
- Goodlad, J. I. (1983). A study of schooling: Some findings and hypotheses. *Phi Delta Kappan*, 64 (8), 465-470.
- Graden, J. L., Casey, A., & Christenson, S. L. (1985). Implementing a prereferral intervention system: Part I. the model. *Exceptional Children*, 51 (5), 337-384.
- Greenwood, C. R., Carta, J. J., & Hall, R. V. (1988). *Longitudinal effects of tutoring*. Kansas City, KS: Juniper Gardens Project, Bureau of Child Research, University of Kansas.
- Greenwood, C. R., Carta, J. J., & Kamps, D. (1990). Teacher versus peer-mediated instruction: A review of educational advantages and disadvantages. In M. Foot, F. Morgan, & R. Shute (Eds.), *Children helping children* (pp. 177-205). Sussex, England: Wiley.
- Griffin, G. A. (1991). Interactive staff development: Using what we know. In A. Lieberman, & L. Miller (Eds.), *Staff development for education in the '90s* (pp. 243-258). New York: Teachers College Press.
- Guskey, T. (1984). The influence of change in instructional effectiveness upon the affective characteristics of teachers. *American Educational Research Journal*, 21, 245-259.
- Guskey, T. (1986). Staff development and the process of teacher change. *Educational Researcher*, 15 (5), 5-12.
- Guskey, T. R., & Passaro, P. D. (1994). Teacher efficacy: A study of construct dimensions. *American Educational Research Journal*, 31 (3), 627-643.
- Harrison, D. (1980). *Meta-analysis of selected studies of staff development*. Unpublished doctoral dissertation, University of Florida.
- Hawley, W., & Rosenholtz, S. (1984). Good schools: What research says about improving student achievement [Special Issue]. *Peabody Journal of Education*, 61 (4).

- Hodgkinson, H. (1991). Reform versus reality. *Phi Delta Kappan*, 73, 9-16.
- Holzner, B., & Marx, J. H. (1979). *Knowledge application: The knowledge system in society*. Boston: Allyn & Bacon.
- Holzner, B., & Marx, J. H. (1979). *Knowledge application: The knowledge system in society*. Boston: Allyn & Bacon.
- Horne, M. (1983). Attitudes of elementary classroom teachers toward mainstreaming. *Exceptional Child*, 30, 93-98.
- Huberman, N. (1983). Recipes for busy kitchens: A situational analysis of routine knowledge use in schools. *Knowledge*, 4 (4), 478-510.
- Huberman, N. (1985). What knowledge is of most worth to teachers? A knowledge-use perspective. *Teaching and Teacher Education*, 1, 252-262.
- Huberman, M. (1990). Linkage between researchers and practitioners: A qualitative study. *American Educational Research Journal*, 27 (2), 363-391.
- Huberman, M., & Miles, M. (1984). *Innovation up close*. New York: Plenum.
- Ignatovich, F. R., Cusick, P. A., & Ray, J. E. (1979). *Value/belief patterns of teachers and those administrators engaged in attempts to influence teaching* (Research Series No. 43). East Lansing: Michigan State University, Institute for Research on Teaching.
- Jenkins, J. R., Jewell, M., Leceister, L., & Troutner, N. (1990, April). *Development of a school building model for educating handicapped and at-risk students in general education classrooms*. Paper presented at the annual meeting of the American Educational Research Association, Boston.
- Jenkins, J. R., Pious, C. G., & Peterson, D. L. (1990). Heterogeneity in reading levels in the mainstream classroom. Manuscript in preparation, Experimental Education Unit, University of Washington, Seattle.
- Johnson, S. M. (1990). *Teachers at work: Achieving success in our schools*. New York: Basic Books.

- Johnson, D. W., & Johnson, R. T. (1986). Mainstreaming and cooperative learning strategies. *Exceptional Children, 52* (6), 553-561.
- Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1993). *Circles of learning: Cooperation in the classroom* (4th ed.). Edina, MN: Interaction Books.
- Joslin, P. A. (1980). *Inservice teacher education: A meta-analysis of the research*. Unpublished doctoral dissertation, University of Minnesota.
- Kaestle, C. F. (1993). The awful reputation of educational research. *Educational Researcher, 22* (1), 23-31.
- Kauffman, J. M. (1993). How we might achieve the radical reform of special education. *Exceptional Children, 60* (1), 6-16.
- Kazdin, A. E. (1977). Assessing the clinical or applied importance of behavioral change through social validation. *Behavior Modification, 1*, 427-452.
- Kennedy, M. M. (1991). Following through on follow through. In E. A. Ramp & C. S. Pederson (Eds.), *Follow through: Program and policy issues* (pp. 57-71). Washington, DC: Office of Education Research and Improvement, U. S. Department of Education.
- King, R. (1983). *The sociology of school organization*. New York: Methuen.
- Leinhardt, G. (1990). Capturing craft knowledge in teaching. *Educational Researcher, 19* (2), 18-25.
- Lieberman, A. (Ed.). (1988). *Building a professional culture in schools*. New York: Teachers College Press.
- Lieberman, A., & Miller, L. (1984). *Teachers: Their world and their work*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Little, J. W. (1981). *School success and staff development: The role of staff development in urban desegregated schools*. Boulder, CO: Center for Action Research.

- Little, J. W. (1984). Seductive images and organizational realities in professional development. *Teachers College Record*, 86 (1), 84-102.
- Little, J. W. (1987, April). *Assessing the prospects for teacher leadership*. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.
- Little, J. W., & Bird, T. (1983). *Finding and founding peer coaching: An interim report of the application of research on faculty relations to the implementation of two schools improvement experiments*. Boulder, CO: Center for Action Research. (ERIC Document Reproduction Service No. ED 221 141).
- Lloyd, C. V., & Anders, P. (in press). Research-based practices as the content of staff development. In V. Richardson (Ed.), *Teacher change and the staff development process: A case of reading instruction*. New York: Teachers College Press.
- Lortie, D. C. (1975). *Schoolteacher: A sociological analysis*. Chicago: University of Chicago Press.
- Loucks, S. F., & Zacchei, D. A. (1983). Applying our findings to today's innovations. *Educational Leadership*, 41 (3), 28-31.
- Madden, N. A., Slavin, R. E., Karweit, N. L., Dolan, L. J., & Wasik, B. A. (1993). Success for all: Longitudinal effects of a restructuring program for inner-city elementary schools. *American Educational Research Journal*, 30 (1), 123-148.
- Malouf, D. B., & Schiller, E. P. (1995). Practice and research in special education. *Exceptional Children*, 61 (5), 414-424.
- Mathes, P. G., Fuchs, D., Fuchs, L. S., Henley, A. M., & Sanders, A. (1994). Increasing strategic reading practice with Peabody Classwide Peer Tutoring. *Learning Disabilities Research and Practice*, 9 (1), 44-48.
- McLaughlin, M. W. (1990). The Rand Change Agent study revisited: Macro perspectives and micro realities. *Educational Researcher*, 19 (9), 11-16.
- McLaughlin, M. W., & Marsh, D. (1978). Staff development and school change. *Teacher College Record*, 80, 69-94.

- Medley, D. (1977). *Teacher competency and teacher effectiveness: A review of process-product research*. Washington, DC: American Association of Colleges for Teacher Education.
- Medway, F. J. (1979). Causal attributions for school-related problems: Teacher perceptions and teacher feedback. *Journal of Educational Psychology, 81*, 247-258.
- Mohlman, G., Coladarci, T., & Gage, N. (1982). Comprehension and attitude as predictors of implementation of teacher training. *Journal of Teacher Education, 33*, 31-36.
- Munby, H. (1983, April). *A qualitative study of teachers' beliefs and principles*. Paper presented at the annual meeting of the American Educational Research Association, Montreal.
- Munson, S. M. (1986-87). Regular education teacher modifications for mainstreamed mildly handicapped students. *The Journal of Special Education, 20*, 489-502.
- Myles, B. S., & Simpson, R. L. (1989). Regular educators' modification preferences for mainstreaming mildly handicapped children. *The Journal of Special Education, 22*, 479-491.
- Oakes, J. (1982). Classroom social relationships: Exploring the Bowles and Gintis hypothesis. *Sociology of Education, 55*, 197-212.
- Oakes, J. (1985). *Keeping track: How schools structure inequality*. New Haven: Yale University Press.
- Olson, J. K. (1981). Teacher influence in the classroom. *Instructional Science, 10*, 259-275.
- Page, R. (1988). Teachers' perceptions of students: A link between classrooms, school cultures, and the social order. *Anthropology and Education Quarterly, 87*, 77-99.
- Palincsar, A. S., & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction, 1*, 117-175.

- Pallas, A. M., Natriello, G., & McDill, E. L. (1989). The changing nature of the disadvantaged population: Current dimensions and future trends. *Educational Researcher*, 18 (5), 16-22.
- Purnell, S., & Hill, P. (1992). *Time for reform*. Rand Corporation, Santa Monica, CA.
- Phillips, N. B., Fuchs, L. S., & Fuchs, D. (1994). Effects of classwide curriculum-based measurement and peer tutoring: A collaborative researcher-practitioner interview study. *Journal of Learning Disabilities*, 27 (7), 420-434.
- Placier, P., & Hamilton, M. L. (in press). Schools as context: A complex relationship. In V. Richardson (Ed.), *Teacher change and the staff development process: A case of reading instruction*. New York: Teachers College Press.
- Reynolds, M. C., & Wang, M. C. (1983). Restructuring "special" school programs. *Policy Studies Review*, 2 (1), 198-212.
- Rich, Y. (1990). Ideological impediments to instructional innovation: The case of cooperative learning. *Teaching & Teacher Education*, 6 (1), 81-91.
- Richardson, V. (1990). Significant and worthwhile change in teaching practice. *Educational Researcher*, 19 (7), 10-18.
- Richardson, V. (1992). The agenda-setting dilemma in a constructivist staff development process. *Teaching and Teacher Education*, 8 (3), 287-300.
- Richardson, V., & Anders, P. (in press). The study of teacher change. In V. Richardson (Ed.), *Teacher change and the staff development process: A case of reading instruction*. New York: Teachers College Press.
- Richardson, V., Anders, P., Tidwell, D., & Lloyd, C. (1991). The relationship between teachers' beliefs and practices in reading comprehension instruction. *American Educational Research Journal*, 28 (3), 559-586.

- Rosenholtz, S. J. (1989). Workplace conditions that affect teacher quality and commitment: Implications for teacher induction programs. *Elementary School Journal, 89*, 421-439.
- Rosenholtz, S. J., Bassler, O., & Hoover-Dempsey, K. (1986). Organizational conditions of teacher learning. *Teaching and Teacher Education, 2* (2), 91-104.
- Rutter, M., Maugham, B., Mortimer, P., Outon, J., & Smith, A. (1979). *15,000 Hours: Secondary schools and their effects on children*. Cambridge, MA: Harvard University Press.
- Schumm, J. S., & Vaughn, S. (1991). Making adaptations for mainstreamed students: General classroom teachers' perspectives. *Remedial and Special Education, 12* (4), 18-27.
- Schumm, J. S., Vaughn, S., & Leavell, A. G. (1994). Planning pyramid: A framework for planning for diverse student needs during content area instruction. *The Reading Teacher, 47*, 608-615.
- Schwille, S., & Melnick, S. (1987, April). *Teachers' professional growth and school life: An uneasy alliance*. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.
- Shavelson, R. J. (1988). Contributions of educational research to policy and practice: Constructing, challenging, changing cognition. *Educational Researcher, 17* (7), 4-11, 22.
- Showers, B., Joyce, B., & Bennett, B. (1987). Synthesis of research on staff development: A framework for future study and state-of-the-art analysis. *Educational Leadership, 45* (3), 77-87.
- Silberman, M. (1969). Behavioral expression of teachers' attitudes toward elementary school students. *Journal of Educational Psychology, 60*, 402-407.
- Sirotnik, K. A. (1983). What you see is what you get--consistency, persistency, and mediocrity in classrooms. *Harvard Educational Review, 53* (1), 16-31.

- Smylie, M. A. (1988). The enhancement function of staff development: Organizational and psychological antecedents to individual teacher change. *American Educational Research Journal*, 25 (1), 1-30.
- Sparks, G. M. (1983). *Inservice education: Training activities, teacher attitudes, and behavior change*. Unpublished doctoral dissertation, Stanford University.
- Sparks, G. M. (1988). Teacher attitudes toward change and subsequent improvements in classroom teaching. *Journal of Education Psychology*, 80, (1), 111-117.
- Stein, M., & Wang, M. (1988). Teacher development and school improvement: The process of teacher change. *Teaching and Teacher Education*, 4, 171-187.
- Stevens, R. J., Madden, N. A., Slavin, R. E., & Farnish, A. M. (1987). Cooperative integrated reading and composition: Two field experiments. *Reading Research Quarterly*, 22 (4), 433-454.
- Tabachnick, B. G., & Fidell, L. S. (1989). *Using multivariate statistics* (2nd ed.). New York: Harper Collins.
- Talbert, J. E., & McLaughlin, M. W. (1994). Teacher professionalism in local school contexts. *American Journal of Education*, 102, 123-152.
- Tikunoff, W., & Mergendoller, J. R. (1983). Inquiring as a means to professional growth: The teacher as researcher. In G. Griffin (Ed.), *Staff development, Eighty-second yearbook of the NSSE* (pp. 210-227). Chicago: University of Chicago Press.
- Toomey, R. (1977). Teachers' approaches to curriculum planning. *Curriculum Inquiry*, 7, 121-129.
- Tushnet, N. C. (1992, April). Synthesis and translation: *Will it be easier for users to discover meaning, truth, and utility in research?* Paper presented at the annual meeting of the American Research Association, San Francisco, CA. (ERIC Document ED 344 923).
- Vacca, R. T., & Gove, M. K. (1982, April). *Teacher reflections on the use and adaptation of instructional innovation presented during staff development*. Paper presented at the annual meeting of the

- American Educational Research Association, New York. (ERIC Document Reproduction Service No. ED 217 389).
- Vadasy, P. F., Jenkins, J. R., Antil, L., Phillips, N. B., & Pool, K. (1997). The research-to-practice ball game: Classwide Peer Tutoring and teacher interest, implementation, and modifications. *Remedial and Special Education, 18* (3), 143-156.
- Vaughn, S., & Schumm, J. S. (1994). Middle school teachers' planning for students with disabilities. *Remedial and Special Education, 15*, 152-161.
- Verstappen, P. (1991). *Easier theorized than done: Five papers on the systematic cooperation between theory and practice*. Unpublished manuscript, Instituut voor Leerplanontwikkeling. Enschede (Netherlands) (ERIC Document ED 344 731).
- Viadero, D. (1990). Learning disabled students found to fare poorly. *LDA Newsbriefs, 25* (4), 16-17.
- Wade, R. K. (1984). *What makes a difference in inservice education: A meta-analysis of the research*. Unpublished doctoral dissertation, University of Massachusetts, Boston.
- Walberg, H., & Genova, W. (1982). Staff, school, and workshop influences on knowledge use in educational improvement efforts. *Journal of Educational Research, 76* (2), 69-80.
- Wang, M. C., Reynolds, M. C., & Walberg, H. J. (1994). What works and what doesn't work: The case for an inclusive system. In K. J. Wong, & M. C. Wang (Eds.), *Rethinking policy for at-risk students* (pp. 151-176). Berkeley, CA: McCutchan.
- Wasley, P. A. (1991). *Teachers who lead: The rhetoric of reform and the realities of practice*. New York: Teachers College Press.
- Watts, G. D., & Castle, S. (1993). The time dilemma in school restructuring. *Phi Delta Kappan, December*, 306-309.
- Waxman, H. C., and others. (1986). *Using research knowledge to improve teacher education: Teachers' perceptions of the value of educational research*. (ERIC Document Reproduction Service No. ED 267 031).

- Wheelock, A. (1992). *Crossing the tracks: How "untracking" can save America's schools*. New York: New Press.
- Will, M. C. (1986). Educating children with learning problems: A shared responsibility. *Exceptional Children*, 52 (5), 411-415.
- Wise, R. I. (1976). The use of objectives in curriculum planning. *Curriculum Theory Network*, 5, 280-289.
- Woolfolk, A. E., & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and beliefs about control. *Journal of Educational Psychology*, 82, 81-89.
- Worrall, R. S., & Carnine, D. (1995). Lack of professional support and control undermines education: A contrasting perspective from health and engineering. *Effective School Practices*, Winter, 3-16.
- Zigmond, N., & Baker, J. M. (1994). Is the mainstream a more appropriate educational setting for Randy? A case study of one student with learning disabilities. *Learning Disabilities Research & Practice*, 9, 108-117.
- Zigmond, N., Levin, E., & Laurie, T. E. (1985). Managing the mainstream: An analysis of teacher attitudes and student performance in mainstream high school programs. *Journal of Learning Disabilities*, 18, 535-541.

Appendix A

Questionnaires

Interest in Learning More About PT Questionnaire

Name _____

Circle One

Are you interested in learning more about
Peer Tutoring?

Yes / No

Peer Tutoring Manual Evaluation Form

Name _____
 School _____
 Date _____
 Grade _____

Answer the following questions using the rating scale below.

Rating Scale: 1 - Strongly Disagree
 2 - Disagree
 3 - Disagree Somewhat
 4 - Agree Somewhat
 5 - Agree
 6 - Strongly Agree

The following questions are specific to each section of the manual. To make your task easier, we suggest you read each section and then answer the appropriate questions before reading further. Please indicate the degree to which you agree or disagree with the following statements. All responses will remain completely confidential. Please circle a number. Spaces between numbers are not valid choices.

Introduction (pages 1-20)

- | | | | | | | |
|--|---|---|---|---|---|---|
| 1. - is easy to follow | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. - provides persuasive reasons why teachers should consider using peer tutoring | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. - provides a clear overview of peer tutoring | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. - provides a detailed plan for pairing students | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. - addresses classroom management concerns I have about peer tutoring | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. - shows how to place students in appropriate reading materials | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. - makes clear why teams and points are important to successfully conducting peer tutoring | 1 | 2 | 3 | 4 | 5 | 6 |

Lesson 1 (pages 23 - 40)

- | | | | | | | |
|--|---|---|---|---|---|---|
| 8. - is easy to follow | 1 | 2 | 3 | 4 | 5 | 6 |
| 9. - provides students with a reason for conducting PT | 1 | 2 | 3 | 4 | 5 | 6 |

10. - makes clear how students should conduct themselves during PT	1	2	3	4	5	6
11. - sets down specific rules students should follow to make PT work	1	2	3	4	5	6
12. - clearly explains to students why they should try to cooperate and work as a team	1	2	3	4	5	6
Lesson 2 (pages 41 - 61)						
13. - is easy to follow	1	2	3	4	5	6
14. - clearly identifies the types of mistakes students can make in Partner Reading	1	2	3	4	5	6
15. - clearly identifies how students should correct mistakes in Partner Reading	1	2	3	4	5	6
16. - provides clear instructions to students for conducting Partner Reading	1	2	3	4	5	6
Lesson 3 (pages 65 - 89)						
17. - is easy to follow	1	2	3	4	5	6
18. - provides clear instructions to students for conducting Paragraph Shrinking	1	2	3	4	5	6
19. - provides students with a simple strategy for stating the main idea of a paragraph	1	2	3	4	5	6
Lesson 4 (pages 93 - 112)						
20. - is easy to follow	1	2	3	4	5	6
21. - provides clear instructions to students for conducting Prediction Relay	1	2	3	4	5	6
22. - makes a clear distinction between the Coach and the Reader	1	2	3	4	5	6
23. - provides the Reader with a rationale for making predictions	1	2	3	4	5	6
Tutoring Materials (pages 113 - 134)						
24. - materials are generally engaging for students	1	2	3	4	5	6

25. - materials are generally clear in the messages they convey to students	1	2	3	4	5	6
26. - materials are age-appropriate for my grade level(s)	1	2	3	4	5	6
In general:						
27. - the PT manual is easy to follow	1	2	3	4	5	6
28. - the manual is organized logically	1	2	3	4	5	6
29. - after reading this manual I feel I can clearly describe the benefits of conducting PT in reading to parents, principals, colleagues, and interested others	1	2	3	4	5	6
30. - the manual makes clear how to pair students for PT	1	2	3	4	5	6
31. - the manual makes clear how to assign student pairs to teams	1	2	3	4	5	6
32. - the manual makes clear how to show students how to prepare their materials for peer tutoring	1	2	3	4	5	6
33. - the manual makes clear how to teach students how to conduct each reading activity	1	2	3	4	5	6
34. - the manual makes clear how teachers should use PT correctly and independently	1	2	3	4	5	6

Use Questionnaire

Name _____

With the understanding that you are under no obligation to try PT, please take a minute to complete the following survey.

Circle One

I have started PT with my class.

Yes / No

If "yes," please indicate the approximate number of weeks you've been working on PT with your class.

If "no," please choose the best statement below to describe the likelihood that you will try PT this year.

Check One

1. I haven't started PT yet, but I'm pretty sure I'll start it with my class by _____.
(please indicate an approximate date)

2. I haven't started PT yet, but there's still a chance I may get to it although I just don't know when.

3. I haven't started PT yet, and it's now certain I won't try it this year.

Teacher Perception of Reading Practices Questionnaire

Name _____

School _____

Date _____

Grade _____

Answer the following questions using the rating scale below.

- Rating Scale:
- 1 - Strongly Disagree
 - 2 - Disagree
 - 3 - Disagree Somewhat
 - 4 - Agree Somewhat
 - 5 - Agree
 - 6 - Strongly Agree

Please indicate the degree to which you agree or disagree with the following statements. Respond to each statement based on your current thinking. All responses will remain completely confidential. Please circle a number. Spaces between numbers are not valid choices.

- | | | | | | | |
|---|---|---|---|---|---|---|
| 1. Most years, I feel like I have time and energy to learn about and try out new instructional practices. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. This year, I feel like I have time and energy to learn about and try out new instructional practices. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. This year, changes at my school are consuming an unusually high amount of my time and energy. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. This year, factors in my personal life are consuming the time I'd ordinarily use to try out a new reading practice. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. This year, the particular students in my classroom present an unusually tough teaching challenge. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. This year in my reading instruction, I am concentrating on consolidating, refining and improving on approaches that I have been using in the past. | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. This year in my reading instruction, I am undertaking some major changes (briefly note changes) | 1 | 2 | 3 | 4 | 5 | 6 |

- | | | | | | | |
|---|---|---|---|---|---|---|
| 8. I am seeking a way to give my students more practice to increase their reading fluency. | 1 | 2 | 3 | 4 | 5 | 6 |
| 9. I am seeking a way to give my students more practice in actively applying comprehension skills during reading. | 1 | 2 | 3 | 4 | 5 | 6 |
| 10. Having students practice on texts that are very easy for them to read will help them become better readers. | 1 | 2 | 3 | 4 | 5 | 6 |
| 11. In reading instruction, I regularly pair more and less skilled students and have them take turns reading to each other. | 1 | 2 | 3 | 4 | 5 | 6 |
| 12. Team competition is a good way to motivate students to work hard and pay attention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 13. I am reasonably satisfied with the effects of my current instructional approach in reading for my high-achieving students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 14. I am reasonably satisfied with the effects of my current instructional approach in reading for my average-ability students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 15. I am reasonably satisfied with the effects of my current instructional approach in reading for my low-ability students. | 1 | 2 | 3 | 4 | 5 | 6 |

Please provide the following background information:

Circle one:

- | | |
|---|--------|
| 16. I have previously attended a presentation or workshop on PT in reading. | Yes/No |
| 17. I have previously used PT. | Yes/No |
| 18. I have read about or have heard about peer tutoring practices prior to attending this presentation. | Yes/No |
| 19. Are you currently a full-time regular education teacher? | Yes/No |
| 20. Are you planning on taking any extended leave this year? | Yes/No |

- 21. including this year, total years teaching -----
 - 22. including this year, number of years at this grade level -----
 - 23. including this year, number of years at this school -----
 - 24. highest educational degree:
 - B.A./B.S. -----
 - M.Ed./M.S. -----
 - Ed.D/Ph.D -----
 - 25. total number of students in your reading class -----
 - 26. number of students who are low achieving in reading -----
 - 27. number of students who are average achieving in reading -----
 - 28. number of students who are high achieving in reading -----
 - 29. Considering all students in your classroom, estimate the current reading level of:
 - (a) the best reader -----
 - (b) the poorest reader -----
- NOTE: Use year and month designations (e.g., 3rd grade, 4th month, 5th grade, 1st month).
- 30. number of special education students -----
 - 31. number of students with serious behavior problems -----
 - 32. number of students with serious academic problems -----
 - 33. number of students with serious reading problems -----

Peer Tutoring Evaluation Questionnaire

Name _____
 School _____

Answer the following questions using the rating scale below.

Rating Scale: 1 - Strongly Disagree
 2 - Disagree
 3 - Disagree Somewhat
 4 - Agree Somewhat
 5 - Agree
 6 - Strongly Agree

Please indicate the degree to which you agree or disagree with the following statements. Respond to each statement based on your current thinking. All responses will remain completely confidential. Please circle a number. Spaces between numbers are not valid choices.

- | | | | | | | |
|---|---|---|---|---|---|---|
| 1. PT would work in my current classroom. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. For most classrooms, introducing PT would increase students' reading growth beyond that ordinarily obtained. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. PT strikes me as a valuable instructional practice. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. PT strikes me as a practical instructional tool. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. The outcomes produced by PT would be consistent with my goals. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. PT would be compatible with my normal way of teaching reading. | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. PT would be liked by my students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 8. PT is compatible with my philosophy of reading instruction. | 1 | 2 | 3 | 4 | 5 | 6 |
| 9. PT is compatible with my philosophy of how children learn best. | 1 | 2 | 3 | 4 | 5 | 6 |
| 10. This year, I feel like I have enough time and energy to learn about PT. | 1 | 2 | 3 | 4 | 5 | 6 |

11. This year, I feel like I have enough interest to learn about and try PT.	1	2	3	4	5	6
12. This year, I feel like I have enough time to prepare for doing PT.	1	2	3	4	5	6
13. This year, if I wanted to try out PT, I would have enough resources to get it up and running.	1	2	3	4	5	6
14. PT is a good preparation for standardized tests.	1	2	3	4	5	6
15. PT is a good use of instructional time.	1	2	3	4	5	6
16. The number of weeks devoted to PT is just about right.	1	2	3	4	5	6
17. In PT, the time devoted to oral reading practice is just about right.	1	2	3	4	5	6
18. In PT, the time devoted to comprehension strategies is just about right.	1	2	3	4	5	6
19. In PT, the learning activities are well suited to my students.	1	2	3	4	5	6
20. The benefits of PT for my students outweigh the time and energy needed to get PT up and running in my classroom.	1	2	3	4	5	6
21. PT is beyond the ability of too many of my students this year.	1	2	3	4	5	6
22. PT compromises the goal of reading for enjoyment.	1	2	3	4	5	6
23. I could make room for PT in my reading program.	1	2	3	4	5	6
24. PT would raise too many management problems in my classroom.	1	2	3	4	5	6
25. PT would negatively affect the self-esteem of low achievers in reading.	1	2	3	4	5	6
26. Most teachers at my school would approve of PT in reading.	1	2	3	4	5	6
27. Research evidence supporting PT is an important consideration when I think about adopting the practice.	1	2	3	4	5	6

28. I am very likely to try PT.

1 2 3 4 5 6

29. Mark a (+) before any items you really like about PT (if any).

30. Mark a (-) before any items you really dislike about PT (if any).

- _____ peers as tutors
- _____ use of teams and points
- _____ the manual
- _____ oral reading practice
- _____ comprehen. strategy
- _____ social skills practice
- _____ PT research support
- _____ other (please describe)

Teacher Effectiveness Scale - Revised

Name _____
 School _____
 Date _____
 Grade _____

Answer the following questions using the rating scale below.

Rating Scale: 1 - Strongly Disagree
 2 - Disagree
 3 - Disagree Somewhat
 4 - Agree Somewhat
 5 - Agree
 6 - Strongly Agree

Please indicate the degree to which you agree or disagree with the following statements. Respond to each statement based on your current thinking. All responses will remain completely confidential. Please circle a number. Spaces between numbers are not valid choices.

- | | | | | | | |
|---|---|---|---|---|---|---|
| 1. When a student does better than usual, many times it is because I exerted a little extra effort. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. The hours in my class have little influence on students compared to the influence of their home environment. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. The amount that a student can learn is primarily related to family background. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. If students aren't disciplined at home, they aren't likely to accept any discipline. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. When a student gets a better grade than he usually gets, it is usually because I found better ways of teaching that student. | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. When I really try, I can get through to most difficult students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 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. | 1 | 2 | 3 | 4 | 5 | 6 |

- | | | | | | | |
|---|---|---|---|---|---|---|
| 9. When the grades of my students improve it is usually because I found more effective teaching approaches. | 1 | 2 | 3 | 4 | 5 | 6 |
| 10. If a student masters a new math concept quickly, this might be because I knew the necessary steps in teaching that concept. | 1 | 2 | 3 | 4 | 5 | 6 |
| 11. If parents would do more with their children, I could do more. | 1 | 2 | 3 | 4 | 5 | 6 |
| 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. | 1 | 2 | 3 | 4 | 5 | 6 |
| 13. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him quickly. | 1 | 2 | 3 | 4 | 5 | 6 |
| 14. The influences of a student's home experiences can be overcome by good teaching. | 1 | 2 | 3 | 4 | 5 | 6 |
| 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. | 1 | 2 | 3 | 4 | 5 | 6 |
| 16. Even a teacher with good teaching abilities may not reach many students. | 1 | 2 | 3 | 4 | 5 | 6 |

Mainstreaming Attitudes Scale - Revised

Name _____
 School _____
 Date _____
 Grade _____

My school mainstreams special education students
 with learning disabilities.

Yes / No

Answer the following questions using the rating scale below.

Rating Scale: 1 - Strongly Disagree
 2 - Disagree
 3 - Disagree Somewhat
 4 - Agree Somewhat
 5 - Agree
 6 - Strongly Agree

Please indicate the degree to which you agree or disagree with the following statements. Respond to each statement based on your current thinking. All responses will remain completely confidential. Please circle a number. Spaces between numbers are not valid choices.

- | | | | | | | |
|--|---|---|---|---|---|---|
| 1. I support mainstreaming special education students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. I believe mainstreaming in my school has been successful. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. I believe mainstreaming has been beneficial for special education students in my school. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. I believe mainstreaming has been beneficial for nonhandicapped students in mainstream classes. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. I believe that mainstreaming has been successful in terms of improving the social skills and behaviors of special education students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. I believe that mainstreaming has been successful in terms of improving the academic skills of special education students. | 1 | 2 | 3 | 4 | 5 | 6 |

School Context Questionnaire - Revised

Name _____

School _____

Date _____

Grade _____

Answer the following questions using the rating scale below.

Rating Scale: 1 - Strongly Disagree
 2 - Disagree
 3 - Disagree Somewhat
 4 - Agree Somewhat
 5 - Agree
 6 - Strongly Agree

Please indicate the degree to which you agree or disagree with the following statements. All responses will remain completely confidential. Please circle a number. Spaces between numbers are not valid choices.

- | | | | | | | |
|--|---|---|---|---|---|---|
| 1. My teaching is frequently interrupted by outside intrusions (e.g., loudspeaker, office messages, classrooms visitors, etc.) | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. This school provides ample time for academic instruction. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. Pull-out programs often disrupt and interfere with my teaching. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. My principal encourages the faculty to work cooperatively. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. My principal encourages teachers to exchange ideas and opinions. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. My principal holds staff meetings where the staff really discusses things. | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. The principal and teachers collaborate toward making our school run effectively. | 1 | 2 | 3 | 4 | 5 | 6 |
| 8. I am encouraged by my principal to experiment in my classroom with new ways to teach students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 9. Teachers at this school frequently try new ways to teach their students. | 1 | 2 | 3 | 4 | 5 | 6 |

- | | | | | | | |
|--|-------|---|---|---|---|---|
| 10. Teachers at my school talk about their experimentation with new ways to teach students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 11. Teachers at this school are reluctant to try new ideas because they are concerned about what the principal might think if they fail. | 1 | 2 | 3 | 4 | 5 | 6 |
| 12. I am often in doubt; I know what I teach, but I don't know what pupils think very often. | 1 | 2 | 3 | 4 | 5 | 6 |
| 13. Teaching is so fast; I guess as to what to say or do; I watch the reaction; I guess again. | 1 | 2 | 3 | 4 | 5 | 6 |
| 14. I think I know my job. I have bad days, but I correct my errors. I'm reasonably confident. | 1 | 2 | 3 | 4 | 5 | 6 |
| 15. My children learn; I have to find a way to reach them; usually I do. | 1 | 2 | 3 | 4 | 5 | 6 |
| 16. I am past the doubting stage; I am certain of my methods. | 1 | 2 | 3 | 4 | 5 | 6 |
| 17. When a problem arises, I feel as though I have many contact people with whom I can discuss my concerns. | 1 | 2 | 3 | 4 | 5 | 6 |
| 18. I know a lot about new materials, new kinds of texts, supplementary materials. | 1 | 2 | 3 | 4 | 5 | 6 |
| 19. I know a lot about theories of teaching reading. | 1 | 2 | 3 | 4 | 5 | 6 |
| 20. I know a lot about how to handle disruptive students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 21. I know a lot about how to deal with heterogeneous classes. | 1 | 2 | 3 | 4 | 5 | 6 |
| 22. I make sure my students master the content I teach. | 1 | 2 | 3 | 4 | 5 | 6 |
| 23. If I really try hard, I can get through to even the most difficult or unmotivated students. | 1 | 2 | 3 | 4 | 5 | 6 |
| 24. During a typical week, how much time does the school district or school allocate for you to plan? | ----- | | | | | |

Exit Questionnaire

Name _____
 School _____
 Date _____
 Grade _____

Answer the following questions using the rating scale below.

Rating Scale: 1 - Strongly Disagree
 2 - Disagree
 3 - Disagree Somewhat
 4 - Agree Somewhat
 5 - Agree
 6 - Strongly Agree

Please indicate the degree to which you agree or disagree with the following statements. Respond to each statement based on your current thinking. All responses will remain completely confidential. **Please circle a number.** Spaces between numbers are not valid choices.

- | | | | | | | |
|---|---|---|---|---|---|---|
| 1. This year, I feel like I have enough time and energy to learn about PT. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. This year, I feel like I have enough interest to learn about and try PT. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. This year, I feel I have enough time to prepare for doing PT. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. This year, changes at my school are consuming an unusually high amount of my time and energy. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. This year in my reading instruction, I am undertaking some major changes. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6. I have other professional commitments that are taking up my available time this year. | 1 | 2 | 3 | 4 | 5 | 6 |
| 7. This year, factors in my personal life are consuming the time I'd ordinarily use to try out new instructional practices. | 1 | 2 | 3 | 4 | 5 | 6 |
| 8. The manual is clear enough in describing what has to be done to get PT up and running in the classroom. | 1 | 2 | 3 | 4 | 5 | 6 |
| 9. I don't feel I know enough about PT to try it this year. | 1 | 2 | 3 | 4 | 5 | 6 |

10. I have decided to consolidate, refine and improve on approaches that I have been using in the past rather than try out PT. 1 2 3 4 5 6

11. I have decided to try another new practice in reading other than PT. 1 2 3 4 5 6

12. What might have induced you to try PT this year?

13. Do you have any suggestions for how to make PT easier to implement?

14. Were there other specific obstacles that prevented you from trying PT this year?

15. Will you consider trying PT in future years?

Appendix B

Description of Scales

Scale: General Evaluation of PT I, II
Alpha: 0.93 (I), 0.89 (II)
Number of items: 13 (I), 12 (II)
Range of item--scale correlations: 0.44-0.83 (I), 0.40-0.82 (II)
Description of what is assessed: teacher perceptions of the practicality and value of PT
Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items (I & II):

1. PT strikes me as a valuable instructional practice.
 2. PT strikes me as a practical instructional tool.
 3. The outcomes produced by PT would be consistent with my goals.
 4. PT would be compatible with my normal way of teaching reading.
 5. PT is compatible with my philosophy of reading instruction.
 6. PT is compatible with my philosophy of how children learn best.
 7. PT is a good use of instructional time.
 8. The number of weeks devoted to PT is just about right.
 9. In PT, the time devoted to oral reading practice is just about right.
 10. In PT, the time devoted to comprehension strategies is just about right.
 11. PT compromises the goal of reading for enjoyment.
 12. PT would negatively affect the self-esteem of low achievers in reading.
 13. For most classrooms, introducing PT would increase students' reading growth beyond that ordinarily obtained. (I only)
-

Scale: Suitability for Current Students I, II
Alpha: 0.83 (I), 0.87 (II)
Number of items: 8 (I), 7 (II)
Range of item--scale correlations: 0.20-0.77 (I), 0.59-0.73 (II)
Description of what is assessed: teacher perceptions of suitability of PT for current classroom
Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items (I & II):

1. PT would work in my current classroom.
2. PT would be liked by my students.
3. In PT, the learning activities are well suited to my students.
4. The benefits of PT for my students outweigh the time and energy needed to get PT up and running in my classroom.
5. PT is beyond the ability of too many of my students this year.
6. I could make room for PT in my reading program.

7. PT would raise too many management problems in my classroom.
 8. I would feel pleased to look out on my classroom and see PT functioning well. (I only)
-

Scale: Time and Energy for PTLII
 Alpha: 0.93 (I), 0.89 (II)
 Number of items: 2 (I), 3 (II)
 Range of item--scale correlations: 0.87 (I), 0.73-0.86 (II)
 Description of what is assessed: personal resources for learning about and trying PT
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items (I & II):

1. This year, I feel like I have enough time and energy to learn about PT.
 2. This year, I feel like I have enough time to prepare for doing PT.
 3. Knowing what I now know about PT, I feel like I have enough energy to learn more about it and try it out in my classroom. (II only)
-

Scale: Estimated Student Benefit
 Alpha: 0.86
 Number of items: 6
 Range of item--scale correlations: 0.44-0.79
 Description of what is assessed: anticipated student achievement in reading with implementation of PT.
 Response mode: Six-point Likert-like scale (A Lot Less = 1, A Lot More = 6)

Items:

1. My high-ability students would improve [] in reading ability with PT than without it.
 2. My average-ability students would improve [] in reading ability with PT than without it.
 3. My low-ability students would improve [] in reading ability with PT than without it.
 4. My high-ability students would improve [] in social skills with PT than without it.
 5. My average-ability students would improve [] in social skills with PT than without it.
 6. My low-ability students would improve [] in social skills with PT than without it.
-

Scale: Research Evidence for PT
 Alpha: --
 Number of items: 1
 Range of item--scale correlations: --
 Description of what

is assessed: teacher consideration of empirical support for PT
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Item:
 Research evidence supporting PT is an important consideration when I think about adopting the practice.

Scale: Teaching Goals
 Alpha: 0.85
 Number of items: 2
 Range of item--scale correlations: 0.74
 Description of what is assessed: teachers' goals for reading instruction
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items:
 1. I am seeking a way to give my students more practice to increase their reading fluency.
 2. I am seeking a way to give my students more practice in actively applying comprehension skills during reading.

Scale: Assigning Easy Text
 Alpha: --
 Number of items: 1
 Range of item--scale correlations: --
 Description of what is assessed: attitudes towards assigning students easy text for reading practice
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Item:
 Having students practice on texts that are very easy for them to read will help them become better readers.

Scale: Pairing Students
 Alpha: --
 Number of items: 1
 Range of item--scale correlations: --
 Description of what is assessed: attitudes towards pairing students for reading practice
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Item:
 In reading instruction, I regularly pair more and less skilled students and have them take turns reading to each other.

Scale: Team Competition
 Alpha: --
 Number of items: 1
 Range of item--scale correlations: --
 Description of what is assessed: attitudes towards using team assignments and points to motivate students
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)
 Item:
 Team competition is a good way to motivate students to work hard and pay attention.

Scale: Hard-to-teach Students
 Alpha: --
 Number of items: 1
 Range of item--scale correlations: --
 Description of what is assessed: teacher perceptions of the challenge offered by students in the current classroom
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)
 Item:
 This year, the particular students in my classroom present an unusually tough teaching challenge.

Scale: Changes at School
 Alpha: --
 Number of items: 1
 Range of item--scale correlations: --
 Description of what is assessed: teacher perceptions of personal resources in terms of changes taking place at school
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)
 Item:
 This year, changes at my school are consuming an unusually high amount of my time and energy.

Scale: Time and Energy for Innovation
 Alpha: --
 Number of items: 1
 Range of item--scale correlations: --

Description of what is assessed: teacher perceptions of personal resources for new practices
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Item:
 This year, I feel like I have time and energy to learn about and try out new instructional practices.

Scale: Satisfaction With Current Instructional Program
 Alpha: 0.73
 Number of items: 3
 Range of item--scale correlations: 0.40-0.77
 Description of what is assessed: teacher evaluation of effectiveness of instructional program in reading for high-, average-, and low-ability students
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items:
 1. I am reasonably satisfied with the effects of my current instructional approach in reading for my high-achieving students.
 2. I am reasonably satisfied with the effects of my current instructional approach in reading for my average-achieving students.
 3. I am reasonably satisfied with the effects of my current instructional approach in reading for my low-achieving students.

Scale: Personal Concerns
 Alpha: --
 Number of items: 1
 Range of item--scale correlations: --
 Description of what is assessed: teacher perceptions of time for innovation in terms of personal life factors
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Item:
 This year, factors in my personal life are consuming the time I'd ordinarily use to try out a new reading practice.

Scale: Consolidation of Reading Instruction
 Alpha: --
 Number of items: 1
 Range of item--scale correlations: --
 Description of what

is assessed: extent to which the current program focuses on previously used approaches to teaching reading
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Item: This year in my reading instruction, I am concentrating on consolidating, refining, and improving on approaches that I have been using in the past.

Scale: Changes to Reading Instruction

Alpha: --

Number of items: 1

Range of item--scale correlations: --

Description of what

is assessed: extent to which changes are being made to the reading program

Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Item: This year in my reading instruction, I am undertaking some major changes.

Scale: Mainstreaming Attitudes

Alpha: 0.92

Number of items: 6

Range of item--scale correlations: 0.69-0.88

Description of what

is assessed: teachers' attitudes towards mainstreaming, and evaluation of its success in terms of gains in academic and social skill

Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items:

1. I support mainstreaming special education students.
 2. I believe mainstreaming in my school has been successful.
 3. I believe mainstreaming has been beneficial for special education students in my school.
 4. I believe mainstreaming has been beneficial for nonhandicapped students in mainstream classes.
 5. I believe mainstreaming has been successful in terms of improving the social skills and behaviors of special education students.
 6. I believe mainstreaming has been successful in terms of improving the academic skills of special education students.
-

Scale: Principal Facilitation of Teacher Interaction

Alpha: 0.85

Number of items: 4

Range of item--scale

correlations: 0.63-0.80
 Description of what is assessed: teacher perceptions of principal's effort to encourage collegiality and collaboration
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items:

1. My principal encourages the faculty to work cooperatively.
 2. My principal encourages teachers to exchange ideas and opinions.
 3. My principal holds staff meetings where the staff really discusses things.
 4. The principal and teachers collaborate toward making our school run effectively.
-

Scale: School Encouragement of Experimentation
 Alpha: 0.72
 Number of items: 4
 Range of item--scale correlations: 0.27-0.70
 Description of what is assessed: teacher perceptions of school ethos concerning experimentation with new instructional practices
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items:

1. I am encouraged by my principal to experiment in my classroom with new ways to teach students.
 2. Teachers at this school frequently try new ways to teach their students.
 3. Teachers at this school talk about their experimentation with new ways to teach students.
 4. Teachers at this school are reluctant to try new ideas because they are concerned about what the principal might think if they fail.
-

Scale: Principal Facilitation of Teacher Work
 Alpha: 0.47
 Number of items: 3
 Range of item--scale correlations: 0.23-0.39
 Description of what is assessed: teacher perceptions of principal support for classroom instruction
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items:

1. My teaching is frequently interrupted by outside intrusions (e.g., loudspeaker, office messages, classroom visitors, etc.).
2. This school provides ample time for academic instruction.
3. Pull-out programs often disrupt and interfere with my teaching.

Scale: Certainty of Practice
 Alpha: 0.80

Number of items: 11
 Range of item--scale correlations: 0.02- 0.74
 Description of what is assessed: teachers' confidence in their ability to teach
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items:

1. I am often in doubt; I know what I teach, but I don't know what pupils think very often.
2. Teaching is so fast; I guess as to what to say or do; I watch the reaction; I guess again.
3. I think I know my job. I have bad days, but I correct my errors. I'm reasonably confident.
4. My children learn; I have to find a way to reach them; usually I do.
5. I am past the doubting stage; I am certain of my methods.
6. When a problem arises, I feel as though I have many contact people with whom I can discuss my concerns.
7. I know a lot about new materials, new kinds of texts, supplementary materials.
8. I know a lot about theories of teaching reading.
9. I know a lot about how to handle disruptive students.
10. I know a lot about how to deal with heterogeneous classes.
11. I make sure my students master the content I teach.

 Scale: Teaching Efficacy
 Alpha: 0.66
 Number of items: 9
 Range of item--scale correlations: 0.21-0.45
 Description of what is assessed: teacher perceptions of external environmental limitations placed on teaching
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items:

1. When a student does better than usual, many times it is because I exerted a little extra effort.
2. When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.
3. When a student gets a better grade than he usually gets, it is usually because I found better ways of teaching that student.
4. When I really try, I can get through to most difficult students.
5. When the grades of my students improve it is usually because I found more effective teaching approaches.
6. If a student masters a new math concept quickly, this might be because I knew the necessary steps in teaching that concept.
7. 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.

8. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him quickly.
 9. 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.
-

Scale: Personal Teaching Efficacy
 Alpha: 0.62
 Number of items: 7
 Range of item--scale correlations: 0.04-0.53
 Description of what is assessed: teacher perceptions of personal teaching efficacy
 Response mode: Six-point Likert-like scale (Strongly Disagree = 1, Strongly Agree = 6)

Items:

1. The hours in my class have little influence on students compared to the influence of their home environment.
2. The amount that a student can learn is primarily related to family background.
3. If students aren't disciplined at home, they aren't likely to accept any discipline.
4. 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.
5. If parents would do more with their children, I could do more.
6. The influences of a student's home experiences can be overcome by good teaching.
7. Even a teacher with good teaching abilities may not reach many students.

Appendix C

Factor Analyses of Scales

Factor Analysis of Scales For Large Sample (*n* = 75)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
General Evaluation of PT	.89318	-.10260	-.10699	-.03433	-.08180	-.07905
Suitability for Current Students	.86529	-.18842	-.21236	-.06137	-.07307	.09805
Time & Energy for PT	.82987	-.14346	-.05058	.03278	.08486	.14784
Research Evidence for PT	.59696	-.07062	-.02301	-.19938	.34622	.35404
Teaching Goals	.22166	.62138	.31037	.16468	-.30068	-.02186
Assigning Easy Text	-.06827	.17869	-.13384	.59524	.12071	.52340
Pairing Students	.13296	.61665	-.20360	.03683	.39384	-.32471
Team Competition	.05629	-.32634	.45413	.24110	.36782	-.02540
Hard-to-teach Students	.37616	.09635	.58252	.01540	.22588	-.11411
Changes at School	.27195	.35887	.57226	-.26747	.00500	-.20470
Consolidation of Reading Instruction	.14967	.04087	.30436	.72483	.05774	-.16167
Changes to Reading Instruction	.02917	.35777	.37017	-.42226	-.25641	.45515
Time & Energy for Innovation	.01736	.62480	-.17409	.17915	.04564	.37817
Satisfaction with Reading Program	-.16788	.18550	-.16379	-.26148	.74050	.00318
Personal Concerns	-.13888	-.48768	.42075	.07469	.06474	.25587

Final Statistics:

	Communality	Factor	Eigenvalue	Percent of Variance	Cumulative Percent
General Evaluation of PT	.83387	1	3.18719	19.9	19.9
Suitability for Current Students	.84804	2	1.91031	11.9	31.9
Time & Energy for PT	.74195	3	1.63403	10.2	42.1
Research Evidence for PT	.64684	4	1.40699	8.8	50.9
Teaching Goals	.64958	5	1.24688	7.8	58.7
Assigning Easy Text	.69733	6	1.10592	6.9	65.6
Pairing Students	.70129				
Team Competition	.50996				
Hard-to-teach Students	.55439				
Changes at School	.64369				
Consolidation of Reading Instruction	.67155				
Changes to Reading Instruction	.71709				
Time & Energy for Innovation	.59818				
Satisfaction with Reading Program	.70615				
Personal Concerns	.50939				

Factor Analysis of Scales For Teachers Who Acted to Learn Sample ($n = 55$)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
General Evaluation of PT II	.69216	-.35710	.27904	-.15749	.18190	.15882	.03063	.13393
Suitability for Current Students II	.66178	-.58248	.03959	.06923	-.07335	-.16387	-.00215	-.04283
Time & Energy for PT II	.63854	-.56384	-.03389	.04616	-.05186	-.23396	-.03092	.02441
Estimated Student Benefit	.57700	-.31373	.25775	-.31635	.18631	.18342	-.06361	-.11283
Research Evidence for PT	.32270	.12387	.26483	-.35137	-.01143	.43340	.03324	.50584
Teaching Goals	.41141	.52098	-.08255	-.12679	-.13046	-.01793	-.05168	-.24495
Assigning Easy Text	-.00032	.16191	.17277	.32672	.01121	.46208	.42586	-.44300
Pairing Students	.41049	.23846	-.32560	.04558	.18611	-.21895	.49275	.07827
Team Competition	-.15987	-.31050	.60230	.14426	.35653	.04847	.01031	.02963
Hard-to-teach Students	-.01123	.48484	.29648	-.35147	.27385	-.11613	.18898	.29217
Changes at School	.40879	.44062	.14609	-.05796	.27116	-.28087	-.29248	-.01129
Consolidation of Reading Instruction	.07859	.34566	.55160	-.09591	-.13607	-.13127	.33575	-.08160
Changes to Reading Instruction	.15364	.32934	-.11203	-.04533	-.03024	.48054	-.63349	.03031
Principal Facilitation of T. Interaction	.31743	.28576	.60314	.21332	-.20245	-.28474	-.03169	.17674
Principal Facilitation of Teacher Work	-.05841	-.21431	-.12746	.32663	-.51342	.19391	.23670	.51748
Encouragement of Experimentation	.42029	.45025	.10736	-.01319	-.54952	-.11120	-.09756	-.06192
Time & Energy for Innovation	.33082	.42420	-.48634	-.01511	.18292	.30727	.22032	.16564
Satisfaction with Reading Program	.20280	.01228	-.17871	.64888	.43334	.05681	-.14331	.11200
Personal Concerns	-.42698	-.05151	.59184	.07048	.21569	.23188	.09136	-.04257
Mainstreaming Attitudes	-.14276	.03339	.46963	.55781	-.31303	.04740	-.18285	.08742
Certainty of Practice	.33325	.12278	-.20425	.63983	.18692	-.04372	.05049	.14791
Personal Teaching Efficacy	-.31530	-.29706	-.05692	-.16295	.45653	.30700	.15953	-.22549
Teaching Efficacy	.39901	.28854	.19957	.56029	.05543	.14595	-.01254	-.22172

Final Statistics:

	<u>Communality</u>	<u>Factor</u>	<u>Eigenvalue</u>	<u>Percent of Variance</u>	<u>Cumulative Percent</u>
General Evaluation of PT II	.78646	1	3.61669	15.7	15.7
Suitability for Current Students II	.81767	2	2.68027	11.7	27.4
Time & Energy for PT II	.78792	3	2.46428	10.7	38.1
Estimated Student Benefit	.68299	4	2.02402	8.8	46.9
Research Evidence for PT	.75801	5	1.53258	6.7	53.6
Teaching Goals	.54359	6	1.33510	5.8	59.4
Assigning Easy Text	.75406	7	1.27486	5.5	64.9
Pairing Students	.66497	8	1.11945	4.9	69.8
Team Competition	.63600				
Hard-to-teach Students	.65618				
Changes at School	.62404				
Consolidation of Reading Instruction	.59425				
Changes to Reading Instruction	.78074				
Principal Facilitation of Teacher Interaction	.74601				
Principal Facilitation of Teacher Work	.79728				
Encouragement of Experimentation	.71877				
Time & Energy for Innovation	.72999				
Satisfaction with Reading Program	.71835				
Personal Concerns	.65066				
Mainstreaming Attitudes	.69451				
Certainty of Practice	.63850				
Personal Teaching Efficacy	.59642				
Teaching Efficacy	.66990				

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Education:

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M.Ed.	Charles Sturt University (Australia) Special Education	1992
B.S.	Fitchburg State College Special Education	1975

Professional Experience:

1997 - present	Assistant Professor, College of Education, Western Washington University, Bellingham, Washington
1997	Teaching Associate, University of Washington, Seattle, Washington Summer, 1997
1993 - 1996	Research Assistant, Washington Research Institute, Seattle, Washington
1991 - 1992	Lecturer, School of Teacher Education, Practicum Supervisor, Charles Sturt University, New South Wales, Australia
1989 - 1990	Teacher, mild/moderate classroom (MR & BD), Dubbo High School, New South Wales, Australia
1985 - 1988	Teacher, mild/moderate classroom (MR & BD), Dubbo Primary School, New South Wales, Australia
1984	Teacher, Grades 3 & 4, Dubbo North Primary School, New South Wales, Australia
1983	Teacher, District Relief, Western Region, New South Wales, Australia
1978	Teacher, mild/moderate classroom (MR & BD), Ainslie Primary School, Canberra, Australian Capital Territory, Australia

1975 - 1977 Resource Room Teacher, Remedial Reading, Math, ESL,
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Publications:

Vadasy, P. F., Jenkins, J. R., Antil, L. R., Phillips, N. B., & Pool, K. (1997). The research-to-practice ball game: Classwide peer tutoring and teacher interest, implementation, and modifications. Remedial and Special Education, 18(3), 143-156.

Vadasy, P. F., Jenkins, J. R., Antil, L. R., Wayne, S. K., & O'Connor, R. E. (1997). Community-based early reading intervention for at-risk first graders. Learning Disabilities Research & Practice, 12(1), 29 - 39.

Vadasy, P. F., Jenkins, J. R., Antil, L. R., Wayne, S. K., & O'Connor, R. E. (1997). The effectiveness of one-to-one tutoring by community tutors for at-risk beginning readers. Learning Disabilities Quarterly, 20, 126-139.

Presentations:

Antil, L. R. (1997, February). Teacher receptivity to classwide peer tutoring. Poster presentation at the annual meeting of the Pacific Coast Research Conference, La Jolla, CA.

Antil, L. R., Jenkins, J. R., Wayne, S. K., & Vadasy, P. (1996, April). Teachers' use of cooperative learning: Discrepancies between research and its application. Paper presented at the annual meeting of the American Education Research Association, New York.

Antil, L. R., Wayne, S. K., & Jenkins, J. R. (1993, December). Innovations in assessment and intervention for children who are transitioning to Kindergarten and first grade. Paper presented at the annual meeting of the National Association of School Psychologists, Seattle.

Professional Organizations:

American Education Research Association