ABSTRACT

EASTON, JULIA ELIZABETH. Teacher Acceptability of Treatment Plan Implementation Monitoring and Feedback Methods. (Under the direction of William P. Erchul.)

Treatment plan implementation (TPI) monitoring and feedback methods have increased TPI levels in single subject designs (e.g., DiGennaro, Martens, & McIntyre, 2005) and a randomized field trial (e.g., Noell, Witt, Slider, Connell, Gatti, et al., 2005). However, when procedures like these are innovative and require significant changes in regular practices, the level of teacher satisfaction is an important consideration (Eckert & Hintze, 2000), and the extent to which teachers view various monitoring and feedback methods as acceptable is unknown. The purposes of this research were to examine teachers' acceptability ratings of specific TPI monitoring and feedback methods, differences in acceptability ratings between teachers with certain characteristics, and other TPI support methods that teachers identify. In this study, teachers completed a survey that assesses acceptability of specific monitoring and feedback methods, gathers information on various teacher characteristics, and provides teachers with an opportunity to write about other potential methods of TPI support. Results from this study suggested that there are significant differences between acceptability ratings regarding the personnel involved, frequency, communication format, and procedures of TPI monitoring and feedback methods. There was also a significant effect of primary teaching assignment on acceptability of TPI monitoring methods. Finally, teachers identified a variety of other potentially helpful TPI support methods.

Teacher Acceptability of Treatment Plan Implementation
Monitoring and Feedback Methods

by
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BIOGRAPHY

Julia Elizabeth Easton was born on January 13, 1983 in Sidney, Ohio. Throughout her childhood, she has lived in California, Iowa, Florida, and North Carolina. After graduating from Clayton High School in Clayton, North Carolina, she attended the University of North Carolina at Chapel Hill where she majored in Psychology and minored in Biology. Julia received her Bachelor of Science degree in 2005 and entered the School Psychology graduate program at North Carolina State University in 2006. Upon completing her Masters of Science degree in August, 2009, Julia plans on continuing her studies in School Psychology at NC State until obtaining her doctoral degree.

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Introduction

With the passing of the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004, states are allowed to identify learning disabilities by measuring a student's improvement during provision of classroom-based interventions. Schools using this method are often considered to be operating through a response to intervention (RTI) model, and regular education teachers typically hold primary responsibility for implementing the classroom-based interventions (Mastropieri & Scruggs, 2005).

Under RTI, special education entitlement decisions rely on the teachers' implementation of planned interventions. Researchers have discussed the consequences of making entitlement decisions without knowing the degree with which the intervention plan was implemented (Gresham, Gansle, Noell, & Cohen, 1993). Schools will therefore greatly benefit from systematically monitoring one's commitment to executing the intervention and taking measures to increase the likelihood of greater commitment. The provision of feedback is one method of increasing the likelihood of greater intervention implementation levels that has been demonstrated in single subject designs (e.g., DiGennaro, Martens, & McIntyre, 2005) and a randomized field trial (Noell, Witt, Slider, Connell, Gatti, et al., 2005).

Evaluations of schools operating under RTI models, however, reveal that intervention implementation is not a systematically monitored, data-driven aspect of problem-solving (e.g., Braden & Joyce, 2008). In addition, school psychologists report that implementation monitoring is not a common practice in problem-solving teams or consultation (Cochrane & Laux, 2008). As research findings regarding the importance of monitoring and increasing

intervention implementation emerge and as educational agencies suggest that schools draw attention to these areas, school administrators are likely to consider incorporating monitoring and feedback methods. This incorporation of new procedures would require significant changes in the behavior of school personnel, most notably, teachers.

When new innovations require behavior change, the level of consumer satisfaction or acceptability is an important consideration (Eckert & Hintze, 2000). Teachers, as consumers of a possible intervention implementation monitoring and feedback system in a school, are then in a position to provide valuable acceptability ratings. However, the extent to which teachers rate certain methods of monitoring and feedback provision has received little research attention. In contrast, recipients of monitoring and feedback provision concerning work-related plans in organizational settings, educational development, and direct care provision settings have often supplied their acceptability ratings. Review of the literatures in these fields suggests that there are consequences to employing specific monitoring and feedback methods when acceptability ratings are either low or unknown (Smith, Harrington, & Houghton, 2000). For example, low acceptability ratings have been associated with unpleasant work environments and uncomfortable feelings such as stress and fear of reprisal (Amick & Smith, 1992).

These literatures have also examined acceptability ratings for specific methods of monitoring and feedback provision. For example, perceived helpfulness, one aspect of acceptability, has been reported as higher when the recipient receives feedback from a peer or a person with similar working experience compared to a supervisor or more distant co-

worker (e.g., Fleming & Sulzer-Azaroff), and feedback received in face-to-face interactions is rated as more acceptable than feedback received via more indirect methods (e.g., Miltenberger, Larson, Doerner, & Orvedal, 1992).

The purpose of this thesis research is to examine teachers' acceptability of having their implementation of classroom-based interventions monitored and subsequently receiving feedback on the degree of their implementation. Up to this point, it is unknown how teachers view the helpfulness, feasibility, and level of comfort with participating in possible systematic methods of monitoring and feedback. It is important for school administrators to utilize methods that are more acceptable in order to help increase the likelihood that they are effective and don't threaten the collaborative work relationships that are essential to the RTI model.

Chapter 1:

Review of the Literature

Congress passed the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 in part to allow public educators an alternate method for identifying and serving students who need additional services. Subsequently, the response to intervention (RTI) model has grown in popularity, providing a system to address students' classroom-related problems and requiring a significant change in the role of school personnel. In particular, teachers at schools operating under the RTI model are expected to implement evidence-based interventions and strategies in their classrooms while monitoring the resulting student behavior as opposed to waiting for other professionals to make placement decisions.

The following review highlights the importance of monitoring teacher commitment to implementing planned interventions and strategies, taking measures to increase teacher commitment, and obtaining teacher judgments on the processes used to monitor and increase commitment. To make this case, the following topics are addressed: (a) the requirements of the new model of providing services to students, (b) the measurement of commitment to an intervention, (c) a review of how researchers have increased the commitment to an intervention using feedback methods, (d) the conceptual importance of obtaining judgments in the process of monitoring and providing feedback, and (e) a review from the school psychology, education, direct care, and industrial/organizational literatures regarding perceptions of various monitoring and feedback methods.

Change in Service Delivery

Response to Intervention: The Promise

Ever since special education services have been provided in U.S. public schools, administrators have needed a system for identifying students eligible to receive these services. In order to adequately fund special education with a limited amount of federally allocated funds, such a system has needed to filter the ongoing influx of student referrals (Holdnack & Weiss, 2006). For at least one diagnostic category, The Education for All Handicapped Children Act (EAHCA) of 1975 provided a seemingly easy solution to meet this need. In order to be classified as having a specific learning disability (SLD), the EAHCA required that students exhibit a severe discrepancy between measures of intellectual ability and academic achievement. Administrators were then able to reserve a part of special education services for students whose test scores satisfied a particular discrepancy criterion for SLD.

However, as the next few decades of reliance on that method would reveal, many struggling students never met criteria, preventing them from receiving services to perform at a level consistent with their peers. That was often the case in states with a strict adherence to the discrepancy model, while states with a looser adherence saw a dramatic rise in rates of SLDs (Scruggs & Mastropieri, 2002). Students with identical learning problems might not have received the same due consideration for special education services simply because they resided in states with differently appointed discrepancy numbers for eligibility. In addition,

some researchers argued that the rise in SLDs was simply the result of misdiagnoses placed on students with better explanations to their presenting problems, such as mental retardation or emotional disturbance (Holdnack & Weiss, 2006)

In response to such criticisms and in order to provide early intervention services to all students suspected of having an SLD before being required to wait for intelligence/achievement discrepancies to emerge, Congress passed the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004. Although still allowing states to keep the traditional identification method for SLDs, it provided an additional route— allowing the assessment of a student's improvement as a result of the provision of interventions. Specifically, if a student does not show adequate improvement in response to research-based interventions tried in his/her regular classroom, then the student might qualify for federally funded special education services under an SLD diagnosis. Schools employing this method are often considered to be operating through a tier system under a response to intervention (RTI) model, and may be using this new model to determine a student's need for more intensive services for other diagnoses in addition to SLD.

Although substantial variability exists in tier system implementation, schools generally follow a common procedure (Ardoin, Witt, Connell, & Koenig, 2005). In *tier one*, interventions are provided to all students and are thought to meet the needs of about 80%. In *tier two*, individualized interventions are provided to students not responding to tier one and are thought to meet the needs of about 15%. Finally, in *tier three*, high-intensity interventions are provided to students not responding to tier two to meet the needs of the

remaining 5%. It is usually within this last level that special education eligibility is

considered. The rapid dissemination of RTI practices has been noted by Noell and Gansle

(2006) as receiving increasing attention in schools and the literature (e.g., Barnett, Daly, &

Jones, 2004; Fletcher, Francis, & Morris, 2005; Graner, Faggetta-Luby, & Fritschmann,

2005; Gresham, 2002). Other researchers have found that school systems employing an RTI

framework experience improvement in reading performance (Tilly, 2003), a reduction in the

disproportionate representation of minority students in special education (Marston,

Meuystens, Lau, & Canter, 2003), and a total reduction in special education referrals (Tilly).

It is likely that school systems across the nation will be attempting to adapt this model in the

near future, with the hopes of seeing similar results.

Under the umbrella of RTI, there are several avenues for developing interventions

and measuring a student's response. The problem-solving approach outlined in Bergan's

model of behavioral consultation is one possible method (Bergan & Kratochwill, 1990).

Behavioral consultation is the most popular theoretical model of consultation used by school

psychologists in the United States (Erchul & Martens, 2002), and educators have expressed a

desire to use more consultation services (Farrell, Jimerson, & Kalambouka, 2005; Gilman &

Gabriel, 2004; Reschly, 2000). In a series of easily adaptable, operationalized interviews, a

school psychologist (i.e., consultant) and a teacher (i.e., consultee) collaborate to address a

specific student's problems. The consultee provides information about the nature of the

student's academic or behavioral deficiencies and the consultant supplies expertise

concerning evidence-based interventions and data interpretation through a clear, problem-

solving process: (a) the problem identification interview (PII); (b) the problem analysis

interview (PAI), (c) the implementation of the planned intervention (PI); and (d) the problem

evaluation interview (PEI) (Bergan & Kratochwill).

Schools may also use teams composed of various school personnel to develop

interventions. These teams may be referred to as student support teams (SSTs), student

assistance teams (SATs), or instructional support teams (ISTs), among others. The makeup

of the team often varies by school, and in some instances, by the characteristics of the

presenting case. For example, Pennsylvania started institutionalizing ISTs in 1990 with

mandated membership consisting of the teacher making the referral, the principal, and a

support teacher (Kovaleski & Glew, 2006). However, the presence of specialists such as

school psychologists and counselors was dependent upon whether their expertise was needed

for the specific problem. In addition, the team may convene at different tier levels and

meetings may take place at different intervals. It is recognized that despite some procedural

and naming variations, these teams all have the same purpose—to facilitate student progress

in the general education classes by developing interventions and monitoring responses to

them (Burns, Vanderwood, & Ruby, 2005).

Response to Intervention: The Problem

Whether the problem-solving process occurs in a team format, consultative services,

or a combination of both, substantial role changes are likely to result in the new RTI era.

Under the traditional refer-test-place model of approaching a student's learning problems,

teachers could refer the student to a school psychologist to potentially unveil an IQ-

achievement discrepancy. If a discrepancy were revealed, then typically special education

teachers and classroom aides would provide services. However, under the RTI model, school

personnel have vastly different job descriptions. Regular education teachers are no longer

able to "give away" responsibility for low achieving students (Knotek, 2005). For example,

in the four RTI models considered best practice exemplars [i.e., the Heartland Agency Model

in Iowa, (Ikeda, Tilly, Stumme, Volmer, & Allison, 1996), the Intervention-Based

Assessment in Ohio, (Telzrow, McNamara, & Hollinger, 2000), the Instructional Support

Team in Pennsylvania (Kovaleski, Tucker, & Stevens, 1996), and the Problem-Solving

Model in Minneapolis (Minneapolis Public Schools, 2001)], the regular education teacher's

presence at problem-solving meetings is mandated (Burns & Ysseldyke, 2005). Mastropieri

and Scruggs (2005) stated that, "general educators appear to have primary responsibility for

all aspects of instruction, monitoring of instruction, and moving students among Tiers 1, 2,

and 3" (p. 525). The new demands placed on regular teachers are clearly substantial.

     School psychologists, special education teachers, and administrators must also widen

their professional roles in order to help regular teachers meet these demands and, ultimately,

improve the lives of students. In particular, a higher degree of collaborative decision making

is necessary for assessment and intervention processes. Making decisions about whether a

student's needs are adequately met based on his/her response to various interventions or

whether an unsatisfactory response warrants movement to a higher tier level or to a special

education classroom is a process that relies heavily on collaboration. Numerous variations in

implementation options such as increasing intensity, frequency, duration, or type of

intervention unfortunately cloud this decision-making process (Kratochwill, Clements, & Kalymon, 2007). Therefore, knowledge of validated assessment procedures and appropriate evidence-based interventions must be shared among all professionals in consultation interviews or problem-solving team meetings.

Even with carefully constructed intervention and assessment plans resulting from collaborative professionals, having confidence in interpreting the student's outcome depends on another vital piece of shared information—the execution of the plan. In other words, knowing if a child needs additional school resources allocated to different or more intensive services requires knowing if the child is actually receiving the intervention assumed to be in progress. With that knowledge, educational professionals can come closer to the conclusion that the student's change in behavior (i.e., the dependent variable) is more directly related to the intervention (i.e., the independent variable) rather than to any other events. Assessing this situation and having this knowledge would avoid potentially damaging situations. For example, if it is assumed that regular education teachers *are* executing an intervention plan when in fact they are *not*, then special educators may be (a) wasting resources on more intense interventions for students who do not need them or (b) missing whole groups of students who do need them. Researchers have often recognized the irresponsible use of limited resources resulting from poor implementation of planned interventions (Mortenson & Witt, 1998). Also, if behavior change is not evident in the face of a poorly implemented intervention, then school personnel might be rejecting a potentially effective intervention from future consideration (Gresham, Gansle, Noell, & Cohen, 1993).

Unlike the refer-test-place process of the traditional discrepancy model, RTI entitlement decisions clearly rely on service delivery. Schools therefore will greatly benefit from utilizing the best methods of assessing one's commitment to a planned intervention and the best methods of increasing and maintaining that commitment. The next section explores these topics.

Treatment Plan Implementation

Definitions and Measurement Methods

Researchers have proposed and utilized various terms to describe one's commitment to carrying out a planned intervention. Gresham (1989) has popularized the term, *treatment integrity,* to refer to the degree with which a consultee delivers a planned treatment to a student. Although use of additional terms such as *procedural reliability* or *treatment fidelity* can make discussion of this concept in the literature less coherent, all conceptualizations refer to the extent to which actual behavior matches operational definitions within a developed plan (Noell, 2008). Noell has used the term *treatment plan implementation* (TPI) to refer to "the degree to which a treatment plan developed within consultation is implemented as designed" (p. 324). For the sake of simplicity, TPI will be the term used in the remainder of this literature review. TPI refers to the degree with which teachers or other school personnel implement an intervention with a student as planned, irrespective of whether that plan was developed in dyadic consultation or in a school's problem-solving team.

TPI has been measured using a variety of methods. Direct methods (e.g., classroom observations) and indirect methods (e.g., self-report checklists, permanent products) all have

strengths and weaknesses in their ability to portray an accurate picture of TPI. Although

classroom observations conducted by a trained observer have the potential to provide the

most accurate picture of TPI, some researchers have argued against them because they are

time-intensive and sensitive to reactivity effects (Gresham, 1989; Wilkinson, 2006). Other

researchers have argued against taking a teacher's self-administered checklist of completed

steps seriously, because it results in biased, over-inflated levels of TPI when compared to

direct observations or permanent products (Gresham, 1989; Noell, Witt, Slider, Connell, et

al., 2005; Sterling-Turner, Watson, & Moore, 2002; Wickstrom, Jones, LaFleur, & Witt,

1998). Interestingly, self-reports are the most frequently used measure of TPI (Bramlett,

Murphy, & Johnson, 2002), probably due to their cost-efficiency.

       The use of permanent products, or the collection of tangible results from intervention

components, appears to offer a solution. For example, if one step of an intervention requires

completing a sticker chart, then the presence of a fully completed sticker chart would be

considered documented evidence of the implementation of that step. However, this method

is not absent of drawbacks either, as it requires that each step in the intervention produce a

permanent product. Teachers could also be producing permanent products to satisfy TPI

examiners without actually implementing the associated steps with the child, and there have

been no studies directly examining the agreement between permanent products and direct

observations (Noell, 2008).

       In addition to the disagreements and uncertainty concerning which imperfect

measures should be used, researchers grapple with how to obtain the most comprehensively

accurate assessment of TPI. Because many intervention components require a variable

amount of implementation across several weeks and at differing points throughout the day,

Gresham et al. (1993) suggested two measures of integrity. First, the integrity of each

individual component across days can be assessed to yield component integrity. Second, the

integrity of each individual component within each day of treatment can be assessed to yield

daily integrity. Also, because some steps of an intervention are more crucial to producing

desired student outcome than other steps, giving equal consideration to all steps may not

provide a fair and comparable level of TPI (Gresham, 1989; Noell & Gansle, 2006).

Gresham introduced the idea of weighing treatment components with the claim that more

weight should be given to those steps that have a stronger functional relationship with the

target behavior. Unfortunately, no empirical basis currently exists for differentially weighing

treatment steps (Noell, 2008).

Obstacles and Avoidance of TPI Monitoring

It is perhaps the lack of consensus and knowledge of the most valid TPI measures that

has led to difficulties in establishing a link between TPI and student outcome, and a near

abandonment of TPI in the literature. Specifically, researchers employing flawed

measurement practices and allowing for opportunities for confounding variables have

contributed to low correlations between TPI and student outcome (e.g., Telzrow, McNamara,

& Hollinger, 2000). To further complicate matters, planned intervention steps can be poorly

defined, resulting in subjective calls of whether the steps were implemented as planned,

inconsistent application of certain steps may have more substantial effects on student

behavior than inconsistent application in other steps (Noell & Gansle, 2006), and the degree

to which the intervention matches the student's needs can be a substantial confounding

variable (Taylor & Miller, 1997). To illustrate this latter point, Taylor and Miller employed a

time out procedure for disruptive behavior and discovered an associated increase in problem

behaviors *with* greater TPI for two of their students. However, upon conducting a functional

analysis, they discovered that these students were engaging in disruptive behaviors for

reasons other than attention seeking. Because the time out procedures did not match the

source of the problem, it may be premature to dismiss the important link between integrity

and student outcome.

Other researchers have concluded that degradations in TPI generally lead to poorer

student outcome. In a meta-analysis, Gresham et al. (1993) revealed a modest correlation (r

= .51) between integrity and student outcomes. It should be noted, however, that different

intervention steps implemented in different settings across various cases renders a meta-

analysis on this topic hard to interpret. In highly controlled single subject designs employing

behavioral consultation, Noell et al. (1997) found that higher levels of treatment integrity

corresponded to increases in student performance for two of three consultation cases, and

Sterling-Turner et al. (2002) found that treatments implemented with high levels of integrity

were associated with more successful outcomes in three of four consultation cases.

Experimental manipulation of TPI also reveals that during phases of greater implementation,

student outcome data are more favorable, compared to phases of lesser implementation

(Greenwood et al., 1992; Hagermoser Sanetti, Luiselli, & Handler, 2007). Even outside the

realm of controlled consultation cases, an examination of a mathematics intervention for first graders showed that, as the intervention was used with higher levels of integrity, all first grade children showed improvements (Fuchs, Fuchs, Yazdin, & Powell, 2002).

Despite the aforementioned measurement problems, confounding variables, and inconsistent (but often moderate) link between student outcome and implementation, the importance of TPI as a variable in intervention research should not be decreased. However, it seems that in both practice and research it is a largely ignored concept (Erchul & Schulte, 1996; Gresham, 2004; Witt, Gresham, & Noell, 1996). Even within the well-established and operationalized practice of behavioral consultation, there appears to be no formal recognition of the importance of TPI (Erchul & Schulte). The call to include a structured interview in the behavioral consultation model to assess and solve issues of implementation has been made (Wilkinson, 2006), but practitioners do not know how such an interview should be structured without further investigation. Furthermore, articles in well-respected, peer-reviewed journals often fail to report TPI data. For example, only about 15% of 181 studies in seven behavioral journals between 1980 and 1990 provided systematic measurement and analyses of treatment integrity (Gresham et al., 1993). Although the authors of another 10% of the articles claimed that integrity was monitored, they neither provided any information on the methods used to monitor this behavior nor reported resulting implementation data. In three learning disability journals between 1995-1999, only 19% of the 65 intervention articles reported data on integrity (Gresham, MacMillan, Beebe-Frankenberger, & Bocian, 2000).

Without receiving attention from scholarly researchers, it is no surprise that schools currently using problem-solving models fail to seriously consider TPI data. Along these lines, rating scales used to evaluate elements of problem-solving models in schools consistently yield little to no evidence that TPI is a monitored process, and that there are any efforts being made to help maintain the level of commitment to an intervention. For example, Telzrow et al. (2000) used rating scales to examine the fidelity of the Intervention Based Assessment problem-solving process of 227 multidisciplinary teams (MDTs) in Ohio. Whether level of treatment integrity was monitored was one item on the rating scales. They found that evidence of TPI was either completely absent or documented with an incoherently vague approach in the majority of MDT evaluations. In North Carolina, researchers have found similar results while evaluating five of the "best" problem-solving schools nominated by geographically spread RTI pilot sites. Examining problem-solving model evaluation instruments, case file reviews, and interviews with teachers and problem solving team members, it was clear that no attention was placed on TPI (Braden & Joyce, 2008). Although problem identification and progress monitoring were both data-driven processes often present at all schools, TPI was not.

In a survey of 806 Nationally Certified School Psychologists, Cochrane and Laux (2008) asked questions concerning the degree with which measuring TPI was an important factor to consider when using intervention data to make special education eligibility decisions and, if it was being measured, the methods employed. Most (97.6%) of respondents agreed that TPI is important when making these decisions. However, only

11.3% regularly measured TPI, 41.6% "sometimes" measured TPI, and 33.5% never

measured TPI for interventions developed through consultation. For interventions developed

through school-based problem solving teams, 1.9% of the respondents reported that TPI was

regularly measured, 40.4% reported that it was "sometimes" measured, and 43.9% reported

that it was never measured. Of those instances where TPI *is* measured, an overwhelming

majority of consultation cases and school-based problem solving teams rely on a statement

from the teacher in an interview that the plan was being implemented.

Clearly, researchers and key decision makers are not taking appropriate measures to

ensure the consistent delivery of quality intervention services. They apparently are not

verifying that the treatment is being implemented, but rather are assuming that it is.

Operating within an RTI framework, however, does not allow one the freedom to make this

assumption. As school administrators begin to realize the importance of intervention

commitment mentioned in the previous section, they will benefit from methods that

effectively promote higher levels of TPI to make a more confident link between an

intervention and student response to it.

Methods to Increase Levels of TPI

In the TPI literature, several factors have received attention due to the proposed or

demonstrated influence on levels of TPI: (a) teacher involvement, (b) compatibility with the

demands on classroom and teacher, (c) teacher training, and (d) performance feedback.

Because a larger quantity of high quality studies with relevance to teacher implementation

support performance feedback as a predictor of higher levels of TPI, a more thorough

discussion of that factor is included in the following section.

      Teacher involvement. In order for RTI to be utilized as a special education eligibility

process, IDEIA (2004) requires that educational personnel choose evidence-based

interventions. However, interventions that have proven to be efficacious in rigorously

controlled research settings may not reflect similar efficacy in natural settings (Knotek,

2005). In particular, a classroom presents a host of issues that can prevent a teacher from

faithfully implementing an elaborate intervention plan. Planning and modifying an

intervention with these issues in mind would certainly make it easier to implement and also

would reduce the amount of stress a teacher experiences. Toward that end, when a teacher is

involved in the planning and decision-making phases, he or she is able to describe relevant

classroom-related variables before those variables potentially reduce an intervention's

effectiveness. Conversely, leaving a teacher out of this developmental process reduces his

or her likelihood of implementing the plan (Nevin, Thousand, Paloucci-Whitcomb, & Villa,

1990).

      Compatibility with demands on classroom and teacher. Riley-Tillman and

Chafouleas (2003) noted that, "utilizing interventions that are as compatible as possible with

the classroom system is imperative to maximize treatment integrity" (p. 143). One

compatibility factor to consider is the amount of time a teacher is able to devote to various

implementation steps, especially if the intervention is complex. An intervention requiring an

hour to implement eight steps each day would certainly be a better fit for a teacher with a

smaller class size, fewer obligations during school hours, or very few students with

significant problems. On the other hand, an intervention requiring 15 minutes to implement

three steps each day would be a more practical fit for a teacher with a larger class size, more

obligations during school hours, or more students with other problems to address.

Researchers often hypothesize that teachers' time demands and stress levels are moderating

variables of TPI (Gresham et al., 2000; Noell & Gansle, 2006), so it may be important to

obtain this information from teachers before choosing an intervention that would otherwise

only fit the characteristics of the student and throughout the implementation process to assess

needed changes in the plan. Although a strong consideration of how environmental factors

and teacher job demands might influence the success of an intervention plan are already

existing measures a school psychologist would use in the behavioral model of consultation

(Erchul & Martens, 2002), the extent to which problem-solving teams consider these

elements is not clear.

  Teacher training. Unlike school psychologists who spend years training in the areas

of assessment and delivery of evidence-based interventions, regular education teachers

typically spend their training restricted to grade-level instructional practices (Knotek, 2005).

Therefore, when asking teachers to implement intervention components that go beyond their

regularly accepted routine, it is often necessary to provide training in these components.

Many researchers have revealed that the provision of direct training methods is a consistent

predictor of TPI (Sterling-Turner, Watson, Wildmon, & Watkins, 2001; Taylor & Miller,

1997; Watson, Ray, Sterling-Turner, & Logan, 1999). Direct training typically takes the

form of in-vivo practice, modeling, role-playing, or rehearsal with immediate correction in various combinations. It is assumed that providing these training opportunities is better than relying on didactic instruction, which typically takes the form of describing an intervention's purpose and steps of implementation. The following studies illustrate the effectiveness of direct training with teachers.

Watson et al. (1999) used practice sessions with immediate correction to train teachers to conduct functional analyses until 90% of the steps were correctly implemented. Although functional analyses are not interventions per se, results from this study are still valuable as the teachers were trained to perform methods that went beyond their normal instructional practices. Implementation of teacher-directed functional analysis was then measured, and ranged from 91-100%, suggesting that direct training may be an effective way to help maintain one's follow-through with procedures.

The work of Taylor and Miller (1997) provides a better representation of the effects of direct training by employing the procedure after a phase of indirect training, or a didactic baseline. Initially, TPI for a time-out procedure during the baseline phase ranged from 59-67%. The direct training phase included memorizing target problem behaviors, identifying those problem behaviors from videotaped classroom activities until reaching agreement, task-analyzing the correct time-out steps, modeling and role-playing the time-out procedure, and then rehearsing the procedure until 100% accuracy was met for three consecutive sessions. After this training process, levels of TPI increased to a range of 97-100%. However, some

researchers have pointed out that this training procedure is far too extensive and lengthy to be practically replicated in a real school setting (Noell & Gansle, 2006).

Sterling-Turner et al. (2001) noted that there are potential carry-over effects when conducting single subject designs similar to those used by Taylor and Miller (1997) and Watson et al. (1999). Specifically, the effect of didactic instruction on skill development during the baseline phase will typically carry over into the direct training phase. Therefore, it is difficult to make pure comparisons between these two training methods. To address this issue, Sterling-Turner et al. randomly assigned participants to either the didactic instruction condition or the practice with immediate correction. These researchers also addressed the impracticality of extensive training raised by Noell and Gansle (2006) by restricting the training to one, five-minute session. Results revealed that the provision of practice with immediate correction resulted in significantly higher rates of TPI. However, this study also has some major limitations that prevent real-world applications (e.g., undergraduate volunteers served as participants in a simulated, single-session intervention). In an RTI context with teachers implementing longer term interventions in a classroom of children, it seems unlikely that these results would be easily replicated.

Although it is true that many teachers have never had specific training in behavioral interventions (Begeny & Martens, 2006) or evidence-based practices (Landrum & Kauffman, 2006), extensive training to meet criteria for every type of intervention in a school setting could be highly demanding in terms of available resources (e.g., time and personnel to provide training) and could lead to further delays in a child receiving help. In addition,

teachers are likely to have earned a variety of different degrees and certifications, and come from a variety of different training programs, some of which may be incorporating RTI services as the model gains popularity. For example, in a nationwide sample of college of education training centers, some programs provided no coverage of evidence-based reading strategies while other programs provided extensive coverage (Walsh, Glaser, & Wilcox, 2006).

There is a need to provide more efficient, individualized support to help teachers increase their likelihood of TPI through other mechanisms besides those revealed in published experimental studies on training methods. Performance feedback may be the support that teachers need and the mechanism that school administrators would benefit from employing. A thorough description and review of the TPI literature on the provision of feedback methods follows.

Feedback methods. Although direct studies on the consideration of contextual variables are absent and the literature on the provision of universal training methods presents many methodological flaws, research concerning performance feedback provides a better established procedure to ensure higher levels of TPI. The process of providing performance feedback usually involves giving recognition for correctly implemented steps, discussing the importance of steps that were either avoided or incorrectly implemented, and planning how to address future barriers (e.g., classroom stressors or a limited understanding of certain implementation procedures) to successful implementation. Some researchers have employed this method only when TPI drops below a certain point (e.g., DiGennaro, Martens, &

McIntyre, 2005; Jones, Wickstrom, & Friman, 1997; Mortenson, 1998), revealing that

feedback does increase TPI in single subject designs. A large, randomized trial comparing

the provision of feedback meetings to control conditions also revealed that integrity is higher

and remains higher across time when feedback is provided (Noell et al., 2005). Due to the

recognized potential of performance feedback methods, the proceeding discussion will

review significant studies concerning this method in more detail

      A study conducted by Witt, Noell, LaFleur, and Mortenson (1997) is cited as being

the first to demonstrate the effectiveness of performance feedback of TPI (Noell, Witt,

Gilbertson, Ranier, & Freeland, 1997), and initiated a line of similarly conducted studies

examining aspects of performance feedback effectiveness. Witt et al. found that although

didactic instruction followed by in vivo training on the first day of implementation initially

resulted in strong adherence to the planned intervention, the level of TPI was not maintained,

falling to significantly lower levels within one to several days. After providing feedback on

TPI in the subsequent phase, TPI increased to its original higher levels. Noell et al.

hypothesized that these results suggest that resources spent for training might not be needed

to maintain satisfactory TPI.

      To test this hypothesis, Noell et al. (1997) examined the effects of performance

feedback after providing didactic instruction only. Because each step of the intervention

produced a permanent product, collecting those products provided a fairly comprehensive

and accurate assessment of TPI. The feedback was provided with a visual representation

(i.e., a graph of changing TPI levels over time) in daily meetings that ranged from three to

five minutes and accompanied by as-needed retraining of intervention steps.   While

feedback sessions were continuously provided, moderate to high levels of TPI were

maintained for all of the participating teachers. The authors concluded that "more elaborate

training procedures do not appear to have been an efficient or necessary use of consultant

time" (p. 85).

Jones, Wickstrom, and Friman (1997) also examined the effect of providing feedback

without extensive training in a single subject design. They measured TPI as the percentage

of intervals during which on-task behaviors were followed by positive reinforcement.

Results revealed that pre-feedback TPI ranged from 9-37% for all three participating

teachers, and post-feedback TPI ranged from 60-83%. In contrast to Noell et al. (1997),

Jones et al. provided feedback on a "thinned schedule" (i.e., not daily, but several times over

the course of several weeks) and did not present a visual representation of the TPI data to

teachers during the feedback sessions. However, it remains unclear as to whether a thinned

schedule of feedback sessions and the absence of a visual representation are sufficient to

maintain TPI, as not enough feedback sessions were included to establish a solid trend in

TPI.

To determine whether a clearly increasing trend in TPI would result during thinly

scheduled meetings, Mortenson and Witt (1998) employed weekly performance feedback

meetings throughout a more long-term study. For the four teacher participants, they used

permanent products to measure TPI. The authors screened each student to make sure the

intervention (i.e., graphing student progress on graded worksheets and giving rewards for

improvement) matched the student's problem as being a performance deficit rather than a skill deficit. When baseline TPI dropped below 70%, the performance feedback phase started. Feedback meetings did not include presenting a graph of TPI data. Three of the four teachers exhibited a decreasing trend of TPI before initiation of the performance feedback phase. For these teachers, feedback produced immediate increases in TPI, and the increased level was maintained throughout the remainder of the study. Mortenson and Witt concluded that weekly feedback could be an efficient method of encouraging higher levels of TPI, especially for school psychologists serving multiple schools without the time to provide daily feedback.

Through the reviewed studies, it is evident that providing performance feedback is an effective practice, but it remained unclear to these researchers what function that feedback serves. For example, does feedback serve as a prompt to remind teachers to implement interventions as planned, does it capitalize on a desire to appear responsible to other school professionals, or does it function as a reinforcement system? DiGennaro et al. (2005) hypothesized that feedback serves as negative reinforcement: Because time is a highly valued commodity, teachers might increase TPI to avoid losing time spent in performance feedback meetings. This belief was based on a previous research finding—teachers reached 100% correct implementation of "teaching procedures" after being asked to rehearse the correct implementation of procedures after school ten times that they had originally missed or implemented incorrectly (Ward, Johnson, & Konukman, 1998).

In order to present the feedback meetings as a larger time commitment, DiGennaro et al. (2005) required teacher participants to (a) practice missed intervention steps during scheduled sessions and (b) attend regular feedback discussions when observations revealed that TPI was not 100%. They also thinned scheduled meetings from daily to once every two weeks if a teacher's TPI was 100% for three consecutive days. The sequence of baseline, performance feedback, and fading phases were employed in a multiple baseline design across participants. Feedback was effective at maintaining consistently high levels of TPI when delivered daily and every two weeks. Although DiGennaro et al. concluded that using performance feedback as a negative reinforcement system can work, the addition of the practice component within the feedback sessions might have confounded their results. Perhaps the teachers viewed these forced practices as too punitive and were trying to avoid these meetings for that reason.

Coding, Feinberg, Dunn, and Pace (2005) criticized the feedback research as representing invalid assessments of TPI. In particular, teachers are able to prepare for better implementation when they expect an observer to enter the classroom on a regular routine. Also, including missed steps in TPI calculations when the opportunity to implement those steps never occurred may not be valid. Therefore, Coding and colleagues measured TPI as the percentage of steps implemented as written in the intervention plan divided by the total number of opportunities to display each step, and classroom observations were conducted on a variable time schedule in an attempt to reduce reactivity effects. If TPI was stable or decreased during baseline, 12-minute feedback sessions were provided every other week.

This resulted in immediately higher levels of TPI. After it was clear that TPI levels achieved stability, regular feedback sessions were terminated and maintenance sessions started after five weeks of termination. Maintained levels of TPI were present for all five teacher participants.

Researchers have consistently demonstrated that feedback phases result in a more satisfactory level of TPI. However, until the work of Hagermoser Sanetti, Luiselli, and Handler (2007), no one had employed a reversal design to show greater experimental control over the provision of performance feedback. In addition, no one had looked at the necessity of providing a graph within feedback sessions. In Hagermoser Sanetti et al.'s study involving four teachers, if TPI (defined as correct implementation of steps divided by opportunities to implement the steps) dropped below 80% for three consecutive observations, the verbal performance feedback phase was initiated without providing a graphic representation of TPI. If implementation dropped below 80% for three consecutive days during this verbal phase, the provision of a graphic representation was added. During this graphic representation phase, performance feedback meetings took place immediately after the observations were made. Results showed that TPI steadily decreased during baseline, did not improve during the verbal phase, and then dramatically increased during the graphic representation phase. Reversing to the verbal phase resulted in decreased levels of TPI, and the reintroduction of the graphic representation phase resulted in a return to higher levels of TPI for all teachers. The authors thus concluded that the provision of a visual aid reflecting TPI levels is a critical element in performance feedback.

Because most feedback studies have relied on single subject designs, the superiority of performance feedback in comparison to other control conditions has remained questionable. To address this issue, Noell et al. (2005) examined performance feedback within consultation using a randomized field trial. Forty-five teachers who had made referrals participated, and all interventions included monitoring and rewarding behavior with permanent products resulting from each step. Participants were assigned to either: (a) *weekly follow-up* to resemble the current best practice approach of problem evaluation interviews (i.e., the consultant asked how the plan was working in the classroom with no review of TPI data); (b) *commitment emphasis,* which included all elements of the weekly follow-up condition with the addition of a social influence procedure (i.e., the consultant emphasized how maintaining TPI reflects the commitment made to the child and how to be proactive in maintaining TPI with no review of TPI data); or (c) *performance feedback* (i.e., the consultant provided a graph with discussion of correctly and incorrectly implemented steps), which was gradually faded from daily to every other day to weekly.

Noell et al. (2005) discovered that the performance feedback condition (mean implementation of 77.1%) was superior at initiating and maintaining higher levels of TPI.   In the other two conditions, TPI was not as high initially and showed dramatic decreases as the weeks passed by (mean implementation of 52.3% and 35% for the commitment emphasis and weekly follow up conditions, respectively). Noell et al. concluded that, "simply meeting and talking about implementation was not enough to support implementation. Review of implementation data appears to be a critical process in maintaining implementation" (p.101).

In conclusion, the literature on performance feedback reveals several trends: (a) if performance feedback is provided, extensive training might not be necessary; (b) weekly feedback can be just as effective as daily feedback; (c) providing a visual representation of TPI is more effective than not; and (d) revealing TPI data to teachers is more effective than simply discussing its importance.

The Research to Practice Gap

It is clear that performance feedback methods effectively increase and maintain a teacher's implementation of planned interventions and that measuring the level of implementation is a necessary precursor to providing data-oriented feedback. However, there are various types of specific TPI monitoring and feedback methods, and what works for researchers experimenting with highly controlled consultation cases may not work for school personnel grappling with the daily operations of RTI. Nonetheless, principals, stakeholders, and key decision makers will need to start considering ways to draw attention to TPI.

Implications drawn from the evaluation of schools at North Carolina's RTI pilot sites provides an excellent example of the current situation. These schools have little to no familiarity with TPI monitoring and feedback methods, teachers voice concerns about limited available time and work demands, and school personnel often equate student *progress monitoring* as evidence of *intervention implementation* (Braden & Joyce, 2008). Despite these unfortunate circumstances, the NC Department of Public Instruction suggested that the schools introduce a systematic TPI monitoring method. With a system in place that collects TPI data, these schools would also benefit from using these data to provide performance

feedback to the teachers responsible for implementing the planned interventions. However, before school administrators introduce TPI monitoring and/or performance feedback methods, they should investigate the practicality and teacher perceptions of the various possible methods of collecting TPI data and providing performance feedback.

Practitioners and administrators are starting to request specific intervention fidelity instruments, but are frustrated by not having readily available instruments that are both valid and reliable in their particular setting (Danielson, Doolittle, & Bradley, 2007). Although principals may be the key decision makers when considering the adaptation of a TPI monitoring and feedback system, the public administration literature does not include much discussion on the topic at all (Kovaleski, 2007). Providing this vital information to school administrators would seem to be a worthwhile endeavor, as they may be asking themselves, "How should I approach this issue with teachers who are implementing interventions in *my* school?" One factor with a potential influence on the effectiveness of a TPI monitoring and feedback innovation at each school (i.e., an influence on bridging the research to practice gap) is the teachers' perceptions of this innovation. Obtaining more favorable ratings or judgments (i.e., high *social validity* or *acceptability*) of the procedures involved in a school's proposed TPI monitoring and feedback methods may be advantageous. The following sections therefore define social validity and acceptability as pertaining to these ratings/judgments and the proposed advantages of considering these factors in issues of TPI monitoring and feedback provision.

Perceptions of Innovations

Social Validity

Social validity is a multifaceted concept that both social scientists and consumers use to judge interventions, procedures, or programs (Schwartz & Baer, 1991). Consideration of social validity is particularly relevant when a certain change or innovation requires that a person or group of people engage in behavior change. The introduction of evidence-based interventions, TPI monitoring systems, and feedback methods to schools will undoubtedly require significant changes in teachers' behavior. Wolf (1978) has proposed that people ask three questions when judging social validity of a new intervention: (a) Would the average person deem the intervention and its goals as important?; (b) Do those involved with the dissemination of an intervention consider the treatment procedures *acceptable* and appropriate?; (c) Are the consumers satisfied with the results of the treatment?

Acceptability

Acceptability is one component of social validity. Some researchers have transitioned from employing social validity as a general measure of innovation/intervention judgments to employing a more narrow focus on acceptability. Kazdin (1980) defined acceptability as judgments about the intervention procedures, with acceptable treatments being those that are judged fair, reasonable, non-intrusive, appropriate for the problem, and consistent with conventional notions about what treatment should be. These judgments might be influenced by anticipated treatment efficacy (e.g., does the treatment target the root cause of the problem?), secondary effects (e.g., are there unforeseen side effects?), legal and

ethical considerations (e.g., are the treatment procedures too harsh?), and practical

considerations (e.g., are the steps of implementation feasible?) (Lennox & Miltenberger,

1990). In a review of acceptability literature, Reimers, Wacker, and Koeppl (1987)

concluded that a greater overall understanding of the treatment can increase the likelihood of

higher acceptability ratings. McNamara, Telzrow, and DeLamatre (1999) added perceived

degree of comfort and respect to be part of satisfaction with (i.e., acceptability of) an

intervention planning and implementation process.

Although these various aspects of acceptability do not provide for one common

definition, the level of consumer satisfaction with new changes in practices seems to be the

key underlying concept (Eckert & Hintze, 2000; Hawkins, 1991). Obtaining judgments from

these consumers is usually accomplished through the administration of rating scales.

Measuring acceptability. One of the earliest rating scales to measure acceptability is

the Intervention Rating Profile-20 (IRP-20; Witt & Martens, 1983; Witt, Martens, & Elliott,

1984). A principal component factor analysis revealed that five dimensions influenced a

teacher's rating of satisfaction with analog treatments—a general acceptability factor

(accounting for 61% of the variance in responses), risk to the target child (12%), amount of

time required to implement the treatment (11%), effects of the intervention on other children

(7%), and the amount of skill required to implement the treatment (7%) (Witt et. al). The

general acceptability factor assessed teacher perceptions of the treatment's appropriateness

for the problem, the potential effectiveness of the treatment, the degree to which other

teachers would find the treatment appropriate, and the teachers' willingness to participate in the intervention.

Based on the reasoning that perceptions of treatment effectiveness and treatment acceptability are closely related, the Behavior Intervention Rating Scale (BIRS; Elliott & Treuting, 1991; Von Brock & Elliott, 1987) was developed. The six-point scale provides 15 total items for the perceived acceptability dimension and 9 total items for the perceived effectiveness dimension. The acceptability factor assesses a respondent's willingness to implement an intervention and the intervention's consistency with previously used intervention practices. It has a coefficient alpha of .97. After presenting teachers with case scenarios with varying information on intervention effectiveness, the BIRS accounted for 73.3% of variance in perceptions of acceptability and effectiveness, and the two constructs were highly correlated ($r = .79$).

Because much of the early research involved analog situations to obtain evaluations of acceptability and self-reported likelihood of implementation use (Elliott, 1988), Allinder (1997) noted that it was time to veer from the abundant reliance on analog case studies to test the conceptualized link between acceptability and actual implementation. Allinder used the Curriculum-Based Measurement Acceptability Scale (CBM-AS; Oats & Allinder, 1995), a scale similar to the BIRS with the exception that the items are reworded for relevance of conducting CBM. The CBM-AS items also consider the amount of training and technical skill required for effective implementation, level of difficulty to implement in a classroom of 30 other students, practicality in amount of time required, and difficulty in using the

procedures while still meeting needs of other students. Teachers who had indicated higher

acceptability ratings were also those who had exhibited higher fidelity to goal setting and

data collection.

The Treatment Acceptability Rating Form (TARF; Reimers & Wacker, 1988) is

another rating scale intended to capture consumer satisfaction. Reimers, Wacker, Cooper,

and De Raad (1992) used the TARF to measure parents' acceptability of interventions they

had developed with a multidisciplinary team. Not only did they reveal that the intervention

type had a significant impact on acceptability ratings, but also there were positive

correlations between acceptability ratings and treatment effectiveness. These correlations

remained significant at the beginning of the intervention ($r = .75$), after one month of

treatment ($r = .82$), after three months treatment ($r = .77$), and after six months of treatment

($r = .85$).

Applications of acceptability ratings. In a review of literature on acceptability, Eckert

and Hintze (2000) concluded that many potentially efficacious instructional techniques and

interventions are rejected, "largely because of consumers' dissatisfaction with the

procedures" (p. 124). However, this rejection might be premature, as the conceptual models

linking acceptability with TPI have yet to be validated. In fact, Eckert and Hintze noted there

has only been one study that systematically examined a *direct* relationship between treatment

integrity and treatment acceptability. That study was conducted by Wickstrom, Jones,

LaFleur, and Witt (1998), who used the BIRS to assess acceptability while conducting

classroom observations. TPI was defined as the percentage of target behaviors followed by

programmed consequences. Although acceptance was not related to integrity, Wickstrom et

al. made no attempt to increase the relatively low percentage of TPI (mean of 4%). This low

percentage might have overshadowed a potential relationship with acceptability.

Research regarding acceptability has often attempted to predict *use* of an intervention

or other new procedure. This type of research is present in several different fields of study.

Within the school psychology literature, Witt and Elliott (1985) proposed a circular

relationship among treatment acceptability, use, integrity, and effectiveness. Witt and

Elliott's circular model has pushed forth the examination of the link between intervention

implementation and intervention acceptability as a research agenda in school psychology.

They stated that treatments rated higher in acceptability are likely to be implemented with

higher integrity. This integrity then leads to greater treatment effectiveness, which is then

assumed to increase acceptability ratings if the effectiveness meets consumer expectations.

If one considers an evidence-based intervention presented to a teacher as new

technology, implications drawn from the information systems literature is also relevant.

Information systems theorists have proposed a link between acceptability of new technology

and use of that technology. For example, the technology acceptance model (TAM) suggests

that a person's perceived usefulness (PU) and perceived ease-of-use (PEOU) of new

computer software influences his/her decision to use that software (Davis, 1989). Along

these lines, software judged as being more useful and easier to use is more likely to actually

be used.

Although the relationship between judgments of an intervention/technology and subsequent behavior (i.e., use of the intervention/technology) has not yet been well established, the link between judgments of monitoring and feedback and the positive and negative consequences that those judgments may lead to is an important consideration. To illustrate these potential consequences, the next section will incorporate models and discussions outlined by researchers in the industrial/organizational (I/O), educational development, and school psychology fields of study, culminating in a proposed model that is relevant to the context of TPI monitoring and feedback.

Conceptualized Importance of Measuring Acceptability

Industrial-organizational psychology. In I/O research, similar to TPI research, monitoring typically refers to the collection of information about performance through means such as work samples, observations, or self-reports (Komaki, 1986). In an attempt to organize the I/O research on employee "reactions" to being monitored and receiving feedback after being monitored several times, Stanton (2000) constructed a framework. Reactions refer to thoughts, beliefs, and evaluations and therefore, can also pertain to acceptability. Stanton's framework states: (a) characteristics of the monitoring process influence an employee's reactions toward being monitored, (b) the resulting reactions then influence motivation to perform job-related tasks, (c) receiving feedback on their performance can lead to various reactions, and (d) the accumulation of monitoring and feedback reactions can have long term outcomes related to job satisfaction and organizational commitment.

For point (a), Stanton (2000) described 10 different characteristics of the monitoring

process, including the: frequency of monitoring, regularity of monitoring, person collecting

the performance data, and person(s) who will be reviewing the performance data. There are

eight possible resulting reactions from monitoring in found in point (b). Those relevant to

acceptability include: perceived fairness (i.e., the degree to which employees rate the

monitoring practices as reasonable and appropriate), perceived satisfaction (i.e., the general

positive or negative evaluations of the monitoring practices), and perceived invasiveness

(i.e., the extent to which employees feel an invasion of privacy resulting from monitoring).

Amick and Smith (1992) also outlined a conceptual model of the importance of using

a monitoring and feedback system that is viewed as acceptable by employees. Electronic

performance monitoring systems (EPM) track employee behaviors (e.g., computer-based

work and accomplishments), and the resulting EPM tracking data are often presented to

employees to act as a guidance aid and reinforcement for future on-task behaviors. Amick

and Smith summarized the results of I/O research to show how the introduction and use of a

continuous monitoring system is often associated with increased stress levels. In their model,

if performance feedback is considered judgmental rather than helpful, "anxiety and fear of

reprisal can be elicited with an attendant sensitivity to feedback" (p. 8). Perceived

helpfulness was mentioned earlier in this literature review as one aspect of acceptability. In

addition, Amick and Smith suggested that the introduction of an EPM will be associated with

an increase in pressure from job demands and workload. The sensitivity to reprisal combined

with job demands and workload results in an accumulation of emotional and biological stress.

     Educational development. Yariv (2006) also discussed the importance of knowing how the recipients of feedback view the perceived helpfulness of receiving that information. Yariv described how research reveals that leaders and supervisors often avoid providing feedback to poor performers (Larson, 1986), delay giving feedback (Bond & Anderson, 1987; Lee, 1993), and distort feedback to make the process seem less negative (Larson; Lee) due to fear of how the feedback will be perceived by the recipient. Female teachers in elementary schools are especially prone to stress resulting from feedback (Smith et al., 2000), so this issue is particularly relevant to the female-dominated teaching profession. Yariv replicated the reluctance to provide timely and accurate feedback by interviewing 40 principals of elementary schools. The principals were, in fact, generally hesitant to provide feedback on teaching practices. However, if providers of feedback know that the recipient perceives the news as helpful (i.e., an opportunity to assist in work-related performance), then they might not feel as reluctant to provide timely and accurate feedback.

     School psychology. Discussion of the acceptability of monitoring/feedback methods rarely occurs in the school psychology literature. However, two studies that draw attention to its importance are worth mentioning. In introducing the best practices of helper relationships in school consultation, McGivern, Ray-Subramanian, and Auster (2008) listed the provision of feedback as an effective helper strategy. Specific suggestions are offered so that school psychologists may utilize the helper strategies. Withholding feedback during times when the

consultee may not find feedback acceptable is one suggestion that McGivern and colleagues recommend. However, the basis for this recommendation is not explained or supported with any empirical studies.

Interestingly, the second study worth mentioning is informative regarding the importance of teacher acceptability through school psychologists' answers to an open-ended survey question. Cochrane and Laux (2008) surveyed 806 school psychologists holding Nationally Certified School Psychologist credentials. The final question on their survey asked respondents to describe why or why not they believed treatment integrity, referred to as TI by Cochrane and Laux, was important for school-based interventions. Some school psychologists included reasons why treatment integrity was not measured in their school. Poor acceptance by teachers for TI monitoring was one of the most frequently occurring reasons. The authors stated, "Teachers were described as not being receptive to measurement of TI because it may make them feel they were being critiqued or being watched. One participant wrote, 'The process of monitoring TI might be perceived by the teacher as intrusive and have a negative effect upon the consultation relationship which is based on mutual trust' " (p. 505). It appears that school psychologists are identifying teachers' lack of comfort as an obstacle to systematic treatment integrity monitoring.

Proposed model. The conceptual frameworks and discussions reviewed thus far as well as the unique context of schools attempting to sustain RTI practices leads to a new model that is specific to acceptability of TPI monitoring and feedback (Figure 1). In this proposed model, a teacher's acceptability of various monitoring and feedback methods is

defined as the perceived helpfulness, feasibility, and level of comfort with participating in the process. These perceptions influence a teacher's motivation to increase his/her TPI (i.e., the job-related task), satisfaction and stress with his/her job, and quality of collaborative relationships with other personnel involved in the process. The ultimate outcomes then become higher levels of TPI and better student outcomes, or responsiveness, resulting from the intervention.

| TPI monitoring and feedback methods | → | Acceptance of the methods: -Helpfulness -Feasibility -Comfort level | → | -Motivation to increase TPI -Job satisfaction -Job stress -Quality of collaborative relationships | → | -Higher TPI levels -Better student outcomes |
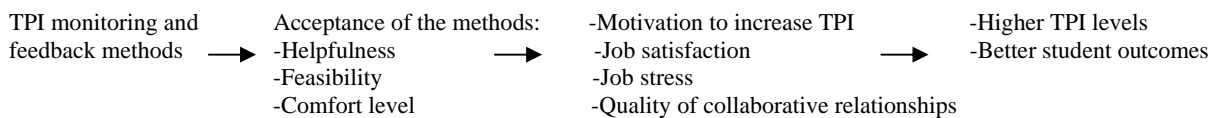
Figure 1

Importance of Understanding the Acceptability of a Feedback/Monitoring Package.

Positioning acceptability where it has the potential to influence the effectiveness of monitoring and feedback methods, the motivation to increase adherence to job tasks, job satisfaction/stress, and quality of work relationships, requires reviewing empirical findings from studies measuring acceptability of monitoring and feedback. Therefore, the following section has two purposes: (a) to summarize research from various fields of study to support aspects of the proposed model and (b) to describe how recipients of monitoring and feedback processes find specific methods of its delivery (e.g., the frequency of feedback meetings, providers of feedback) to be acceptable.

Review of the Acceptability of Monitoring and Feedback Systems

School Psychology and Education

The demands placed on schools to be held more accountable for student performance has led to an increase in the development of systematic teacher evaluation processes (Ovando, 2001). The goals of the evaluation, although not as narrowly focused, are similar to the goals of TPI monitoring and feedback—to collect information regarding teachers' behaviors and subsequently provide this information to teachers so that they may improve their ability to educate students. In addition, school administrators have various options to implement an evaluation system without any clear evidence as to the most effective and acceptable methods. For example, school districts in Texas can use the Professional Development and Appraisal System recommended by the commissioner of Texas or a locally developed system (Texas Education Agency, 1997). "However, little is known about the lessons and shortcomings resulting from the implementation of locally developed teacher evaluation systems" (Ovando, p. 219). Therefore, the issues arising from these evaluation processes and the perceptions that teachers hold regarding them are relevant to the topic at hand.

Wanting to know how the evaluation process is achieved so that the goals of accountability and professional improvement may occur, Ovando (2001) examined 12 teachers' perceptions of locally developed teacher evaluation systems using open-ended questions. Her results suggested that teachers perceive brief classroom observations conducted at different times as useful in providing to evaluators a good representation of

their natural teaching practices and the context in which they work. They also perceived

receiving feedback on instructional strengths and weaknesses as an effective route toward

professional development. The feedback is particularly helpful when it is provided in one-

on-one conferences, coupled with written summaries and presented by a person with

experience teaching at the same grade level.

Systems of evaluation based on the *Framework for Teaching* standards (Danielson,

1996) have been implemented for years without detailed examination into the processes as

viewed by teachers. Kimball (2002) intended to fill this void by interviewing teachers from

three different school districts using these standards to guide evaluations. Data collected on

teacher practices at these school districts included teacher-developed portfolios, classroom

observations, conferences, and self-reflection forms. Kimball asked teachers how they

viewed the timing/frequency (i.e., how soon and how often evaluation occurs), credibility

(i.e., degree of expertise held by the evaluator), and utility of the feedback process (i.e.,

whether the information is tied to growth recommendations), hypothesizing that favorable

ratings of these three areas would be associated with greater use of information gained

through feedback. Teacher responses were content analyzed and common themes were

identified. Teachers revealed that verbal and written feedback was provided on a timely

basis (within one week of the observation) and frequently enough. Most teachers felt that the

increased time required for ongoing one-on-one feedback sessions was worth the benefit.

However, a few teachers (particularly experienced teachers) felt as though "the burden

outweighed the gain" (p. 256). In general, more experienced teachers did not feel as though

they benefited from feedback provision as much as novice teachers, partly due to the low

credibility of feedback providers. Experienced teachers reported that self-evaluations (i.e.,

collecting data on their own instructional practices and comparing this to the teaching

standards) were more helpful than taking part in a feedback process with non-tenured

educators without the appropriate content-related experience.

Obtaining an accurate assessment of teacher judgments on different performance

feedback methods regarding levels of TPI has largely been ignored. Two studies have

provided brief examinations of the acceptability of TPI feedback methods (i.e., Coding et al.,

2005; DiGennaro et al., 2005).   Neither research group was interested in specifically

examining acceptability, but it was included as a secondary measure. Coding and colleagues

used a 10-item rating scale after performance feedback was terminated. The scale asked

about the purpose of feedback, procedures of observation and feedback provision, and

helpfulness of the feedback sessions. All teachers gave favorable ratings to the purpose,

procedures, and outcomes of performance feedback. However, the level of specificity within

the survey items was not clear, as authors did not report the specific wording of the items.

Also, rather than state the acceptability ratings of individual feedback components, they

reported average ratings of the entire feedback package. DiGennaro and colleagues used a

modified IRP-20 to reveal teachers' evaluations of performance feedback used as a negative

reinforcement mechanism (e.g., practicing missed intervention steps during after-school

hours). They reported that all teachers perceived this method as effective in improving their

accuracy of plan implementation.   Because perceived effectiveness is only one aspect of

acceptability, however, it would be erroneous to conclude that teachers perceive the use of

performance feedback as a negative reinforcement system as acceptable.

Direct Care Provision in Institutions

Staff at institutions and hospitals often provide direct care to patients in the form of

interventions (e.g., vocational training, positive interactions). Management has attempted to

employ a variety of monitoring and feedback procedures to ensure that staff members, often

nurses or attendants, are exhibiting the behaviors outlined in intervention plans (Reid &

Whitman, 1983). An examination of how staff view these procedures is therefore highly

relevant to how teachers implementing planned interventions might view similar procedures.

Drawing on Kazdin's (1980) idea that people whose behavior is targeted to be altered

by a program's techniques must find acceptability in those techniques in order for it be

effective, Reid and Whitman (1983) reviewed feedback acceptability from direct care staff.

Although they noted the general lack of information pertaining to this subject, studies were

cited that revealed unpleasant work environments associated with low acceptability ratings

(Liberman, 1979; Pomerleau, Bobrove, & Smith, 1973; Seys & Duker, 1978). In addition,

the authors mentioned that they have personal experience with "administrative decisions to

discontinue contingency programs with staff following staff complaints about the programs

and derogatory staff comments about performance feedback systems" (p. 143). However,

they were not clear as to what particular parts of the feedback systems were viewed

unfavorably.

Fleming and Sulzer-Azaroff (1992) provided a more thorough understanding of direct care staff views of evaluation/feedback methods. In particular, they analyzed results from a consumer satisfaction survey administered to vocational instructors working with patients with mental retardation. The instructors were taking part in a peer evaluation/feedback program, whereby pairs of instructors observe each other, tally appropriate behaviors (e.g., gesturing, modeling, physical guidance, and praise delivery), graph these behaviors, and provide feedback to each other based on pre-set goals in weekly 15-minute review meetings. [This method is very similar to that employed by Noell (2008) in his research on TPI monitoring and feedback described in previous sections of this literature review.] Instructors rated their satisfaction with the procedures on a five-point scale. Mean ratings indicated that participants viewed this system as helpful in improving performance ($M = 4.33$). Furthermore, observing and exchanging feedback was more helpful than goal setting and graphing. The authors concluded that peer-managed feedback procedures can be cost-effective and acceptable. However, it is important to note that one pair of instructors withdrew toward the beginning of the study due to feeling threatened by the idea of giving feedback to each other.

The scale used by Fleming and Sulzer-Azaroff (1992) can be criticized due to the lack of information regarding reliability/validity and the consistently high ratings across all participants. Miltenberger, Larson, Doerner, and Orvedal (1992) improved upon that study by using the Acceptability Rating Scale (ARS; Davis, Rawana, & Capponi, 1989). This scale has 26 items rated on a six-point scale and assesses perceived helpfulness, intrusiveness, and

overall positive reactions to the management procedures. They administered the ARS to

direct care staff members responsible for delivering praise statements at five community

residential training programs for persons with mental retardation. Staff members were

randomly assigned to either: (a) *instructions* [reminding the staff about the importance of

praising clients]; (b) *instructions plus modeling* [in addition to (a), the supervisor models the

correct behavior]; (c) *feedback and praise* [corrective and positive feedback is given after the

supervisor's observations]; (d) *self-management* [staff keeps track of praise statements using

an electronic counter]; or (e) *self-management, feedback, and praise* [combination of (c) and

(d) procedures]. Results revealed that staff found *self-management* procedures least

acceptable, most likely due to the additional effort required on their part. The *instructions*

and *feedback and praise* conditions were rated as most acceptable.

Fedor, Bettenhausen, and Davis (1999) also explored acceptability ratings from direct

care staff. They emphasized that providing feedback for appraisal purposes only is usually

restricted to supervisors. Receiving feedback for developmental improvement (i.e., a more

"helpful" rather than evaluative process), on the other hand, can be provided by peers.

However, even if the stated purpose of feedback is to help support successful completion of

job-related activities, employees will try to make sense of the process and may perceive it

differently. This was the researchers' underlying rationale, as they first hypothesized that the

perceived use of a peer feedback system for developmental purposes would be positively

associated with acceptance of the system, revealed through a rating scale and open-ended

questions. In addition, they hypothesized that longer organizational and job tenure will be

associated with lower acceptance.   After examining the responses of 460 nurses at an acute

hospital providing in- and outpatient services, only their first hypothesis was supported.

I/O Research from Other Settings

Although these next set of studies do not represent situations reflecting the

responsibility of persons to implement interventions or enact specific behaviors toward

clients, the content is still relevant. These studies involve the examination of employee

acceptance of monitoring/feedback procedures intended to increase work productivity.

Adding to the importance of feedback as a developmental process emphasized by

Fedor et al. (1999), Stephan and Dorfman (1989) examined the effects of randomly assigning

participants to either: (a) feedback presented as administrative purposes only (i.e., the

supervisor provides evaluative and judgmental information on previous performance); or (b)

feedback presented as developmental purposes (i.e., the supervisor is expected to act as a

coach and guide to provide suggestions for future performance). Within those conditions,

participants were also assigned to receive feedback focused primarily on correct performance

or on incorrect performance. Stephan and Dorfman discovered that participants assigned to

receiving feedback focused on correct performance were more satisfied and that participants

assigned to feedback serving developmental purposes viewed the supervisor as more

supportive, helpful, tactful, and understanding. Limitations of this study include the fact that

participants were undergraduates trained to perform a simple data entry task, and therefore,

may have less relevance to teachers implementing interventions in a classroom. Nonetheless,

the information obtained is still helpful in guiding the understanding of acceptance and feedback.

In order to demonstrate whether there is a difference in acceptability ratings from employees performing routine tasks receiving positive feedback versus corrective feedback, Waldersee and Luthans (1994) examined the attitudes of customer service employees at fast food restaurants. Managers and assistant managers observed employee behavior and then provided positive feedback in the form of written notes every other day on behaviors that were well-executed or corrective feedback on behaviors that were not well-executed. Employees then rated the credibility of these feedback methods and the "psychological distance" between the feedback provider and receiver on a five-point scale, the two composite indexes that Waldersee and Luthans viewed as representing acceptability. The mean rating of feedback credibility was significantly higher for employees receiving positive feedback (4.01) compared to employees receiving corrective feedback (3.71), although both ratings were generally high. In addition, employees receiving corrective feedback experienced a greater degree of psychological distance with the feedback provider.

Of final note in the I/O field of study is the use of electronic performance monitoring (EPM) systems, or computer performance monitoring (CPM) devices. These computerized monitoring devices can objectively track employee behaviors without the necessity of a human observer. Feedback can be presented on the computer screen or through meetings with a supervisor. Alder and Ambrose (1997), using the premise that face-to-face feedback can help increase positive reactions and reduce the depersonalization associated with CPM

feedback, examined whether acceptability ratings differ according to the format of feedback.

Undergraduates were randomly assigned to receive one of those two feedback conditions and

trained on a data entry task. The highest ratings of fairness and satisfaction were associated

with supervisor-mediated feedback as opposed to computer-mediated feedback. Other

researchers interested in CPM/EPM systems have discovered that it can result in self-

reported and physiological signs of stress (Henderson, Mahar, Saliba, Deane, & Napier,

1998) and that the procedures are sometimes rejected due to perceived invasion of privacy

(Chalykoff & Kochan, 1989).

Conclusions

It is difficult to draw definitive conclusions regarding the social acceptability of

monitoring and feedback procedures, regardless of whether one examines the school

psychology and education, direct-care provision, or I/O literature. Failing to report specific

acceptability items used in surveys, using different terminology to refer to consumer

judgments, defining acceptability in various ways, and not reporting separate measures of

acceptability on specific characteristics of the monitoring and feedback package are some of

the methodological problems present in this area of inquiry. In addition, studies rarely

include demographic information and information on other variables that might describe

people with higher or lower acceptability ratings. Having this information could be helpful,

in that administrators or supervisors could then focus efforts on increasing the acceptability

of certain methods toward those exhibiting characteristic A, provided that characteristic A

generally describes people exhibiting lower acceptability ratings. One emergent theme from

the school setting is that teachers with more teaching experience generally do not view feedback from other teachers as acceptable; rather, they prefer to monitor and evaluate themselves (Kimball, 2002).

Additional emergent themes from the aforementioned studies are: (a) observing and exchanging feedback with a peer can be perceived as helpful (Fleming & Sulzer-Azaroff, 1992); (b) obtaining feedback from a person with similar experience can be perceived as more helpful and credible (Kimball, 2002; Ovando, 2001); (c) providing feedback in face-to-face interactions rather than through self-managed or computer means is often more acceptable (Alder & Ambrose, 2005; Miltenberger et al., 1992); (d) focusing on correctly performed behaviors rather than incorrectly performed behaviors is often associated with more satisfaction, less psychological distance, and more credibility (Stephan & Dorfman, 1989; Waldersee & Luthans, 1994); and (e) focusing on developmental helpfulness rather than administrative evaluation is associated with higher favorability and acceptability ratings (Fedor et al., 1999; Stephan & Dorfman).

Perhaps the only definitive theme found in these literatures is that various monitoring and feedback methods have the *potential* to be viewed as acceptable but may be viewed as unacceptable in certain situations. Further investigation into this matter is clearly warranted.

Chapter 2:

Statement of the Problem

The following points summarize the knowledge and concerns in the area of classroom-based intervention implementation in the public schools:

1. RTI is a new, emerging model used to increase the probability that children receive the services they need. The success of this model depends on the degree to which teachers are able to implement interventions in their classrooms.

2. Measuring and increasing the degree with which teachers implement planned interventions is necessary to make accurate special education entitlement decisions. Monitoring and providing feedback to teachers regarding their implementation of planned interventions (i.e., TPI) is a way to help increase their implementation.

3. If TPI monitoring and feedback methods are to be implemented, knowing teachers' perceptions of the acceptability of these methods may be advantageous. Methods with higher acceptability ratings may carry a higher likelihood of increasing TPI, thereby benefitting student outcomes, and a lower likelihood of contributing to work stress and threatening collaborative work relationships. For RTI models, collaborative work relationships are essential.

4. Research from several literatures reveals several findings related to acceptability of performance monitoring and feedback.

5. Teachers' perceptions of the acceptability of different methods of TPI monitoring and feedback provision are important yet relatively unexplored, thus warranting further inquiry.

Research Questions and Hypotheses

The following research questions (RQs) and hypotheses (Hs) of the current research study are as follows:

Monitoring Methods

RQ 1: What methods of TPI measurement will teachers perceive as more acceptable?

RQ 2: Which school personnel who collect TPI data will teachers perceive as more acceptable?

RQ 3: What frequency of data collection will teachers perceive as more acceptable?

Feedback Methods

RQ 4: What TPI performance feedback procedures will teachers perceive as more acceptable?

RQ 5: What format of feedback communication will teachers perceive as more acceptable?

RQ 6: Which school personnel providing TPI data will teachers perceive as more acceptable?

RQ 7: What frequency of feedback provision will teachers perceive as more acceptable?

The relative paucity of findings regarding teacher acceptability of monitoring and feedback methods understandably limits *a priori* hypothesis formulation. Although some studies have found that employees rate certain methods of monitoring and feedback methods

of job-related tasks to be acceptable in a variety of professional settings, comparisons between/among specific methods is lacking. Predicting that teachers will rate certain types of TPI monitoring and feedback methodologies as more or less acceptable than other methodologies is therefore inappropriate.

Participant Characteristics:

RQ 8: Will teachers with certain characteristics perceive the acceptability of monitoring and feedback differently?

H 1: Respondents who have taught for more years will have lower acceptability ratings of feedback methods than respondents who have taught for fewer years.

H 2: Respondents with more experience implementing interventions will have lower acceptability ratings of feedback methods than respondents with less experience implementing interventions.

Rationale. For comprehensive job evaluations, more experienced teachers have viewed feedback as less acceptable when compared to less experienced teachers (Kimball, 2002). Kimball mentioned that more experienced teachers may feel as though they already have their job tasks under control and do not need another person to provide them with feedback. Although this conclusion stemmed from part of an overall job evaluation system as opposed to a more specific examination into TPI, the results are still relevant to providing feedback of job-related tasks.

Other Implementation Support Methods

RQ 9: What other TPI support methods do teachers identify?

Chapter 3

Method

To assess teachers' perceptions of various ways of having their implementation of planned interventions monitored and receiving feedback, a survey approach was utilized. The following sections provide more detailed information about the participants, survey measurements and administration, and data analyses.

Participants and Settings

The target population was K-5 regular education, special education, and specialist teachers in three North Carolina public schools: 1 primary school and 2 elementary schools. These schools provided an appropriate context for two reasons. First, they are three of the five RTI pilot sites originally designated by NCDPI. Second, a recent NCDPI report resulting from an evaluation of the problem-solving process at the five pilot sites recommended that administrators start implementing a systematic method of monitoring TPI (Braden & Joyce, 2008).

The researcher administered surveys to a total of 99 teachers and specialists across the three target schools. Four surveys were dropped from analyses due to the respondent's position in school—two teacher assistants, one tutor, and one principal. This action resulted in 85 completed surveys, rendering the response rate approximately 86%. The surveys were completed by 57 regular education teachers, 10 special education teachers, 17 teachers with other assignments, and 1 respondent with an undisclosed teaching assignment. Of the 17 teachers indicating other assignments: 7 provided no further explanation; 1 indicated music;

1, art; 2, physical education; 1, reading recovery; 1, English as a second language (ESL); and 1 speech-language pathologist. The remaining three were specialists of undisclosed background.

Fifty-five of the teachers held undergraduate degrees, 29 held graduate degrees, and one teacher did not indicate his/her highest earned degree. Respondents had implemented an average of 5.39 individual classroom-based interventions within the past year, with a range of 0 to 60. Half of the respondents had implemented less than 5 interventions, and 6 respondents did not indicate how many interventions they had implemented. Teachers reported an average of 12.62 years of teaching experience, with a range of 1 to 39. Half of the teachers had less than 11 years of teaching experience, and one respondent did not indicate his/her number of years teaching.

Measures and Variables

This section describes the structure and content of the TPI Monitoring and Feedback Acceptability Survey (MFAS) used in this study. The complete MFAS is found in Appendix A. To assess readability and ease of completion, the researcher piloted the MFAS with two teachers at a school that was not part of this study's sample. *Acceptability* is defined as the perceived effectiveness, feasibility, and comfort level with respect to a TPI monitoring/feedback package. These three aspects of acceptability emerged from reviews of the educational (Kimball, 2002; Ovando, 2001; Smith et al., 2000), school psychology (Lennox & Miltenberger, 1990; McNamara et al., 1999; Oats & Allinder, 1995; Witt et al., 1984), direct care provision (Fedor et al., 1999; Fleming & Sulzer-Azaroff, 1992;

Miltenberger et al., 1992), and I/O literatures (Amick & Smith, 1992; Stanton, 2000; Stephan & Dorfman, 1989). To measure acceptability, three questionnaire items are provided to allow a respondent to give ratings of each specific method of TPI monitoring and feedback: (a) "This method would ultimately *help* me implement the intervention," (b) "Participating in this method would be *feasible* to me," and (c) "I would be *comfortable* with participating in this method." Participants rate each of the three areas for each item on a six-point Likert scale ranging from *Strongly Disagree* to *Strongly Agree*. An aggregate acceptability rating is created for each item by summing the ratings for (a), (b), and (c). For ease of survey completion, related items on the MFAS are grouped together: (a) TPI monitoring items, (b) TPI feedback items, (c) questions to assess teacher characteristics, and (d) an open-ended question to gather teachers' opinions of effective TPI support methods.

There are a total of 13 TPI monitoring items. Three *TPI measurement* items cover direct observations, permanent products, and self-report checklists. Six *TPI data collector* items list the principal or assistant principal, school psychologist, counselor, regular education teacher, special education teacher, and members of the SST. Four *frequency of data collection* items specify daily, 2-3 times a week, once a week, and less than once a week. Preceding all TPI monitoring items is an intervention implementation scenario.

Following the TPI monitoring section, there is a paragraph that explains that school personnel can provide feedback on the implementation of planned intervention steps and then specifies the goal of providing feedback (i.e., to identify where implementation support is needed). There are a total of 19 TPI performance feedback items that follow. Four *TPI*

feedback method items cover a discussion of problems encountered during implementation, a

plan to overcome those problems for future implementation, a discussion of the importance

of the steps that were not implemented, and opportunities to practice the steps that were not

implemented. Four *TPI feedback format* items include a one-on-one meeting, telephone

conversation, e-mail, and a handout placed in a mailbox. Six *TPI feedback provider* items

include the principal or assistant principal, school psychologist, counselor, regular education

teacher, special education teacher, and members of the SST. Finally, five *frequency of*

feedback items include daily, 2-3 times a week, once a week, less than once a week, and

conditional (i.e., when implementation falls below a preset criterion).

The last set of questions in the MFAS pertains to teacher characteristics. These

questions assess the: (a) number of years teaching, (b) primary teaching assignment, (c)

highest earned degree, and (d) number of interventions implemented through the SST process

within the past year. The final survey question is open-ended and provides the respondent

with an opportunity to describe how he/she thinks how school personnel could support the

implementation of interventions. The version of the MFAS found in Appendix A was

submitted to NC State's IRB on November 23, 2008 and approved on November 24, 2008.

Procedure

An initial letter of interest (see Appendix B) was written and mailed to each principal

at the three schools by Dr. Jeff Braden, principal investigator of the NCDPI problem-solving

evaluation study. This letter briefly describes the purpose of the present study and the

importance of obtaining data at the RTI pilot sites. Two weeks following this initial letter,

the researcher sent a second letter (see Appendix C) to each school via e-mail or fax.   Two

weeks following this second letter, a phone call was made to each principal to clarify any

questions and assess willingness to have teachers participate.

   After obtaining each principal's approval to conduct the study, the researcher

distributed MFASs at a staff meeting at each school. Using this procedure, the survey cover

letter (see Appendix D) and survey were introduced and distributed, questions were

answered, and participants were discouraged from sharing their responses with other

teachers. Anonymity and voluntariness of participation were emphasized. Upon completion,

participants sealed their responses in envelopes, and the researcher immediately collected

each envelope.   An identification number was assigned to each MFAS for data entry and

tracking purposes, and this number was indicated at the top of all pages of the survey.

Chapter 4

Results

The psychometric characteristics of the MFAS will be reviewed first. Following this, the results will be discussed in light of comparing the acceptability ratings for each specific method of TPI monitoring and feedback. Next, the differences between acceptability ratings according to respondents' characteristics will be examined. Finally, other implementation support themes from the open-ended question on the MFAS will be identified using a qualitative analysis.

Psychometric Properties of the Instrument

Coefficient alphas were calculated for the acceptability rating of each survey item and are listed in the right column of Table 1. The individual ratings for each component of acceptability—perceived helpfulness, feasibility, and level of comfort—were configured into each item's coefficient alpha. All item-level alphas were .85 or greater, indicating very good internal consistency.

RQs 1-7: Acceptability Means of TPI Monitoring and Feedback Methods

The high number of comparisons, relatively small sample size, and exploratory nature of this line of inquiry limited the use of quantitative analyses. Therefore, to compare acceptability ratings for each specific method of TPI monitoring and feedback, the aggregate acceptability means for each method were rank-ordered. For supplemental information, repeated-measures ANOVAs were conducted as follow-up examinations into significant differences between acceptability means.

Table 1 provides the means, standard deviations, coefficient alphas, and number of valid cases for acceptability ratings of each specific TPI monitoring and feedback method. The acceptability ratings, based on the combined ratings of perceived helpfulness, feasibility, and comfort level, can range from 3 to 18, with higher scores indicating greater acceptability. Items with means ranging from 3 to 9 may be considered unacceptable, items with means ranging from 12-18 may be considered acceptable, and items with means ranging from 10 to 11 may be considered neutral (i.e., neither acceptable nor unacceptable). Following this table, acceptability ratings within each domain of analysis are compared in more detail.

Table 1

Acceptability Ratings for TPI Monitoring and Feedback Methods

Domain	Item	*N*	*M*	*SD*	*α*
TPI Measurement Methods	Self Report	84	13.31	3.50	.91
	Permanent Product	84	12.83	3.94	.90
	Observations	85	11.55	3.96	.85
TPI Data Collector	Members of SST	85	13.54	3.50	.87
	Special Ed Teacher	84	13.14	3.55	.89
	School Psychologist	84	13.06	3.81	.91

Table 1 Continued

	Counselor	84	12.54	4.07	.91
	Regular Ed Teacher	84	12.26	3.70	.90
	Principal/Assistant	83	11.54	3.83	.86
Frequency of Data Collection	Once/Week	84	12.13	4.18	.96
	< Once/Week	83	10.89	4.52	.91
	2-3/Week	84	10.49	4.81	.94
	Daily	82	8.62	4.96	.92
TPI Feedback Methods	Plan for Problems	85	14.56	3.34	.96
	Discuss Problems	85	13.88	3.63	.96
	Discuss Importance	85	12.89	4.19	.97
	Practice Steps	85	12.64	4.37	.96
TPI Feedback Format	Meeting	81	14.60	3.58	.94
	Email	83	10.67	4.70	.97

Table 1 Continued

	Telephone	81	10.30	4.53	.95
	Handout	82	10.12	4.74	.94
TPI Feedback Provider	School Psychologist	80	13.54	3.96	.97
	Special Ed Teacher	80	13.40	3.88	.98
	Members of SST	68	13.34	4.08	.97
	Counselor	80	12.95	4.41	.98
	Regular Ed Teacher	80	12.93	3.80	.96
	Principal/Assistant	79	12.61	4.17	.95
Frequency of feedback	Once/Week	78	12.19	4.54	.97
	Conditional	80	11.45	4.98	.95
	< Once/Week	79	10.82	4.60	.95
	2-3/Week	80	9.59	4.87	.94
	Daily	79	8.19	4.87	.93

Table 1 Continued

Note. Potential range for acceptability ratings is 3 to 18, with higher scores indicating greater

acceptability.

RQ 1: TPI Measurement Methods

On average, respondents rated self-report methods as most acceptable ($M = 13.31$),

followed by permanent products ($M = 12.83$) and observations ($M = 11.55$).

Additional Analyses: TPI Measurement Methods

Mauchley's test was significant ($\chi^2 (2) = 10.49, p < .05$), indicating that the variances

of the differences between TPI measurement methods were significantly different, so the

assumption of sphericity had been violated. Therefore, the degrees of freedom were

corrected using the Greenhouse-Geisser estimate of sphericity (.89). With the corrected and

conservative Greenhouse-Geisser measure, the results from a repeated measures ANOVA

revealed that the acceptability ratings were significantly affected by the method of data

collection, $F (1.78, 146.24) = 10.74, p < .001$. Bonferroni post hoc comparisons revealed

that acceptability ratings for observations were significantly lower (i.e., less acceptable) than

ratings for permanent products ($p < .05$) and self report ($p < .001$). Survey respondents

clearly found classroom observations the least acceptable method of TPI data collection.

RQ 2: TPI Data Collector

Respondents rated data collection from members of the SST as most acceptable ($M =$

13.54), followed by a special education teacher ($M = 13.14$), school psychologist ($M =$

13.06), counselor ($M = 12.54$), regular education teacher ($M = 12.26$), and principal or

assistant principal ($M = 11.54$).

Additional Analyses: TPI Data Collector

Mauchley's test was significant ($\chi^2 (14) = 98.26$, $p < .05$), indicating that the

variances of the differences between levels were significantly different, so the assumption of

sphericity had been violated. Consequently, the degrees of freedom were corrected using the

Greenhouse-Geisser estimate of sphericity (.70). With the corrected Greenhouse-Geisser

measure, results showed that the acceptability ratings were significantly affected by the

method of data collection, $F (3.49, 282.77) = 9.91$, $p < .001$. Bonferroni post hoc

comparisons revealed that acceptability ratings for the principal/assistant principal as data

collector were significantly lower than the ratings for the school psychologist ($p < .001$),

special education teacher ($p < .05$), and SST members ($p < .001$). Respondents clearly

perceived collection of TPI data from administrators as less acceptable than collection from

other types of school personnel. There also appeared to be a distinction between data

collection from a regular education teacher and members of the SST, with significantly lower

acceptability ratings for the former ($p < .05$).

RQ 3: Frequency of Data Collection

Respondents rated once a week data collection as most acceptable ($M = 12.13$),

followed by less than once a week ($M = 10.89$), 2-3 times a week ($M = 10.49$), and daily (M

$= 8.62$).

Additional Analyses: Frequency of Data Collection

Because Mauchley's test was significant (χ^2 (5) = 38.22, $p < .05$), degrees of freedom

were corrected using the Greenhouse-Geisser estimate of sphericity (.79). Using the

Greenhouse-Geisser measure, results revealed that the acceptability ratings were significantly

affected by the frequency of data collection, F (2.38, 192.34) = 11.67, $p < .001$. Bonferroni

post hoc comparisons showed that acceptability ratings for daily data collection were

significantly lower than ratings for 2-3 times a week ($p < .001$), once a week ($p < .001$), and

less than once a week ($p < .05$). Acceptability ratings for 2-3 times a week were also rated

significantly lower than once a week ($p < .05$). Survey respondents appeared to view the

most frequent collection of TPI data (i.e., daily and 2-3 times a week) as least acceptable;

however, there were no distinctions between less frequent collections of TPI data (i.e., once a

week and less than once a week).

RQ 4: TPI Feedback Methods

Planning to solve future implementation problems was rated as the most acceptable

feedback method ($M = 14.56$), followed by discussing problems encountered during

implementation ($M = 13.88$), discussing the importance of missed steps ($M = 12.89$), and

providing opportunities to practice missed steps ($M = 12.64$).

Additional Analyses: TPI Feedback Methods

Mauchley's test was significant (χ^2 (5) = 73.77, $p < .05$), so the degrees of freedom

were corrected using the Greenhouse-Geisser estimate of sphericity (.65). With the corrected

Greenhouse-Geisser measure, results revealed that the acceptability ratings were significantly

affected by the method of feedback, F (1.95, 163.92) = 12.83, $p < .001$. Bonferroni post hoc

comparisons revealed that acceptability ratings for discussing problems encountered was

significantly higher than ratings for practicing missed steps ($p < .05$), and planning for future

problems was rated significantly higher (i.e., more acceptable) than discussing the

importance of missed steps ($p < .001$) and practicing missed steps ($p < .001$). Overall,

participants perceived a problem-solving focus of feedback (i.e., discussing encountered

problems or planning to solve encountered problems) as more acceptable than other potential

aspects of feedback (i.e., discussing importance of missed steps or practicing missed steps).

RQ 5: TPI Feedback Format

One-on-one meetings were rated as most acceptable by respondents ($M = 14.60$),

followed by e-mail ($M = 10.67$), telephone conversations ($M = 10.30$), and handouts ($M =$

10.12).

Additional Analyses: TPI Feedback Format

Mauchley's test was significant (χ^2 (5) = 49.30, $p < .05$), so the Greenhouse-Geisser

estimate of sphericity (.70) was used to correct degrees of freedom. With this correction,

results revealed that the acceptability ratings were significantly affected by the format of

feedback, F (2.11, 168.47) = 34.06, $p < .001$. Bonferroni post hoc comparisons showed that

acceptability ratings for one-on-one meetings were significantly higher than ratings for

telephone conversations ($p < .001$), e-mail ($p < .001$), and handouts ($p < .001$). Participants

thus found the more personal form of feedback communication, one-on-one meetings, as

more acceptable than other less personal forms of feedback communication.

RQ 6: TPI Feedback Provider

Respondents rated receiving feedback from the school psychologist as most acceptable ($M = 13.54$), followed by special education teacher ($M = 13.40$), members of the SST ($M = 13.34$), counselor ($M = 12.95$), regular education teacher ($M = 12.93$), and principal or assistant principal ($M = 12.61$).

Additional Analyses: TPI Feedback Provider

Mauchley's test was significant ($\chi^2 (14) = 112.53$, $p < .05$), so the Greenhouse-Geisser estimate of sphericity (.58) corrected the degrees of freedom. Using the corrected Greenhouse-Geisser measure, results showed that the acceptability ratings were significantly affected by the feedback provider, $F (2.90, 191.69) = 2.74$, $p < .05$. Bonferroni post hoc comparisons revealed that acceptability ratings for the principal/assistant principal were significantly lower than ratings for the school psychologist ($p < .05$). Consistent with analyses regarding TPI data collector, there was a distinction between the acceptability of administrator involvement and the involvement of other school personnel. However, in the case of TPI feedback provider, the acceptability of administrator involvement was only lower than the involvement of one other person—the school psychologist.

RQ 7: Frequency of Feedback

Respondents rated receiving feedback once a week as most acceptable ($M = 12.19$), followed by a conditional frequency ($M = 11.45$), less than once a week ($M = 10.82$), 2-3 times a week ($M = 9.59$), and daily ($M = 8.19$).

Additional Analyses: Frequency of Feedback

Mauchley's test was significant ($\chi^2(9) = 83.90$, $p < .05$), so the Greenhouse-Geisser estimate of sphericity (.74) corrected the degrees of freedom. With this correction, results revealed that the acceptability ratings were significantly affected by the frequency of feedback, $F(2.96, 224.60) = 14.26$, $p < .001$. Bonferroni post hoc comparisons indicated that acceptability ratings for daily feedback was significantly lower than feedback that is delivered 2-3 times a week ($p < .001$), once a week ($p < .001$), less than once a week ($p < .001$), and conditionally ($p < .001$). Participants found the most frequent provision of feedback as less acceptable than all other frequencies. The second most frequent provision of feedback (i.e., 2-3 times a week) was rated significantly lower than once a week feedback ($p < .001$).

RQ 8: Effects of Participant Characteristics

To assess the differences between respondents' characteristics and ratings of acceptability, independent samples *t*-tests and an ANOVA were used. For these comparisons, two comprehensive acceptability scores were obtained for each respondent. The first acceptability score is the sum of all acceptability ratings for the TPI monitoring items, and the second acceptability score is the sum of all acceptability ratings for the feedback items. Any missing acceptability score for a respondent rendered the total composite acceptability score missing. Therefore, if a respondent was missing an acceptability score for a TPI monitoring item, for example, he/she did not have a total composite acceptability score for TPI monitoring.

Primary Teaching Assignment

An ANOVA was used to compare the composite TPI monitoring and feedback acceptability ratings across primary teaching assignment. Comparisons were made among regular education teachers, special education teachers, and other types of teachers, for a total of three groups. Means, standard deviations, and number of valid cases are in Table 2. Results indicated that there was an overall effect of primary teaching position on composite acceptability ratings of TPI monitoring, $F (2, 74) = 3.69$, $p < .05$, $\omega = .30$, but not on composite acceptability ratings of TPI feedback, $F (2, 59) = 1.44$, $p > .05$, $\omega = .21$. Because sample sizes were very unequal across groups, the Hochberg's GT2 post hoc comparison was used. This analysis revealed that special education teachers reported higher acceptability of TPI monitoring than regular education teachers ($p < .05$).

Table 2

Primary Teaching Assignment and Composite Acceptability Ratings

	Teaching Assignment	*N*	*M*	*SD*
Monitoring	Special Education	10	184.80	26.21
	Regular Education	52	152.12	36.21
	Other	15	157.93	34.66
Feedback	Special Education	7	258.14	33.93
	Regular Education	40	229.59	50.50
	Other	15	217.40	62.80

Note. Potential range for composite monitoring acceptability ratings is 39 to 234, and the potential range for composite feedback ratings is 57 to 342. Higher scores indicate greater acceptability.

Highest Earned Degree

       Independent samples *t*-tests were used to compare the composite acceptability ratings across highest earned degree. The two groups for comparison were undergraduate degree and graduate degree. Means, standard deviations, standard error of the mean, and number of valid responses for the composite acceptability ratings are shown in Table 3. Leven's test for equality of variance was not significant for composite acceptability ratings of monitoring or feedback, so the assumption that the variances between those with undergraduate degrees and those with graduate degrees are roughly equal was met. On average, respondents with

graduate degrees reported greater acceptability of monitoring ($M = 158.57$, $SE = 7.11$) than

respondents with undergraduate degrees ($M = 156.88$, $SE = 5.07$). Respondents with

undergraduate degrees, on the other hand, reported greater acceptability of feedback ($M =$

230.26, $SE = 8.29$) than respondents with graduate degrees ($M = 229.14$, $SE = 11.60$).

However, these acceptability differences were not statistically significant for monitoring

[$t(75) = -.20$, $p > .05$] or feedback [$t(60) = .08$, $p > .05$], and the effect sizes were small (.22

and .01, respectively).

Table 3

Highest Earned Degree and Composite Acceptability Ratings

	Highest Earned Degree	*N*	*M*	*SD*	*SE*
Monitoring	Undergraduate Degree	49	156.88	35.51	5.07
	Graduate Degree	28	158.57	37.63	7.11
Feedback	Undergraduate Degree	40	230.26	52.45	8.29
	Graduate Degree	22	229.14	54.41	11.60

Note. Potential range for composite monitoring acceptability ratings is 39 to 234, and the

potential range for composite feedback ratings is 57 to 342. Higher scores indicate greater

acceptability.

Years of Teaching Experience

Independent samples *t*-tests were used to compare acceptability ratings of teachers

with more versus less teaching experience. This characteristic was assessed via an open-

ended response where participants wrote the number of years they had been teaching. In order to compare groups with equal sample sizes, a median split for the responses on this item was used, creating two groups: (a) more experienced teachers scoring above the median and less experienced teachers scoring below the median on number of years teaching. Means, standard deviations, standard error of the mean, and number of valid responses for the composite acceptability ratings are displayed in Table 4.

Leven's test for equality of variances was not significant, indicating that the variances between high and low experienced teachers were roughly equal. On average, participants with less teaching experience reported greater acceptability of monitoring (M = 157.97, SE = 5.69) and greater acceptability of feedback (M = 233.78, SE = 9.16) than participants with more teaching experience (M = 157.05, SE = 5.97; M = 226.19, SE = 9.82). However, these differences were not statistically significant for either monitoring [$t(75)$ = -.11, p > .05] or feedback [$t(60)$ = -.56, p > .05]. Furthermore, the effect sizes were small for monitoring (.01) and feedback (.07). Hypothesis 1, which stated that respondents who have taught for more years will have lower acceptability ratings of TPI feedback methods, was therefore not supported.

Table 4

Years of Teaching Experience and Composite Acceptability Ratings

	Years Teaching	*N*	*M*	*SD*	*SE*
Monitoring	> = 10.00	40	157.05	37.77	5.97
	< 10.00	37	157.97	34.62	5.69
Feedback	> = 10.00	32	226.19	55.54	9.81
	< 10.00	30	233.78	50.15	9.15

Note. Potential range for composite monitoring acceptability ratings is 39 to 234, and the potential range for composite feedback ratings is 57 to 342. Higher scores indicate greater acceptability.

Number of Interventions Implemented

Independent samples *t*-tests were used to compare acceptability ratings of teachers with more versus less experience implementing interventions. This characteristic was also assessed via an open-ended response where participants wrote the number of interventions developed through the SST process they had implemented within the past year. To compare groups with equal sample sizes, a median split for the responses on this item was used, as in the previous analysis. Means, standard deviations, standard error of the mean, and number of valid responses for the composite acceptability ratings are shown in Table 5.

Leven's test for equality of variance was not significant, indicating that the assumption that the variances between high and low experienced implementers are roughly

equal was met. On average, participants with more experience implementing interventions reported greater acceptability of monitoring ($M = 161.51$, $SE = 5.84$) and greater acceptability of feedback ($M = 233.95$, $SE = 9.63$) than participants with less experience implementing interventions ($M = 152.94$, $SE = 6.43$; $M = 224.38$, $SE = 10.48$). However, these differences were not statistically significant for either monitoring [$t(70) = .99$, $p > .05$], or feedback [$t(56) = .67$, $p > .05$], and the effect sizes were small (.12 and .09, respectively). Thus, Hypothesis 2, which stated that respondents with more experience implementing interventions will have lower acceptability ratings of TPI feedback methods than respondents with less experience implementing interventions, was not supported.

Table 5

Number of Interventions Implemented and Composite Acceptability Ratings

	Interventions Implemented	*N*	*M*	*SD*	*SE*
Monitoring	$> = 4.00$	37	161.51	35.51	5.83
	< 4.00	35	152.94	38.02	6.42
Feedback	$> = 4.00$	29	233.95	51.87	9.63
	< 4.00	29	224.38	56.44	10.48

Note. Potential range for composite monitoring acceptability ratings is 39 to 234, and the potential range for composite feedback ratings is 57 to 342. Higher scores indicate greater acceptability.

By way of summary, Research Question 8 asked if teachers with certain characteristics would perceive the acceptability of monitoring and feedback differently. Results pertaining to teacher characteristics offer the following findings: (a) compared to regular education teachers, special education teachers reported significantly greater acceptability ratings of TPI monitoring methods ($p < .05$); (b) although respondents with undergraduate degrees reported greater acceptability ratings of TPI feedback methods and respondents with graduate degrees reported greater acceptability ratings of TPI monitoring methods, these were not statistically significant differences; (c) respondents with fewer years of teaching reported greater acceptability of TPI monitoring and feedback methods than respondents with more years of teaching, but these differences were not statistically significant; (d) respondents with more experience implementing interventions reported greater acceptability of TPI monitoring and feedback methods than respondents with less experience implementing interventions, but these differences were not statistically significant.

RQ 9: Other Implementation Support Methods

The following qualitative data analysis procedure was used to analyze responses from the final, open-ended question, "In your opinion, in what other ways can school personnel support your implementation of these types of interventions?"

1. All teacher responses were reviewed by the researcher (coder 1) in order to comprise a set of preliminary categories represented by all of the responses.

2. A graduate student (coder 2) reviewed the responses and the preliminary categories, offering suggestions for further revising the categories.

3. Coder 1 and coder 2 agreed on the categories, and devised a coding manual. Categories and definitions are displayed in Table 6.

4. Two additional graduate students, (coder 3 and coder 4) independently coded all teacher responses, making a count of represented categories in each response.

5. Coder 3 and coder 4 met to discuss instances of disagreement, eventually forming a consensus on categories represented by each response.

6. Percentages of teachers referencing each category in their response were reported and are listed in Table 6, and sample responses to illustrate each category are listed in Appendix E.

Several researchers have suggested and used this method of identifying and reporting on categories or themes of open-ended teacher responses (e.g., Lai & Waltman, 2008; Schulte et al., 1993; Woodgate-Jones, 2008).

Out of the 85 total survey respondents, 33 respondents provided a written response to the open-ended question. The most frequently occurring method of implementation support identified through analysis of the 33 responses was *assist with developing interventions* (24.24%). This was followed by *hire/seek additional school personnel* (21.21%) and *offer general support, collaboration, or openness to ideas* (21.21%) and *assist with implementing interventions* (15.15%). *Assist with paperwork and/or data collection*, *assist with obtaining intervention materials*, *train to implement interventions*, and *revise the problem-solving*

procedures or structure were all identified by 12.12% of the respondents. Finally, 9.09% of

respondents identified *change the schedule of problem-solving processes*, and 6.06% of

respondents identified *expedite the problem-solving process*.

Table 6

Additional TPI Support Methods Identified by Survey Respondents

Category	Definition	Number of Cases	Percentage of Respondents
Assist with paperwork and/or data collection	Reflects desire to have amount of paperwork reduced or to receive assistance with paperwork and/or data collection.	4	12.12%
Assist with obtaining intervention materials	Reflects desire to receive the materials, money to purchase materials, or assistance with developing materials.	4	12.12%
Assist with developing the interventions	Reflects desire to receive interventions/strategies or to receive information/ideas directly related to developing interventions.	8	24.24%
Assist with implementing interventions	Expresses the need for specific and nonspecific intervention help from existing school personnel.	5	15.15%
Train to implement interventions	Portrays the need for training or practice with interventions.	4	12.12%
Hire/seek additional school personnel	Portrays the need for additional personnel in the school to take on implementation responsibilities or other intervention responsibilities.	7	21.21%
Change the schedule of problem solving processes	Expresses the need for a change in scheduling-either more flexibility or more regularity-of the problem-solving process as a whole or with specific parts of the process.	3	9.09%

Table 6 Continued

Expedite the problem-solving process	Expresses the desire to speed up the problem-solving process.	2	6.06%
Revise the problem-solving procedures or structure	Reflects the need for the problem-solving (or SST) process in general to change.	4	12.12%
Offer general support, collaboration, or openness to ideas	Expresses need for unspecified support, collaboration, and openness from other people—internal or external—to the school setting.	7	21.21%

Note. Total number of respondents for open-ended question is 33.

Chapter 5

Discussion

The purposes of this research were to: (a) examine teachers' perceptions of

acceptability regarding TPI monitoring and feedback methods through a survey administered

in schools, (b) identify additional TPI support methods indicated through open-ended

responses, and (c) examine the effects of respondent characteristics on acceptability ratings.

In this chapter, the following topics will be addressed: (a) discussion of results pertaining to

each research question and hypothesis in reference to the extant literature, (b) limitations of

this study, (c) directions for future research, and (d) conclusions.

Acceptability of Monitoring Methods

RQ 1: TPI Measurement Methods

The ratings for self report ($M = 13.31$) and permanent product ($M = 12.83$) may be

considered acceptable, and classroom observations ($M = 11.55$) neither fell within the

acceptable nor unacceptable ranges. Self-report methods were rated as most acceptable,

followed by permanent products. Direct observations were rated as least acceptable, and

these ratings were significantly lower than ratings for self report or permanent products.

These findings are not consistent with those that have emerged from the educational and

direct care literatures. For instance, for monitoring instructional practices during

comprehensive teacher evaluations, teachers have reported that classroom observations are

acceptable (Ovando, 2001). Nurses have found self-report methods less acceptable than

having an observer record their implementation of interventions with patients (Miltenberger

et al., 1992). It is possible that results from the current study reflect teachers' anxiety about having an outsider observe their simultaneous struggle with regular curriculum instruction, class-wide behavioral management, and delivery of an individualized intervention. Completing a self-report checklist thus may be less anxiety provoking, and may be more familiar as it more closely resembles step-by-step curriculum scripts, and, when TPI *is* measured in the schools, school psychologists report that self report is the most frequently used method (Bramlett et al., 2002).

Unfortunately, there are limitations to using self-reports and permanent products. Self-reports have led to over-inflated estimates of TPI (Noell et al., 2005), and permanent products may not be producible for every step of an intervention. Although classroom observations can have reactive effects and demand time from school personnel, they provide a more accurate assessment of TPI, thus allowing problem-solving teams and consultants to make more valid decisions. If schools have the resources to conduct regular classroom observations on intervention implementation, it may be worth the effort to obtain teacher buy-in, or acceptability, regarding those procedures.

RQ 2: TPI Data Collector

All potential school personnel to collect TPI data were rated as acceptable ($M = 12.26$ to 13.54) except for the principal/assistant principal, who neither fell within the acceptable nor unacceptable ranges ($M = 11.54$). Respondents perceived data collection by members of the SST as most acceptable, followed by a special education teacher, school psychologist, counselor, and a regular education teacher. Data collection by the principal or assistant

principal was perceived as least acceptable and was rated significantly lower than the SST

members, special education teacher, and school psychologist.   Because school administrators

(i.e., principals and assistant principals) hold legitimate positions of power, respondents may

feel more stressed by the notion of having their implementation data collected by them as

opposed to school personnel without legitimate positions of power (i.e., SST members,

special education teachers, and school psychologists). Some researchers have discussed this

topic, stating that, "tensions may arise between the need to document treatment fidelity, and

teacher concerns that such data might be used inappropriately by school administrators to

evaluate teachers (e.g., discharge teachers)" (Burns, Jacob, & Wagner, 2008; p. 273).

On the other hand, based on the rationale that TPI should be a requirement rather than

a suggestion, Kovaleski (2007) has suggested that the principal should hold responsibility for

ensuring and monitoring intervention fidelity. Although the principal can encourage high

levels of TPI, the current study suggests that teachers may not find collection of TPI data by

the principal as feasible, comfortable, or helpful. Data collection from other personnel, who

may be perceived as having more specialized knowledge of and experience with evidence-

based classroom interventions, does not necessarily render TPI a suggestion rather than a

requirement.

In addition, the regular education teacher was rated significantly lower than the SST

members. That data collection from regular education teachers was ranked lower than most

other school personnel is surprising considering that the majority of the survey respondents

were regular education teachers, and peer observation systems are consistently perceived as

helpful, at least in the direct care literature (Fleming-Azaroff, 1992). However, SST

members were highly endorsed in this study; perhaps teachers see SST monitoring of TPI as

more helpful due to the fact that interventions are often discussed and developed within the

SST.

RQ 3: Frequency of Data Collection

Ratings for once a week data collection fell within the acceptable range ($M = 12.13$),

whereas ratings for less than once a week ($M = 10.89$) and 2-3 times a week ($M = 10.49$)

were neither acceptable nor unacceptable, and ratings for daily fell within the unacceptable

range ($M = 8.62$). Teachers regarded once a week data collection as most acceptable,

followed by less than once a week, 2-3 times a week, and daily. Additionally, daily data

collection was rated significantly lower than all other frequency options, and 2-3 times a

week was rated significantly lower than once a week. This finding illustrates one of the

reasons why bridging the research-to-practice gap with TPI monitoring methods is difficult.

The vast majority of researchers who have conducted controlled, experimental studies to

inquire about the issue of TPI have measured TPI on a more frequent basis—either daily or

several times a week.

A frequent collection of TPI data ensures a more comprehensive assessment of

implementation of interventions, which often involve steps that occur on every day of the

school week. In regular on-site practice, daily collection might be too cumbersome.

Teachers appear to prefer obtaining a sample of their implementation, either once a week or

even less frequently. However, unless interventions are implemented for many weeks, this

infrequent collection of TPI data is not ideal to ensure that the student's response to the intervention can be linked to the intervention itself.   Researchers and school personnel should consider ways to make more frequent collection of TPI data more acceptable.

Acceptability of Feedback Methods

RQ 4: TPI Feedback Methods

Respondents' acceptability ratings for all possible feedback procedures fell within the acceptable range ($M = 12.64$ to 14.56). They saw planning for future implementation problems as most acceptable, followed by discussing problems found during implementation, discussing the importance of missed intervention steps, and practicing intervention steps they had missed. Planning for future problems was rated significantly higher than discussing the importance of or practicing missed steps, and discussing encountered problems was rated significantly higher than practicing missed steps. Although a previous study examining the effectiveness of practicing missed steps of planned interventions had suggested that teachers perceived the practice as helpful (DiGennaro et al., 2005), the current study suggests that teachers view this practice as least acceptable compared to other likely means of obtaining feedback. They might see practicing missed steps as slightly punitive, and, thus make them less comfortable than participating in other feedback procedures.

Discussing and planning for future implementation problems, in addition to being more comfortable, may offer more practical and helpful advice as problem-solving methods. This is recommended practice from I/O researchers, who state that feedback sessions should focus on explanations that outline what to do with the feedback in future independent

practice rather than assuming that the recipient will know what to do with the feedback
(London, 2003). Discussing and planning for future implementation problems also imply
that the feedback participants will set some goals. "Using the feedback to set goals translates
the feedback into action" (p. 99).

RQ 5: TPI Feedback Format

Only ratings for one-on-one feedback meetings fell within the acceptable range ($M =$
14.60). Ratings for all other feedback communication formats were neither acceptable nor
unacceptable ($M = 10.12$ to 10.67). Survey respondents regarded one-on-one feedback
meetings as the most acceptable communication format, followed by e-mails, telephone, and
handouts. It appears that respondents prefer more personal setups when receiving feedback,
as one-on-one meetings were rated significantly higher than all other communication
formats. This finding does not deviate from what has emerged in other feedback
acceptability studies examining teacher perceptions. For the purpose of comprehensive
instructional evaluations, teachers have perceived one-on-one feedback meetings as helpful
and worth the required time investment (Kimball, 2002), and helpful when coupled with
summary handouts (Ovando, 2001).

Also, in the I/O literature, an experiment on a simulated manager-employee feedback
situation revealed that one-on-one feedback meetings were rated significantly higher in
fairness and satisfaction when compared to computerized monitoring and feedback devices
(Alder & Ambrose, 1997). The authors of this study theorized that face-to-face feedback
helps increase positive reactions and reduces the depersonalization of indirect methods.

Survey respondents in the current study may also have perceived indirect communication methods as depersonalized. Considering the high acceptability ratings of planning to solve future implementation problems, perhaps teachers foresee such planning as an easier process to complete via one-on-one meetings. Teachers can ask questions specific to their own implementation data and collaborate on strategies to help improve TPI more easily in a one-on-one format.

RQ 6: TPI Feedback Provider

Respondents' ratings for all potential feedback providers fell within the acceptable range ($M = 12.61$ to 13.54). Teachers identified a school psychologist as being the most acceptable provider of TPI feedback, followed by a special education teacher, members of the SST, a counselor, a regular education teacher, and the principal or assistant principal. Ratings for the principal or assistant principal were significantly lower than ratings for a school psychologist. It is difficult to conclude about the application of these findings to other studies, considering the inconsistency in acceptability ratings for feedback providers across fields. Teachers have expressed how helpful feedback is when it is delivered by persons with appropriate content-related experience during instructional evaluations (Kimball, 2002), and nurses in direct care provision settings have endorsed the helpfulness and acceptability of feedback when it is delivered by peers (Fedor et al., 1999; Fleming & Sulzer-Azaroff, 1992). It seems logical, then, to expect acceptability of regular education teachers (i.e., peers with similar content experience) to be ranked higher because most of the survey respondents were regular education teachers. However, this was not the case in the present study. Researchers

in the I/O literature, on the other hand, have identified that feedback delivered by persons in managerial positions was perceived as supportive, helpful, and acceptable (Stephan & Dorfman, 1989; Waldersee & Luthans, 1994). In this study, persons in managerial positions (i.e., principals/assistant principals) were ranked the lowest.

Perhaps teachers view school psychologists and special education teachers as knowledgeable, and consequently helpful, when discussing evidence-based interventions. Special education teachers, in particular, may stand out as persons with a significant amount of experience implementing individualized interventions. Additionally, empathetic individuals, those who can understand the situation and perspective of others while maintaining social distance, are noted as particularly good at providing feedback (London, 2003). "Such individuals are able to distinguish between factors in the environment that influence a person's behavior and aspects of the person's past that influence his or her behavior" (p. 61). MFAS survey respondents may have perceived school psychologists and special education teachers as possessing a great deal of empathy compared to other school personnel, thus perceiving feedback from these individuals as more acceptable.

Members of the SST fell third in the acceptability ratings. That SST members fell below school psychologists and special education teachers, who are likely to also be members of the SST, suggests that receiving feedback in a group setting may introduce some unwanted pressure. Having implementation behavior be the focus of discussion in the face of several school personnel (i.e., all of the SST members) may be perceived as threatening or uncomfortable as opposed to receiving feedback from one person. However, it is worth

considering the uniqueness of each school. SST membership may vary depending on each

school's procedures and the expertise required for each referral problem, and informal power

structures and perceptions of leadership, which may affect acceptability ratings, are likely to

vary across schools as well. The results from each school were not statistically compared in

this study, but it would be interesting to examine differences between schools regarding

acceptability ratings of TPI feedback providers in future studies.

RQ 7: Frequency of Feedback

Similar to results regarding data measurement frequency, only ratings for feedback

delivered once a week fell within the acceptable range ($M = 12.19$). Ratings for conditional

($M = 11.45$) and less than once a week ($M = 10.82$) did not fall within the acceptable or

unacceptable range, and 2-3 times a week ($M = 9.59$) and daily ratings ($M = 8.19$) fell within

the unacceptable range. Feedback delivered once a week was rated highest. This mode was

followed by conditional delivery (i.e., when TPI data falls below a preset criterion), less than

once a week, 2-3 times a week, and daily. There is little to draw from concerning feedback

frequency from other literatures for a comparative analysis. Employees who have received

feedback on productive work behaviors every other day have perceived that practice to be

acceptable (Waldersee & Luthans, 1994). Although teachers in this current study believed

that receiving feedback at a similar frequency would be unacceptable, there is some

indication that, in schools where RTI has been standard practice for a few years, teachers

identify at least some need for regular and consistent feedback on their implementation

practices. They perceived once a week feedback as acceptable whereas less than once a week feedback was not acceptable.

However, daily feedback was rated significantly lower than all other frequencies, and 2-3 times a week was rated significantly lower than once a week. This is not surprising, and most likely reflects the perceived lack of feasibility—daily feedback sessions would require a large amount of time and planning on the part of both the deliverer and receiver. It may also reflect respondents' perception that they may become desensitized to feedback at high frequencies. Atwater and Waldman (2008) suggested that people quickly adapt to feedback at high frequencies, hence, it no longer carries any value or has the same effect.

RQ 8: Effects of Teacher Characteristics

Teaching Assignment and Highest Degree

There was an overall effect of primary teaching assignment on acceptability of monitoring, but not on feedback. Specifically, special education teachers reported a higher acceptability of TPI monitoring methods than regular education teachers. This result may be interpreted as reflecting the implications of a special educator's background and classroom environment. Special education teachers are more likely to have worked with a large number of students with more significant academic and behavioral problems and to have had more training with implementing interventions in their educational training programs. Their knowledge of and previous experience with individualized interventions may render them more confident of their ability to implement the steps of planned interventions, thus making the TPI monitoring practices seem less stressful. Additionally, with a lower teacher-to-

student ratio, special education teachers may have completed the MFAS with the notion that documenting TPI is a practical process.

There were no statistically significant differences in acceptability ratings for feedback or monitoring between respondents with graduate degrees and respondents with undergraduate degrees. This is somewhat surprising, as one might expect graduate programs to be more likely than undergraduate programs to stress the importance of ensuring accurate delivery of planned interventions, and, depending on how recent teachers have obtained their graduate degree, to have incorporated the recent emphasis on treatment integrity that continues to emerge in the RTI literature. Respondents with undergraduate degrees, however, might have recognized that they need to learn more about how to implement interventions well—a practice that may be less familiar to them—resulting in acceptability ratings comparable to ratings from respondents with graduate degrees. Perhaps RTI is too new to have been incorporated into any of the teachers' training programs, and, consequently, investigation into this characteristic is premature.

Experience Teaching and Implementing Interventions

For composite acceptability ratings of monitoring and feedback, there were no statistically significant differences between participants with fewer years of teaching experience and participants with more years of teaching experience. Furthermore, there were no statistically significant differences between participants with less experience implementing interventions and participants with more experience implementing interventions. Thus, Hypotheses 1 and 2 were not supported. These results stand in contrast

to other examinations into feedback acceptability. For instructional evaluation feedback procedures, more experienced teachers have reported that, "the burden outweighs the gain," (Kimball, 2002; p. 256) and feedback procedures were generally not perceived as beneficial when compared to the reports from less experienced teachers. More experienced nurses in direct care settings also reported lower acceptability ratings of a feedback system when compared to less experienced nurses (Fedor, Bettenhausen, & Davis, 1999).

It is possible that, within the RTI context, all teachers with varying levels of experience implementing individual classroom-based interventions realize the inherent difficulty with balancing regular classroom duties with an intervention plan and the subsequent potential to become easily overwhelmed. Thus, all teachers may sense some value in documenting and improving TPI. However, there are some limitations to the statistical analyses used in the research questions pertaining to experience that may have failed to detect an effect of experience on acceptability ratings. The low obtained sample size does not allow for adequate power (.80) to detect small or medium effect sizes. Also, utilizing a *t*-test based on a median split may have oversimplified "more" and "less" experience. For example, participants with less experience implementing interventions may have implemented between 0 and 3 interventions whereas participants with more experience implementing interventions may have implemented between 4 and 60 interventions. The analysis treated teachers who implemented 3 interventions as different than teachers who implemented 4 interventions, while those who implemented 4 interventions were treated as the same as those who implemented 60 interventions. Utilizing a correlation rather than a

mean difference analysis to examine the effect of experience on acceptability ratings may have provided better information.

In addition, there are other teacher characteristics that may have been worth analyzing. For example, I/O researchers have examined how characteristics of the feedback recipient influence the way they perceive the feedback. Those with low self-efficacy are not as resilient to feedback that is revealing of a flaw in performance because they tend to attribute the flaw in performance to internal attributions rather than environmental factors, as the feedback only reinforces their low self-confidence (Atwater & Waldman, 2008). Individuals with a performance-prove goal orientation or who have a need to manage their reputation also can have intense emotional reactions to feedback that reveals less-than perfect performance as it invalidates competency in the former group and tarnishes reputations in the later group (Colquitt, LePine, & Noe, 2000; Moss & Sanchez, 2004; VandeWalle, Cron, & Slocum, 2001). London and Smither (2002) describe people with high feedback orientations as those who are self-monitors with a natural need for growth and accountability. They view feedback as more helpful compared to people with low feedback orientations. In the current study, self-efficacy, performance-prove goal orientations, a need to manage reputations, and degree of feedback orientations may have been characteristics of the MFAS respondents that had a larger influence on feedback acceptability ratings than teaching assignment, highest degree, or previous experience.

RQ 9: Other Implementation Support Methods

The most frequently occurring support method in participants' open-ended responses was *assist with developing interventions*. Whether due to lack of time, limited knowledge of what constitutes an intervention, or limited available resources to search for interventions, teachers clearly identify a difficulty with independently locating and developing interventions to suit the needs of a referred student. This finding is consistent with the direct care provision literature, in which locating evidence-based practices (EBPs; similar to evidence-based interventions) is one of the greatest personal barriers to nurses' use of EBPs, mostly due to limited knowledge and training with the process of locating EBPs (Pravikoff, Tanner, & Pierce, 2005). Even within the school psychology literature, researchers have documented a lack of training for identifying evidence-based interventions (e.g., Cook, Landrum, Tankersley, & Kauffman, 2003; Tankersley, Landrum, & Cook, 2004), which may be due, in part, over disagreement about what constitutes evidence (Kratochwill, Volpiansky, Clements, & Ball, 2007). Brown-Chidsey and Steege (2005) have noted that identifying and choosing evidence-based interventions is a necessary component to RTI training sessions for educators.

The second most frequently occurring support methods were *hire/seek additional school personnel* and *offer general support, collaboration, or openness to ideas*. Teachers are apparently recognizing the need for organizations to provide more support and the difficulty of independently fulfilling the new role demands inherent in the RTI context. Perhaps teachers have too many daily goals of their own to attend to in addition to the goals

that the RTI model pushes for, and there may be a focus on other organizational goals (e.g., preparing for and scoring End-of-Grade testing) that prevent the provision of needed support to teachers. The presence of other goals with a higher priority is one of the greatest organizational barriers to nurses' use of EBPs (Pravikoff, Tanner, & Pierce, 2005). There is also a moderate to strong relationship between EBP culture and use of EBPs (Thiel & Ghosh, 2008). EBP culture refers to the overall degree of support in the environment for engaging in EBP. This includes administrator's push for mission statements, investment in enabling resources to engage in EBP, and the provision of mentors and support for EBP evidence searches. Administration in RTI schools may need to provide a similar culture of support for use of interventions.

Assist with implementing interventions was the third most frequently occurring support method. This method would involve having other school personnel provide help with implementing parts of an intervention and may necessitate the seeking or hiring of additional school personnel. Teachers may be recognizing the difficulty with taking on full implementation responsibilities in a classroom. The presence of teacher assistants may be a luxury rather than a standard feature in many classrooms, but in order for RTI to work practically, administrators and policy makers may need to consider it a necessity to have teacher assistants in all classrooms.

Tied for fourth, the following support methods emerged in participants' responses: (a) *assist with paperwork and/or data collection*, (b) *assist with obtaining intervention materials*, (c) *train to implement interventions*, and (d) *revise the problem-solving procedures or*

structure. Finally, a few respondents also identified *change the schedule of problem-solving processes* and *expedite the problem-solving process* as support methods. Although there is little to draw from in other literatures for a comparative analysis, these identified support methods emphasize the lack of fit of current RTI expectations with current teachers' limitations. Teachers may be feeling that their schools' current method of problem-solving practices (including procedures, structure, and timing) does not align well with their available time, knowledge, resources, and experience. The expectation that teachers can and will gather the needed materials for interventions, know how to implement the interventions, monitor students' responses to the interventions, and fill out all of the appropriate paperwork is perhaps impractical. The responsibilities for those activities may need to be distributed among more school personnel.

Limitations

In addition to the specific limitations already discussed, there are several limitations regarding the methodology and implications of this research. First, there are no TPI monitoring and feedback acceptability instruments of which the researcher is aware; therefore, a new measure was created (MFAS). A measure that has been standardized on a larger sample of school personnel and that has repeatedly demonstrated reliability and validity would have been ideal to use. The current researcher-derived survey lacks a basis for comparison and has many unknown psychometric properties. Components contributing to the acceptability construct—perceived helpfulness, feasibility, and level of comfort—were extracted from the school psychology, I/O, educational development, and direct care

literatures as they appeared relevant to the present line of inquiry. There is no consistent

agreement across all literatures on the components that make up the acceptability construct.

Although all items in the MFAS had high coefficient alphas, thus suggesting that

perceptions of helpfulness, feasibility, and level of comfort contribute to the overall

acceptability rating, it is possible that respondents' ratings for some monitoring and feedback

methods were more heavily influenced by one component of acceptability versus another.

For example, one-on-one feedback meetings may be threatening, and consequently elicited a

lower level of comfort than more indirect feedback formats, yet the perceived helpfulness of

one-on-one meetings may be much higher than indirect methods. The helpfulness rating

would carry more weight in the overall acceptability of that item than the level of comfort.

On the other hand, the comprehensive acceptability ratings from more experienced teachers

might be indicative of higher ratings of level of comfort and feasibility rather than ratings of

helpfulness. Although analyses in this study were appropriate for the exploratory nature of

this line of inquiry, future refinement of the MFAS could analyze these components

separately and provide additional psychometric data.

Another limitation of this study concerns the representativenes of results. The MFAS

was administered at three of the five North Carolina RTI pilot sites originally examined in a

DPI report (Braden & Joyce, 2008) and nominated "best problem-solving schools" by their

respective school districts. The extent to which the perceptions of teachers revealed through

the MFAS at these three schools generalize to other schools in North Carolina is unknown.

Because these schools represent exceptional examples of RTI implementation, perhaps

teachers at these three schools perceive TPI monitoring and feedback methods as more acceptable than teachers at schools who are struggling with initiating the RTI model. Furthermore, the small number of special education teachers in this current study renders drawing general conclusions about the perceptions of special education teachers especially limited.

There are many opportunities for institutional differences to potentially affect teacher perceptions. For example, Choi and Chang (2009) identified organizational factors that shape individual's beliefs and actions: (a) management support, (b) resource availability, and (c) support for learning. When those factors are present at satisfactory levels, "[the] institutional context communicates a clear message to employees that implementation of the innovation is important, normatively expected, and even rewarding" (p. 246). On the other hand, when those factors are not present, "agency members perceive a low likelihood of success, which generates negative collective reactions toward the innovation" (p. 248). Management (or administrative) support, resource availability, and support for learning may vary widely across school districts, and even across schools within the same district. It seems inevitable, then, to expect varying levels of acceptability for TPI monitoring and feedback practices across schools. Because the principals at the three schools examined in this study agreed to have their teachers participate, they may be more interested in innovative ideas and more likely to encourage teacher participation in innovative practices. This introduces another possible limitation when generalizing these teacher perceptions to other schools with less innovative principals.

Along these same lines, a degree of caution must be used when drawing

recommendations for administrators. Barnes and Harlacher (2008) have emphasized that

RTI can and does look different in different institutions. Too many researchers and

administrators make the mistake that RTI involves a narrowly defined set of procedures,

focused on what RTI should look like rather than on why it is used. Although general

principles (i.e., the why) should not differ across sites, features of RTI implementation (i.e.,

the what) may differ across sites. For example, use of effective practices is a general

principle, whereas methods to ensure TPI are features. The current study cannot be

interpreted as what should occur, or what is "right," when considering a TPI monitoring and

feedback procedure. Rather, it is informative only as a sample of the perceptions of teachers

at a few schools.

Finally, the usual limitations inherent on relying on self-report data apply to this

study. The judgments that respondents make concerning the helpfulness, feasibility, and

level of comfort with each monitoring and feedback method are subjective and may be

affected by individual differences in interpretation and frame of reference. For example,

although there was an intervention scenario presented at the beginning of the survey, some

teachers may have had a particular intervention in mind that they recently had experience

with implementing. Even if the teachers were focused on the intervention scenario when

providing judgments of the three components of acceptability, their interpretation of

"feasible" or "comfortable" may vary. Also, some participants may have lost patience while

completing the survey, rushing through the items instead of taking time to think about their

ratings. These limitations can diminish validity of the results.

Directions for Future Research

In addition to the specific recommendations for future examinations into this area

already discussed, TPI monitoring and feedback acceptability research may take several

informative paths. First, researchers could compare a monitoring and feedback system that is

derived from more acceptable components with a monitoring and feedback system derived

from less acceptable components. For example, teachers within a school, or perhaps entire

schools, could be randomly assigned to the less acceptable or more acceptable monitoring

and feedback system. After having these systems in place for a school year, outcome

measures may include students' responsiveness to the interventions, levels of TPI, job stress,

and relationships with coworkers. It seems logical, as represented in the proposed model

from the literature review, that more acceptable systems would lead to more beneficial

outcomes in all of those measures. Innovative changes in an organization are often difficult

because they disrupt members' habits and threaten their security, but involving the members

in the decision-making process (e.g., obtaining their acceptability on various methods of

change) often makes the change easier (Vandeveer & Menefee, 2006)

Furthermore, consultation researchers may benefit from examining the implications

of a more or less acceptable monitoring and feedback procedure. Consultation researchers

have expressed the need for a structured interview in the behavioral consultation model to

assess and solve issues of implementation (e.g., Wilkinson, 2006). There are several possible

methods of structuring an interview for this purpose, and it would be beneficial to discover

how the consultee perceives, or finds acceptable, these methods when delivered by the

consultant. School leaders and administrators might also consider investing time and

research into this area, devising a systematic TPI monitoring and feedback procedure for

their SST meetings based on what teachers in their school find to be acceptable. School-

based practitioners and administrators are demonstrating a growing need for fidelity

instruments (Danielson, Doolittle, & Bradley, 2007). Yet without the provision of

instruments from those who produce interventions and those who study the effectiveness of

instruments, many school personnel are left to devise their own system.

Some researchers have examined the use of influential staff members (i.e., persons in

an organizational setting considered to be leaders without any formal position of power) to

influence the attitudes and behaviors of other staff members undergoing innovations in

practice. Within the field of direct care provision, nurses are now transitioning to an

evidence-based practice (EBP) environment, much like the transition to RTI in the school

system. Allowing administrators to choose "EBP champions" based on leadership potential,

Varnell, Haas, Duke, and Hudson (2008) examined how influential staff members could

facilitate transition to an EBP environment after undergoing an 8-week training program.

The training program, conducted by faculty members at a university, taught the importance

of EBPs, the process of identifying and evaluating research studies, and the process of

implementing EBP change. After the training program, EBP champions reported higher

scores on an EBP attitude questionnaire (i.e., greater positive perceptions of EBPs) and

higher scores on an EBP implementation questionnaire (i.e., greater use of EBPs). Similarly, to help low-income urban schools integrate the relatively unfamiliar practice of mental health consultation, Atkins, Frazier, Leathers, Graczyk, and colleagues (2008) examined the use of teacher key opinion leaders (KOLs) identified by peers. Their results supported the use of KOLs in collaboration with mental health providers as a way to increase use of recommended mental health practices.

Within the school context of movement toward RTI practices, researchers may benefit from examining the usefulness of similar indigenous leaders. The implementation of planned, evidence-based interventions and participation in a TPI monitoring and feedback package may seem less overwhelming with the leadership of influential and readily available staff members. KOLs or RTI champions, in collaboration with universities and training programs, may help increase the acceptability of a TPI monitoring and feedback package and higher levels of TPI.

Conclusions

The success of the newly emerging RTI model, in part, rests upon the degree with which teachers can follow through with planned evidence-based interventions. Therefore, it is important to monitor and maintain appropriate levels of TPI. A monitoring and feedback system is one way to accomplish this, but the procedures are new and unfamiliar to teachers. When unfamiliar innovations in practice are introduced within a setting, the level of consumer satisfaction, or acceptability, holds particular value. Teachers' satisfaction with possible monitoring and feedback systems pertaining to TPI may have implications for TPI

levels, student outcomes, job stress, and collaborative work relationships. However, their perceptions have been largely unexplored.

The purpose of this research was to fill that gap by examining teachers' acceptability of specific TPI monitoring and feedback methods, the effects of teacher characteristics on those perceptions, and other possible TPI support methods identified by teachers. The obtained findings are applicable to school leaders who are considering ways to build and test a systematic TPI monitoring and feedback package that is well received by those responsible for implementation.

References

Alder, G.S., & Ambrose, M.L. (2005). An examination of the effect of computerized

performance monitoring feedback on monitoring fairness, performance, and

satisfaction. *Organizational Behavior and Human Decision Processes, 97,* 161-177.

Allinder, R.M. (1997). Effects of acceptability on teachers' implementation of curriculum-

based measurement and student achievement in mathematics computation. *Remedial*

and Special Education, 18, 113-120.

Amick, B.C., & Smith, M.J. (1992). Stress, computer-based work monitoring and

measurement systems: A conceptual overview. *Applied Ergonomics, 23,* 6-16.

Ardoin, S.P., Witt, J.C., Connell, J.E., & Koenig, J.L. (2005). Application of a three-tiered

response to intervention model for instructional planning, decision making, and the

identification of children in need of services. *Journal of Psychoeducational*

Assessment, 23, 362-380.

Atwater, L.E., & Waldman, D.A. (2008). *Leadership, feedback and the open communication*

gap. NY: Lawrence Erlbaum Associates.

Barnes, A.C., & Harlacher, J.E. (2008). Clearing the confusion: Response-to-intervention as

a set of principles. *Education and Treatment of Children, 31*, 417-431.

Barnett, D.W., Daly, E.J., & Jones, K.M. (2004). Response to intervention: Empirically

based special service decisions from single-case designs of increasing and decreasing

intensity. *The Journal of Special Education, 38,* 66-79.

Begeny, J.C., & Martens, B.K. (2006). Assessing pre-service teachers' training in empirically-validated behavioral instruction practices. *School Psychology Quarterly, 21,* 262-285.

Bergan, J.R., & Kratochwill, T.R. (1990). *Behavioral consultation and therapy*. NY: Plenum Press.

Bond, C.F. & Anderson, E.L. (1987). The reluctance to transmit bad news: Private discomfort or public display? *Journal of Experimental Social Psychology, 23,* 176-187.

Braden, J.P., & Joyce, L.B. (2008). *Evaluation of problem-solving in North Carolina pilot and comparison schools*. North Carolina State University, Department of Psychology.

Bramlett, R.K.., Murphy, J.J., & Johnson, J. (2002). Contemporary practices in school psychology: A national survey of roles and referral problems. *Psychology in the Schools, 39,* 327-335.

Brown-Chidsey, R., & Steege, M.W. (2005). *Response-to-intervention: Principles and strategies for effective practice.* New York: Guilford Press.

Burns, M.K., Jacob, S., & Wagner, A.R. (2008). Ethical and legal issues associated with using response-to-intervention to assess learning disabilities. *Journal of School Psychology, 46*, 263-279.

Burns, M.K., Vanderwood, M.L., & Ruby, S. (2005). Evaluating the readiness of pre-referral intervention teams for use in a problem solving model. *School Psychology Quarterly, 20,* 89-105.

Burns. M.K., & Ysseldyke, J.E. (2005). Comparison of existing response-to-intervention models to identify and answer implementation questions. *The California School Psychologist, 10*, 9-20.

Carmer, S.G., & Swanson, M.R. (1973). An evaluation of nonorthogonal fixed-effects designs. *Psychological Bulletin, 81,* 563-570.

Chalykoff, J., & Kochan, T.A. (1989). Computer-aided monitoring: Its influence on employee job satisfaction and turnover. *Personnel Psychology, 42,* 807-829.

Choi, J.N., & Chang, J.Y. (2009). Innovation implementation in the public sector: An integration of institutional and collective dynamics. *Journal of Applied Psychology, 94*, 245-253.

Cochrane, W.S., & Laux, J.M. (2008). A survey investigating school psychologists' measurement of treatment integrity in school-based interventions and their beliefs about its importance. *Psychology in the Schools, 45*, 499-507.

Coding, R.S., Feinberg, A.B., Dunn, E.K., & Pace, G.M. (2005). Effects of immediate performance feedback on implementation of behavior support plans. *Journal of Applied Behavior Analysis, 38,* 205-219.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York: Academic Press.

Colquitt, J.A., LePine, J.A., & Noe, R.A. (2000). Toward an integrative theory of training

motivation: A meta-analytic path analysis of 20 years of research. Journal of Applied

Psychology, 85, 678-707.

Cook, B.G., Landrum, T.J., Tankersley, M., & Kauffman, J.M. (2003). Brining research to

bear on practice: Effecting evidence-based instruction for students with emotional or

behavioral disorders. *Education and Treatment of Children, 26,* 345-361.

Danielson, C. (1996). *Enhancing professional practice: A framework for teaching.*

Alexandria, VA: Association for Supervision and Curriculum Development.

Danielson, L., Doolittle, J., & Bradley, R. (2007). Professional development, capacity

building, and research needs: Critical issues for response to intervention

implementation. *School Psychology Review, 36,* 632-637.

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of

information technology. *MIS Quarterly,* 17, 227-230.

Davis, J.R., Rawana, E.P., & Capponi, D.R. (1989). Acceptability of behavioral staff

management techniques. *Behavioral Residential Treatment, 4,* 23-44.

DiGennaro, F.D., Martens, B.K., & McIntyre, L.L. (2005). Increasing treatment integrity

through negative reinforcement: Effects on teacher and student behavior. *School

Psychology Review, 34,* 220-231.

Eckert, T.L., & Hintze, J.M. (2000). Behavioral conceptions and applications of

acceptability: Issues related to service delivery and research methodology. *School

Psychology Quarterly, 15,* 123-148.

Education for All Handicapped Children Act of 1975, Pub. L. No. 94-192, 89 Stat. 773 (1975).

Elliott, S.N. (1988). Acceptability of behavioral treatments: Review of variables that influence treatment selection. *Professional Psychology: Research and Practice, 19,* 68-80.

Elliott, S.N., & Treuting, M.V. (1991). The behavior intervention rating scale: Development and validation of a pretreatment acceptability and effectiveness measure. *Journal of School Psychology, 29,* 43-51.

Erchul, W.P., & Martens, B.K. (2002). *School consultation: Conceptual and empirical bases of practice (2nd ed).* NY: Kluwer Academic/Plenum Publishers.

Erchul, W.P., & Schulte, A.C. (1996). Behavioral consultation as a work in progress: A reply to Witt, Gresham, and Noell. *Journal of Educational & Psychological Consultation, 7,* 345-354.

Farrell, P., Jimerson, S., & Kalambouka, A. (2005). Teachers' perceptions of school psychologists in different countries. *School Psychology International, 26,* 525-544.

Fedor, D.B., Bettenhausen, K.L., & Davis, W. (1999). Employee's dual roles as raters and recipients. *Group and Organization Management, 24,* 92-120.

Fleming, R., & Sulzer-Azaroff, B. (1992). Reciprocal peer management: Improving staff instruction in a vocational training program. *Journal of Applied Behavior Analysis, 25,* 611-620.

Fletcher, J.M., Francis, D.J., & Morris, R.D. (2005). Evidence-based assessment of learning disabilities in children and adolescents. *Journal of Clinical Child and Adolescent Psychology, 34,* 506-522.

Fuchs, L.S., Fuchs, D., Yazdin, L., & Powell, S.R. (2002). Enhancing first-grade children's mathematical development with peer-assisted learning strategies. *School Psychology Review, 31,* 569-583.

Gansle, K.A., & McMahon, C.M. (1997). Component integrity of teacher intervention management behavior using a student self-monitoring treatment: An experimental analysis. *Journal of Behavioral Education, 7,* 405-419.

Gillat, A., & Sulzer-Azaroff, B. (1994). Promoting principals' managerial involvement in instructional improvement. *Journal of Applied Behavior Analysis, 27,* 115-129.

Gilman, R., & Gabriel, S. (2004). Perceptions of school psychological services by education professionals: Results from a multi-state survey pilot study. *School Psychology Review, 33,* 271-286.

Graner, P.S., Faggetta-Luby, M.N., & Fritschmann, N.S. (2005). An overview of responsiveness to intervention: What practitioners ought to know. *Topics in Language Disorders, 25,* 93-105.

Greenwood, C.R., Terry, B., Arreaga-Mayer, C., & Finney, R. (1992). The classwide peer tutoring program: Implementation factors moderating students' achievement. *Journal of Applied Behavior Analysis, 25,* 101-116.

Gresham, F.M. (1989). Assessment of treatment integrity in school consultation and prereferral intervention. *School Psychology Review, 18,* 37-50.

Gresham, F.M. (2002). Responsiveness to intervention: An alternative approach to the identification of learning disabilities. In R. Bradley, L. Danielson, & D.P. Hallahan (Eds.), *Identification of learning disabilities: Research to practice* (pp. 467-519). Mahwah, NJ: Lawrence Erlbaum Associates.

Gresham, F.M. (2004). Current status and future directions of school-based behavioral interventions. *School Psychology Review, 33,* 326-343.

Gresham, F.M., Gansle, K.A., Noell, G.H., & Cohen, S. (1993). Treatment integrity of school-based intervention studies: 1980-1990. *School Psychology Review, 22,* 254-272.

Gresham, F.M., MacMillan, D.L., Beebe-Frankenberger, M.E., & Bocian, K.M. (2000). Treatment integrity in learning disabilities intervention research: Do we really know how treatments are implemented? *Learning Disabilities Research & Practice, 15,* 198-205.

Hagermoser Sanetti, L.M., Luiselli, J.K., & Handler, M.W. (2007). Effects of verbal and graphic performance feedback on behavior support plan implementation in a public elementary school. *Behavior Modification, 31,* 454-465.

Hawkins, R.P (1991). Is social validity what we are interested in? Argument for a functional approach. *Journal of Applied Behavior Analysis, 24,* 205-213.

Henderson, R., Mahar, D., Saliba, A., Deane, F., & Napier, R. (1998). Electronic monitoring systems: An examination of physiological activity and task performance within a simulated keystroke security and electronic performance monitoring system. *International Journal of Human-Computer Studies, 48,* 143-157.

Holdnack, J.A., & Weiss, L.G. (2006). IDEA 2004: Anticipated implications for clinical practice—integrating assessment and intervention. *Psychology in the Schools, 43,* 871-882.

Howell, D.C. (2007). *Statistical Methods for Psychology (6th ed).* Belmont, CA: Thomas Wadsworth.

Ikeda, M.J., Tilly, D.W., Stumme, J., Volmer, L., & Allison, R. (1996). Agency-wide implementation of problem-solving consultation: Foundations, current implementation, and future directions. *School Psychology Quarterly, 11,* 228-243.

Individuals with Disabilities Education Improvement Act of 2004 (IDEIA), Pub. L. No. 108-446, 118 Stat. 2647 (2004).

Jones, K.M., Wickstrom, K.F., & Friman, P.C. (1997). The effects of observational feedback on treatment integrity in school-based behavioral consultation. *School Psychology Quarterly, 12,* 316-326.

Kazdin, A.E. (1980). Acceptability of time out from reinforcement procedures for disruptive child behavior. *Behavior Therapy, 11,* 329-344.

Kimball, S.M. (2002). Analysis of feedback, enabling conditions and fairness perceptions of teachers in three school districts with new standards-based evaluation systems. *Journal of Personnel Evaluation in Education, 16,* 241-268.

Knotek, S.E. (2005). Sustaining RTI through consultee-centered consultation. *The California School Psychologist, 10,* 93-104.

Komaki, J.L. (1986). Toward effective supervision: an operant analysis and comparison of managers at work. *Journal of Applied Psychology, 71,* 270-279.

Kovaleski, J.F. (2007). Response to intervention: Considerations for research and systems change. *School Psychology Review, 36,* 638-646.

Kovaleski, J.F., & Glew, M.C. (2006). Bringing instructional support teams to scale: Implications of the Pennsylvania experience. *Remedial and Special Education, 20,* 16-45.

Kovaleski, J.F., Tucker, J.A., & Stevens, L.J. (1996). Bridging special and regular education: The Pennsylvania Initiative. *Educational Leadership, 53,* 44-47.

Kratochwill, T.R., Clements, M.A., & Kalymon, K.M. (2007). Response to intervention: Conceptual and methodological issues in implementation. In S.R. Jimerson, M.K. Burns, & A.M. VanDerHeyden (Eds.), *Handbook of response to intervention: The science and practice of assessment and intervention* (pp. 25-52). New York: Springer.

Kratochwill, T.R., Volpainsky, P., Clements, M., & Ball, C. (2007). Professional

development in implementing and sustaining multitier prevention models:

Implications for response to intervention. *School Psychology Review, 36*, 618-631.

Lai, E.R., & Waltman, K. (2008). Test preparation: Examining teacher perceptions and

practices. *Educational Measurement: Issues and Practice, Summer*, 28-45.

Landrum, T.J., & Kauffman, J.M. (2006). Behavioral approaches to classroom management.

In C.M. Evertson & C.S. Weinstein (Eds.), *Handbook of classroom management* (pp.

47-71). Mahwah, NJ: Lawrence Erlbaum.

Lane, K.L., & Beebe-Frankenberger, M. (2004). *School-based interventions: The tools you

need to succeed.* Boston: Pearson Education.

Lane, K.L., Rogers, L.A., Parks, R.J., Weisenbach, J.L., Mau, A.C., Merwin, M.T., &

Bergman, W.A. (2007). Function-based interventions for students who are

nonreponsive to primary and secondary prevention efforts: Illustrations at the

elementary and middle school levels. *Journal of Emotional and Behavioral

Disorders, 15,* 169-183.

Larson, J.R. (1986). Supervisors' performance feedback to subordinates: The impact of

subordinate performance valence and outcome dependence. *Organizational Behavior

and Human Decision Process, 37,* 391-408.

Lee, F. (1993). Being polite and keeping MUM: How bad news is communicated in

organizational hierarchies. *Journal of Applied Social Psychology, 23,* 1124-1149.

Lennox, D.B., & Miltenberger, R.G. (1990). On the conceptualization of treatment

acceptability. *Education and Training in Mental Retardation, 25,* 211-224.

Liberman, R.P. (1979). Social and political challenges to the development of behavioral

programs in organizations. In S. Bates, P.O. Sjoden, W.S. Dockens, & K.G.

Gotestam (Eds.), *Trends in behavior therapy.* New York: Academic Press.

London, M. (2003). Job feedback: Giving, seeking, and using feedback for performance

improvement. Mahwah, NJ: Lawrence Erlbaum Associates.

London, M., & Smither, J.W. (2002). Feedback orientation, feedback culture, and the

longitudinal performance management process. *Human Resource Management

Review, 12*, 81-101.

Marston, D.B., Meuystens, P., Lau, M., & Canter, A. (2003). Problem solving model for

decision-making with high-incedence disabilities: The Minneapolis experience.

Learning Disabilities Research & Practice, 18, 187-200.

Martens, B.K., Hiralall, A.S., & Bradley, T.A. (1997). A note to teacher: Improving student

behavior through goal setting and feedback. *School Psychology Quarterly, 12,* 33-41.

Mastropieri, M.A., & Scruggs, T.E. (2005). Feasibility and consequences of response to

intervention: Examination of the issues and scientific evidence as a model for the

identification of individuals with learning disabilities. *Journal of Learning

Disabilities, 38,* 525-531.

McGivern, J.E., Ray-Subramanian, C.E., & Auster, E.R. (2008). Best practices in

establishing effective helping relationships. In A. Thomas & J. Grimes (Eds.), *Best*

practices in school psychology – V (pp. 1613-1631). Bethesda, MD: National

Association of School Psychologists.

McNamara, K., Telzrow, C., DeLamatre, J. (1999). Parent reactions to implementation of

intervention-based assessment. *Journal of Education and Psychological*

Consultation, 10, 343-362.

Miltenberger, R.G., Larson, J., Doerner, M., & Orvedal, L. (1992). Assessing the

acceptability of staff management procedures to direct care and supervisory staff.

Behavioral Residential Treatment, 7, 23-34.

Minneapolis Public Schools. (2001). *Problem solving model: Introduction for all staff.*

Minneapolis, MN: Author.

Mortenson, B.P., & Witt, J.C. (1998). The use of weekly performance feedback to increase

teacher implementation of a prereferral academic intervention. *School Psychology*

Review, 27, 613-627.

Moss, S.E., & Sanchez, J.I. (2004). Are your employees avoiding you? Managerial

strategies for closing the feedback gap. *Academy of Management Executive, 18*, 32-

44.

Nevin, A., Thousand, J., Paloucci-Whitcomb, P., & Villa, R. (1990). Collaborative

consultation: Empowering public school personnel to provide heterogeneous

schooling for all: or, Who rang that bell? *Journal of Educational and Psychological*

Consultation, 1, 41-67.

Noell, G.H. (2008). Research examining the relationships among consultation process, treatment integrity, and outcomes. In W.P. Erchul & S.M. Sheridan (Eds.), *Handbook of research in school consultation* (pp. 323-341). New York: Lawrence Erlbaum Associates/Taylor & Francis Group.

Noell, G.H., Duhon, G.J., Gatti, S.L., & Connell, J.E. (2002). Consultation, follow-up, and behavior management intervention implementation in general education. *School Psychology Review, 31,* 217-234.

Noell, G.H., & Gansle, K.A. (2006). Assuring the form has substance: Treatment plan implementation as the foundation of assessing response to intervention. *Assessment for Effective Intervention, 32,* 32-39.

Noell, G.H, Witt, J.C., Gilbertson, D.N., Ranier, D.D., & Freeland, J.T. (1997). Increasing teacher intervention implementation in general education settings through consultation and performance feedback. *School Psychology Quarterly, 12,* 77-88.

Noell, G.H., Witt, J.C., Slider, N.J., Connell, J.E., Gatti, S.L., Williamson, et al. (2005). Treatment implementation following behavioral consultation in schools: A comparison of three follow-up strategies. *School Psychology Review, 34,* 87-106.

Oats, R.G., & Allinder, R.M. (1995). Validation of the CBM acceptability scale (Tech. Rep. No. 201. Available from the second author).

Ovando, M.N. (2001). Teachers' Perceptions of a Learner-Centered Teacher Evaluation System. *Journal of Personnel Evaluation in Education, 15,* 213-231.

Paolo, A.M., Bonaminio, G.A., Gibson, C., Partridge, T., & Kallail, K. (2000). Response

   rate comparisons of e-mail and mail-distributed student evaluations. *Teaching and*

   Learning in Medicine, 12, 81-84.

Parikoff, D.S., Tanner, A.B., & Pierce, S.T. (2005). Readiness of U.S. nurses for evidence-

   based practice: Many don't understand or value research and have had little of no

   training to help them find evidence on which to base their practice. *American*

   Journal of Nursing, 105, 40-52.

Peterson, D.W., Prasse, D.P., Shinn, M.R., & Swerklik, M.E. (2007). The Illinois flexible

   service delivery model: A problem-solving model initiative. In S.R. Jimerson, M.K.

   Burns, & A.M. VanDerHeyden (Eds.), *Handbook of response to intervention: The*

   science and practice of assessment and intervention (pp. 300-318). New York:

   Springer.

Pomerleau, O.F., Bobrove, P.H., & Smith, R.H. (1973). Rewarding psychiatric aides for the

   behavioral improvement of assigned patients. *Journal of Applied Behavior Analysis,*

   6, 383-390.

Reid, D.H., & Whitman, T.L. (1983). Behavioral staff management in institutions: A critical

   review of effectiveness and acceptability. *Analysis and Intervention in*

   Developmental Disabilities, 3, 131-149.

Reimers, T.M., Wacker, D.P., & Koeppl, G. (1987). Acceptability of behavioral treatments:

   A review of the literature. *School Psychology Review, 16,* 212-227.

Reimers, T.M., & Wacker, D.P. (1988). Parent's ratings of the acceptability of behavioral

    treatment recommendations made in an outpatient clinic: A preliminary analysis of

    the influence of treatment effectiveness. *Behavioral Disorders, 14,* 7-15.

Reschly, D.J. (2000). The present and future status of school psychology in the United

    States. *School Psychology Review, 29,* 507-522.

Riley-Tillman, T.C., & Chafouleas, S.M. (2003). Using interventions that exist in the natural

    environment to increase treatment integrity and social influence in consultation.

    Journal of Educational and Psychological Consultation, 14, 139-156.

Schulte, A.C., Osborne, S.S., & Kauffman, J.M. (1993). Teacher responses to two types of

    consultative special education services. *Journal of Educational and Psychological*

    Consultation, 4, 1-27.

Scruggs, T.E., & Mastropieri, M.A. (2002). On babies and bathwater: Addressing the

    problems of identification of learning disabilities. *Learning Disability Quarterly, 25,*

    155-168.

Schwartz, I.S., & Baer, D.M. (1991). Social validity assessments: Is current practice state of

    the art? *Journal of Applied Behavior Analysis, 24,* 189-204.

Seys, D.M., & Duker, P.C. (1978). Improving residential care for the retarded by differential

    reinforcement of high rates of ward-staff behaviour. *Behavioral Analysis and*

    Modification, 2, 203-210.

Smith, W.J., Harrington, K.V., & Houghton, J.D. (2000). Predictors of performance

appraisal discomfort: A preliminary examination. *Public Personnel Management, 29,*

21-31.

Stanton, J.M. (2000). Reactions to employee performance monitoring: Framework, review,

and research directions. *Human Performance, 13,* 85-113.

Stephan, W.G., & Dorfman, P.W. (1989). Administrative and developmental functions in

performance appraisals: Conflict or synergy? *Basic and Applied Social Psychology,*

10, 27-41.

Sterling-Turner, H.E., & Watson, T.S. (2002). An analog investigation of the relationship

between treatment acceptability and treatment integrity. *Journal of Behavioral*

Education, 11, 39-50.

Sterling-Turner, H.E., Watson, T.S., & Moore, J.W. (2002). The effects of direct training

and treatment integrity on treatment outcomes in school consultation. *School*

Psychology Quarterly, 17, 47-77.

Sterling-Turner, H.E., Watson, T.S., Wildmon, M., & Watkins, C. (2001). Investigating the

relationship between training type and treatment integrity. *School Psychology*

Quarterly, 16, 56-67.

Tankersley, M., Landrum, T.J., & Cook, B.G. (2004). How research informs practice in the

field of emotional and behavioral disorders. In R.B. Rutherford, M.M. Quinn, & S.R.

Mathur (Eds.), *Handbook of research in emotional and behavioral disorders* (pp. 98-133). New York: Guilford Press.

Taylor, J., & Miller, M. (1997). When timeout works some of the time: The importance of treatment integrity and functional assessment. *School Psychology Quarterly, 12,* 4-22.

Telzrow, C.F., McNamara, K., & Hollinger, C.L. (2000). Fidelity of problem-solving implementation and relationship to student performance. *School Psychology Review, 29,* 443-461.

Texas Education Agency. (1997). *Manual for the Professional Development and Appraisal System.* Austin, TX: TEA.

Thiel, L., & Ghosh, Y. (2008). Determining registered nurses' readiness for evidence-based practice. *Worldviews on Evidence-Based Nursing, 5*, 182-192.

Tilly, D. (2003). *How many tiers are needed for successful prevention and early intervention? Heartland Area Agency's evolution from four to three tiers.* Paper presented at the National Research Center on Learning Disabilities Responsiveness-to-Intervention Symposium, Kansas City, MO.

Vandeveer, R.C., & Menefee, M.L. (2006). *Human behavior in organizations.* Upper Saddle River, NJ: Pearson Prentice Hall.

VandeWalle, D., Cron, W., & Slocum, J. (2001). The role of goal orientation following performance feedback. *Journal of Applied Psychology, 86*, 629-640.

Varnell, G., Haas, B., Duke, G., & Hudson, K. (2008). Effect of an educational intervention on attitudes toward and implementation of evidence-based practice. *Worldviews on Evidence-Based Nursing, 5*, 172-181.

Von Brock, M.B., & Elliott, S.N. (1987). Influence of treatment effectiveness information on the acceptability of classroom interventions. *Journal of School Psychology, 25,* 131-144.

Waldersee, R., & Luthans, F. (1994). The impact of positive and corrective feedback on customer service performance. *Journal of Organizational Behavior, 15,* 83-95.

Walsh, K., Glaser, D., & Wilcox, D.D. (2006). *What education schools aren't teaching about reading and what elementary teachers aren't learning.* National Council on Teacher Quality. Retrieved April 9, 2008 from http://www.nctq.org/nctq/index.jsp.

Ward, P., Johnson, M., & Konukman, F. (1998). Directed rehearsal and preservice teachers' performance of instructional behavior. *Journal of Behavioral Education, 8,* 369-380.

Watson, T.S., Ray, K.P., Sterling-Turner, H., & Logan, P. (1999). Teacher-implemented functional analysis and treatment: A method for linking assessment to intervention. *School Psychology Review, 28,* 292-302.

Wickstrom, K.F., Jones, K.M., LaFleur, L.H., & Witt, J.C. (1998). An analysis of treatment integrity in school-based behavioral consultation. *School Psychology Quarterly, 13,* 141-154.

Wilkinson, L.A. (2006). Monitoring treatment integrity: An alternative to the 'consult and hope' strategy in school-based behavioural consultation. *School Psychology International, 27,* 426-438.

Witt, J.C., & Elliott, S.N. (1985). Acceptability of classroom management strategies. In T.R. Kratochwill (Ed.), *Advances in School Psychology, 4,* (pp. 251-288). Hillsdale, NJ: Erlbaum.

Witt, J.C., Gresham, F.M., & Noell, G.H. (1996). What's behavioral about behavioral consultation? *Journal of Educational and Psychological Consultation, 7,* 327-344.

Witt, J.C., & Martens, B.K. (1983). Assessing the acceptability of behavioral interventions used in classrooms. *Psychology in the Schools, 20,* 510-517.

Witt, J.C., Martens, B.K., & Elliott, S.N. (1984). Acceptability of behavioral interventions used in classrooms: The influence of amount of teacher time, severity of problem, and type of intervention. *Behavior Therapy, 15,* 204-209.

Witt, J.C., Noell, G.H., LaFleur, L.H., & Mortenson, B.P. (1997). Teacher usage of interventions in general education settings: Measurement and analysis of the independent variable. *Journal of Applied Behavior Analysis, 30,* 693-696.

Wolf, M.M. (1978). Social validity: The case for subjective measurement or how applied behavior analysis is finding its heart. *Journal of Applied Behavior Analysis, 11,* 203-214.

Woodgate-Jones, A. (2008). Training confident primary modern foreign language teachers

in England: An investigation into preservice teachers' perceptions of their subject

knowledge. *Teacher and Teacher Education, 24*, 1-13.

Yariv, E. (2006). "Mum effect": Principals' reluctance to submit negative feedback. *Journal

of Managerial Psychology, 21,* 533-546.

Appendices

Appendix A: TPI Monitoring and Feedback Acceptability Survey (MFAS)

TPI Monitoring and Feedback Acceptability Survey (MFAS)

Please read the scenario below and answer the survey items that follow. No identifying information will be connected with your responses.

A student in your class has recently been experiencing significant difficulty completing work. After not having any success at reducing the student's difficulties on your own, you present the problem to the school's student support team (SST). The team provides you with a research-based intervention that has worked before with students having similar problems. This intervention requires that you and the student complete daily academic progress charts that summarize the student's classroom performance and then provide a reward if the student has completed 50% of his/her work. You are responsible for implementing the intervention before the team decides whether it was effective in helping the student.

The following survey items present several different ways that school personnel could collect data on your implementation of this intervention. Next to each item are three different areas for you to express your opinion on these methods. For each area, please use the following scale and circle the appropriate number.

1 = Strongly Disagree
2 = Moderately Disagree
3 = Slightly Disagree
4 = Slightly Agree
5 = Moderately Agree
6 = Strongly Agree

	…this method would ultimately *help* me implement the intervention.	**…participating in this method would be *feasible* to me.**	**…I would be *comfortable* with participating in this method.**
If someone came into your classroom to observe your implementation of the intervention…	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
If someone collected the daily academic progress charts resulting from the intervention…	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
If you filled out a checklist of the intervention steps you implemented and provided this as data…	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6

If the person(s) collecting the data on your implementation of the intervention were…	…this method would ultimately *help* me implement the intervention.						…participating in this method would be *feasible* to me.						…I would be *comfortable* with participating in this method.					
the principal or assistant principal	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
the school psychologist	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
the counselor	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
a regular education teacher	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
a special education teacher	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
members of the SST	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
If data on your implementation were collected…																		
Daily	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
2-3 times a week	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
once a week	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
less than once a week	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6

The following items present several ways that school personnel could provide feedback to you about your intervention implementation. **Feedback** *is usually given about which intervention steps you have been implementing as planned. The goal of providing feedback is to identify where you might need more help implementing the intervention.*

Next to each item are three different areas for you to express your opinion on various feedback methods. For each area, please use the following scale and circle the appropriate number.

1 = Strongly Disagree
2 = Moderately Disagree
3 = Slightly Disagree
4 = Slightly Agree
5 = Moderately Agree
6 = Strongly Agree

	…this method would ultimately *help* me implement the intervention.						…participating in this method would be *feasible* to me.						…I would be *comfortable* with participating in this method.					
If feedback concerning your implementation of the intervention included…																		
a discussion of problems you found during implementation	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
a plan to solve those problems for future implementation	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
a discussion of the importance of the intervention steps you missed	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
opportunities to practice the steps you missed	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6

	…this method would ultimately *help* me implement the intervention.						…participating in this method would be *feasible* to me.						…I would be *comfortable* with participating in this method.					
If the format in which you received feedback were provided through…																		
a one-on-one meeting	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
a telephone conversation	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
an e-mail	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
a handout in your mailbox	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
If the person(s) providing you with feedback concerning your implementation were…																		
the principal or assistant principal	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
the school psychologist	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
the counselor	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
a regular education teacher	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
a special education teacher	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
members of the SST	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
If you were provided with feedback concerning your implementation…																		
Daily	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
2-3 times a week	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
once a week	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
less than once a week	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
only when you had missed certain intervention steps	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6

Please answer the following questions:

1. How many years have you been teaching? _____

2. What is your current primary teaching assignment?
    a) Regular education
    b) Special education
    c) Teaching assistant
    d) Other: _____

3. What is your highest earned degree?
    a) Associate's degree
    b) Bachelor's degree
    c) Master's degree
    d) Doctoral degree
    e) Other: _____

4. Approximately how many individual child interventions developed as part of the student support team (SST) process have you been responsible for implementing in the past year? _____

5. In your opinion, in what other ways can school personnel support your implementation of these types of interventions?

Thank you for your cooperation! Your responses will help us meet the needs of both students and teachers. Before turning in your completed survey, please place it in the provided envelope.

Appendix B: Initial Letter of Interest to Principals

Initial Letter of Interest to Principals

September 19, 2008

Name of principal
Name of school
Address of school

Dear (name of principal):

In 2007, I was the principal investigator of an NCDPI-sponsored study that evaluated school-based problem-solving processes within selected North Carolina schools. As one of North Carolina's response-to-intervention (RTI) pilot sites, (name of school) was one of five settings that several school psychology graduate students at North Carolina State University and I investigated.

Julia Easton was one of the graduate students who assisted in this evaluation study. For her master's thesis research this year, Julia is interested in administering a brief (15 min.) questionnaire to teachers assessing their perceptions of helpfulness, feasibility, and level of comfort with the various methods of receiving feedback on intervention implementation within RTI. Obtaining this information from the original RTI pilot sites is important, as teachers at these schools are now involved in implementing classroom-based interventions to address academic problems.

As principal of (name of school), your assistance would be greatly appreciated to conduct this thesis research. If you were to allow Julia the opportunity to survey your teachers, she certainly would be happy to share results with you and your staff. These results would be valuable, especially if you are considering initiating a systematic method of monitoring teachers' implementation of interventions.

In closing, I ask that you please consider having your teachers participate in this interesting study. Julia will be contacting you in two weeks with a follow-up e-mail. Until then, should you have any questions, please feel free to reach her using the contact information below.

Thank you.

Sincerely,

Jeffery P. Braden, PhD
Interim Dean
College of Humanities and Social Sciences

Julia Easton
(919) 606-0133
jeeaston@ncsu.edu

Appendix C: Follow Up Letter to Principals

Follow Up Letter to Principals

October 8, 2008

Name of principal
Name of school
Address of school

Dear (name of principal):

The purpose of this letter is to follow up on Dean Jeff Braden's letter of September 19, 2008.

With the growing popularity of the problem-solving model, or Response to Intervention (RTI), *special education eligibility decisions rely on the consistent delivery of classroom interventions.* With recent changes in federal law, teachers are now being asked to use evidence-based interventions with their students and to monitor students' responses to these interventions.

However, most schools do not have a system in place to monitor the extent to which the steps in an intervention are being carried out in the classroom as planned. This is unfortunate, considering the importance of teachers' follow through with interventions to making valid special education placement decisions. Furthermore, most schools do not provide feedback to teachers about their degree of intervention implementation. This, too, is unfortunate because research studies have shown that providing feedback is effective in increasing the degree to which teachers carry out intervention steps.

As one of only five RTI pilot sites in North Carolina, your school is in a unique position to help. Therefore, we are inviting you to participate in a study focusing on how teachers view several methods of collecting data on their implementation of an intervention and then receiving feedback based on these data. The study would involve asking teachers to anonymously complete a 15-minute survey assessing their perceptions of the helpfulness, feasibility, and level of comfort with several ways of monitoring intervention implementation and giving feedback. This survey research has been approved by NC State's Institutional Review Board on Research Involving Human Subjects.

Should you agree to have your school participate in this study, we can provide a summary of the findings, maintaining the anonymity of teacher responses. Knowing how your teachers perceive various methods of monitoring and feedback would seem important before deciding how to use these methods in your school.

Ms. Easton will be contacting you in about two weeks regarding your decision to participate. In the meantime, please feel free to contact either of us with any questions you may have.

Thank you for considering this request.

Sincerely,

William P. Erchul, PhD, ABPP   Julia E. Easton
Professor of Psychology   Graduate Student in Psychology
william_erchul@ncsu.edu   jeeaston@ncsu.edu

Appendix D: Teacher Survey Cover Letter

Teacher Survey Cover Letter

Date

Dear Teacher,

With the growing popularity of the problem-solving model, or Response to Intervention (RTI), teachers of all types are being asked to use evidence-based interventions with their students. These interventions usually involve a series of planned steps to help solve a student's academic or behavioral problems. Some school districts working under the RTI model are considering adopting a system of working with teachers to help increase the degree which they carry out the planned steps in an intervention.

We are inviting you to participate in a study focusing on **how teachers view possible methods of receiving support to consistently implement planned interventions.** This research is part of a thesis project that has been approved by a graduate faculty committee and NC State's Institutional Review Board on Research Involving Human Subjects. Your participation would consist of providing evaluations of the helpfulness, feasibility, and level of comfort with various support methods.

Completing this survey should take only about 15 minutes. By completing and returning the survey, you are providing your consent to participate. You are free to withdraw your consent at any time. Participation in this survey research is voluntary and your responses will remain confidential. Your name will not be connected to your responses in any way, and only the persons listed below will have access to your data. We ask that you put your completed survey in the provided envelope to further protect the anonymity of your responses.

Your responses are important for us to understand how schools can help teachers implement planned interventions, thereby better serving the needs of students. If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919/515-7515), or Joe Rabiega, IRB Coordinator, Box 7514, NCSU Campus (919/515-7515).

Thank you very much for your time!

Sincerely,

William P. Erchul, PhD, ABPP   Julia E. Easton
Professor of Psychology   Graduate Student in Psychology
william_erchul@ncsu.edu   jeeaston@ncsu.edu

Appendix E: Sample Responses for Categories of Implementation Support Methods

Sample Responses for Categories of Implementation Support Methods

Category	Definition	Sample Responses
Assist with paperwork and/or data collection	Reflects desire to have amount of paperwork reduced or to receive assistance with paperwork and/or data collection.	*Take some of the paper work from the teachers. This seems to be the hardest part of SST.* *Assist in progress monitoring my interventions at tier 3.*
Assist with obtaining intervention materials	Reflects desire to receive the materials, money to purchase materials, or assistance with developing materials.	*More money for materials for interventions.* *Develop and provide materials…*
Assist with developing the interventions	Reflects desire to receive interventions/strategies or to receive information/ideas directly related to developing interventions.	*We have to provide interventions. I would prefer the team provide us with helpful interventions before we try an intervention on a student.* *We would like to get information for interventions from the team. On our set up we have to develop all interventions.*
Assist with implementing interventions	Expresses the need for specific and nonspecific intervention help from existing school personnel.	*…they need to help us implement them.* *…and in helping with interventions when appropriate.*

Train to implement interventions	Portrays the need for training or practice with interventions.	*If I were to be included in the implementation interventions, then more training for me would be needed to feel that I could successfully implement.* *Training in ways to deal with problematic behavior.*
Hire/seek additional school personnel	Portrays the need for additional personnel in the school to take on implementation responsibilities or other intervention responsibilities.	*Hire/seek volunteers to implement strategies.* *We need additional staff members to support the intervention process, especially for teachers who have a high number of students in the model.*
Change the schedule of problem-solving processes	Expresses the need for a change in scheduling-more flexibility or more regularity-of the problem-solving process as a whole or with specific parts of the process.	*More planning time to compile data.* *Just regularly scheduled meetings—not weekly, maybe monthly.*
Expedite the problem solving process	Expresses the desire to speed up the problem solving process.	*Speed up the process. Start earlier.* *Not take so long for a child to go through the problem solving process. By the time they are actually served, valuable time has passed—almost a ½ year.*

Revise the problem solving procedures or structure	Reflects the need for the problem solving (or SST) process in general to change.	*It seems to me that when I refer a student to the problem solving team for academics, they come back with a higher score that wouldn't qualify them for assistance. However, they continue to struggle and perform below grade level. Then in a few years you see the same child referred. I just don't feel that makes sense.* *Even the SST process isn't much a help either.*
Offer general support, collaboration, or openness to ideas	Expresses need for unspecified support, collaboration, and openness from other people—internal or external—to the school setting.	*More administrative and county support* *I think that my school personnel are very supportive already. They have always been open to my questions.*