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General Education Teachers and Classroom-Based Interventions: Knowledge, Training, and Building-Level Influences

Jenine M. Sansosti
University of South Florida

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General Education Teachers and Classroom-Based Interventions:
Knowledge, Training, and Building-Level Influences

by

Jenine M. Sansosti

A thesis submitted in partial fulfillment
of the requirements for the degree of
Education Specialist
Department of Psychological and Social Foundations
College of Education
University of South Florida

Major Professor: Linda M. Raffaele Mendez, Ph.D.
Michael J. Curtis, Ph.D.
John Ferron, Ph.D.

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ABSTRACT

Intervention assistance (IA) programs have been developed as a mechanism for avoiding costly special education referrals and for supporting teachers in their instruction of students with varying needs within the general education classroom (Safran & Safran, 1996). Although IA programs are designed to be consultative, multidisciplinary approaches to assisting teachers, some studies report that teachers conduct the majority of classroom-based interventions for a given student on their own prior to referring students to an IA team (Wilson, Hagen, Gutkin, & Oats, 1998). It is important to determine what interventions or strategies teachers commonly consider and what factors are associated with breadth and depth of intervention knowledge. The purpose of the present study was to replicate a portion of the research of Wilson et al. (1998), which assessed general education teachers' knowledge of classroom-based interventions. The present study also extended the work of Wilson et al. by using an exploratory descriptive/nonexperimental design to examine the degree to which teachers' individual professional characteristics, as well as the IA practices of the schools in which they work, were related to their knowledge of interventions.

Twenty-nine general education teachers in Hillsborough County, FL responded to a vignette describing a typical classroom-based problem in a structured-interview format. Participants' responses were then counted and coded for (a) how specifically interventions were described, and (b) what types of interventions the teachers used (e.g., instructional, behavioral, etc.). Teachers also completed a brief demographic questionnaire, which included items about

the IA programs at their schools, as well as their individual referral history over the last two years, and the degree to which they had been trained in classroom-based interventions. Results were similar to Wilson et al. with regard to number of intervention ideas, but teachers were more specific than in previous investigations. Descriptive data regarding teachers' characteristics as problem-solvers and their perceptions of IA at their school are offered, but few noteworthy relationships were identified between these variables and structured interview outcomes. Nevertheless, the present study offers a glimpse into the intervention practices of general education teachers. Implications for both school psychology practice and research are offered.

Chapter I Introduction

Brief Review of Literature

Traditional special education practices, including refer-test-place procedures resulting in restrictive placements for students, have been found to be minimally successful in improving student outcomes (Reschly, 1989). Furthermore, research suggests that this approach to eligibility determination results in overidentification and inappropriate placements in special education classes (Fuchs, Fuchs, Bahr, Fernstrom, & Stecker, 1990; Safran & Safran, 1996). Efforts to remedy these problems have pushed for students with special needs to be integrated in general education classrooms whenever possible, and have emphasized students' rights to receive services without having to be conferred a diagnostic label (NASP, 1995).

As a result of these initiatives and movements, there is today an increased number of difficult-to-teach students (with and without diagnosed disabilities) who are educated in a least restrictive environment (LRE). A variety of students and needs comprise today's general education classroom. While this change in student demographics is positive in that it suggests the realization of inclusion movements, the increase of difficult-to-teach students in general education also poses some serious challenges for teachers. In response to national reform movements, higher academic standards in education have increased pressure on teachers to move rapidly through complex curricula, leaving difficult-to-teach students behind (Rathvon, 1999). Although the spirit of the inclusion/LRE movement is laudable, the realities of these ideals may include unintended negative outcomes for difficult-to-teach students.

Intervention assistance (IA) programs have been developed as a mechanism for avoiding unnecessary and costly special education referrals, as

well as for supporting teachers in their instruction of students with varying needs within the general education classroom. Multidisciplinary IA teams, typically consisting of teachers, school psychologists, special educators, counselors, and other relevant personnel, represent a viable alternative to traditional refer-test-place practices, as they have been found to be generally successful in developing interventions and promoting collaboration among school personnel within an ecological/problem-solving model (Harrington & Gibson, 1986; Nelson, Smith, Taylor, Dodd, & Reavis, 1991; Rathvon, 1999). Furthermore, IA programs facilitate compliance with LRE of IDEA 1997 by strengthening teachers' capacities to meet the increasing diversity of student needs within the general education context, and by challenging teams to find solutions to problems, rather than diagnoses.

Although IA programs offer much in the way of innovation and support to schools and teachers, the literature suggests several areas in which these teams and procedures must improve. Some studies of IA activities report that although IA programs are designed to be consultative, multidisciplinary approaches to assisting difficult-to-teach students, teachers actually conduct the majority of classroom-based interventions for a given student on their own, prior to referring students to an IA team (Wilson, Hagen, Gutkin, & Oats, 1998). Even when teachers do consult with IA teams, research suggests that general education teachers often bear the heaviest burden of designing, implementing and evaluating the efficacy of those interventions (Bahr, 1994). In light of these findings and teachers' considerable influence on the IA process, an examination of teacher knowledge and relevant characteristics (e.g., training experiences and building-level influences) seems warranted.

Teacher knowledge of interventions. Unfortunately, there is little research to date that quantifies teacher knowledge of interventions and/or intervention skills. This may be due to the inherent complexity of defining and adequately assessing the whole of teachers' knowledge of intervention strategies. Of the minimal data available, the picture of teachers' skills in developing and

implementing interventions is somewhat bleak. For example, Pugach (1985) reported that the majority of general education teachers she interviewed attempted intensive, high-quality, ecologically-focused interventions with difficult-to-teach students before initiating a referral for suspected disability. However, more recent research by Myers and Holland (2001) indicates that teachers rarely consider the function of behaviors (e.g., attention, escape, tangible, sensory) before suggesting an intervention. The authors of this study concluded that teachers may take a “cookbook approach” to intervention selection, simply choosing from a list of commonly accepted strategies for a given problem. These data indicate that teachers may not individualize interventions appropriately, rendering them less effective. This finding is particularly concerning, as IDEA 1997 regulations require a functional behavioral analysis (FBA) for some disability determinations.

There is additional support for this trend in the intervention literature. Professional best practices for intervention design and implementation are frequently overlooked. Many studies do not include operational definitions of behaviors or independent variables, and often lack a detailed intervention plan. Gresham (1989) speculated that the ineffectiveness of many prereferral interventions can be attributed to poor treatment integrity, which is likely a result of treatment plans that are low in specificity and precision. Flugum and Reschly (1994), in a review of permanent product data from teacher-implemented interventions, found that the “typical prereferral intervention” does not include many of the elements considered essential to quality intervention development (e.g., behavioral definitions, direct measure of student outcome, systematic and detailed intervention plan, graphic representation of results, comparison of student progress to baseline levels).

Wilson et al. (1998) used a two-part interview to investigate general education teachers’ knowledge of classroom-based interventions. First, the authors administered a standardized vignette describing a hypothetical classroom behavior problem to all teachers and asked them to list all the

interventions they knew of to help the hypothetical child reach two behavioral goals. In the second phase, teachers were asked to recall an actual student they had worked with who eventually qualified for services under a “mildly handicapped” category. Teachers were prompted to recall all of the intervention strategies they had attempted with the student at varying points in the referral process. Throughout the interview, the interviewer reminded teachers to describe interventions and strategies as specifically as possible and provided examples and nonexamples of specific responses.

In analyzing teachers’ performance on both of these tasks, Wilson et al. (1998) found that teachers’ intervention descriptions were generally lacking in specificity. Ten percent of responses in the standardized vignette condition and 13% of responses in the referral case condition were rated highly specific. Specificity of intervention description, Wilson et al. note, has been linked to treatment integrity, or teachers’ adherence to the intervention plan (Gresham, 1989). Interventions were lacking in variety—most were behavioral in nature—and teachers’ data collection strategies were rated as mostly haphazard in approach. The authors concluded that teachers may be inadequately trained to fulfill this important IA team role.

Teacher training in interventions. Clearly, preservice and inservice training are excellent strategies for developing teachers’ skills in the area of interventions, but are not discussed extensively in IA literature. Wood, Lazzari, Davis, Sugai, and Carter (1990) found that nearly 25% of states require or recommend intervention assistance programs, but only 3 states reported that training in this area was provided at the preservice level by universities and colleges. Within the relevant teacher training literature, few studies directly address the goal of increasing teachers’ skills for designing and conducting classroom-based interventions. For example, an experimental analysis of a supervised training experience for teaching interns to practice intervention development and implementation (Newman, 1999) used interns’ perceptions of self-efficacy and locus of control as outcome measures.

Though innovative in their approach, studies such as Newman's (1999) that measure perceptions of efficacy or increased competence do not provide necessary information about how such programs might impact teachers' skills or intervention practices. Given the importance of this role for teachers, especially in states in which IA processes are mandated, it is surprising that teacher training experiences in classroom-based interventions have garnered so little attention in the extant literature. Standards for training teachers to provide necessary accommodations to difficult-to-teach students have not been well delineated in the theoretical or empirical IA literature.

Building-level IA practices. Although the aforementioned literature has demonstrated the need for research examining teacher knowledge and training in interventions, it is also imperative that teachers' intervention efforts are considered within the greater context of the school in which they work. Teachers do not operate in a vacuum and, as part of a complex educational system, any investigation of teachers' skills must consider the impact that existing prereferral programs within their schools may have on intervention knowledge and practices.

There is some evidence that participation in IA teams and programs can improve individual teachers' classroom-based interventions. Results from a controlled experimental design by Pugach and Johnson (1988) indicated that participation in an IA-like program increased teachers' tolerance for a broad range of cognitive abilities, improved 91% of their target behavior definitions, and generated apparently successful interventions (teachers' perceptions of effectiveness were reported in lieu of data on actual behavior change). These findings suggest that teachers' intervention skills and perceptions regarding IA programs can be impacted merely by participating in such teams.

Kovaleski (2002) summarized factors that have been found to be related to successful prereferral intervention programs at the building level. These IA best practices can be conceptualized as either *system factors* (characteristics of school environments that facilitate IA programs), or *process factors* (procedural factors that help IA programs to realize meaningful outcomes). Although these

conditions are described by Kovaleski in the context of multidisciplinary, building-wide IA teams, it can be argued that the presence or absence of these conditions may have an impact on the way school personnel (i.e., general education teachers) individually conceptualize and approach intervention efforts for difficult-to-teach students.

Rationale

Although prereferral interventions such as instructional modifications or behavioral management strategies are predominantly carried out by general education classroom teachers, the concept of prereferral intervention is grounded in collaborative consultation among general and special educators, school psychologists, school counselors, and other relevant professionals (Graden, 1989). In particular, the school psychologist can be instrumental in guiding teachers toward the development of effective interventions to remediate academic and behavioral problems. Their experiences with children with academic and behavioral problems, as well as their knowledge of child development, learning principles, and educational practices, make them a considerable resource for the design, implementation, and evaluation of classroom-based interventions.

In order for school psychologists to operate as effective consultants, it is necessary to have a more comprehensive understanding of teachers' skills and abilities with regard to classroom-based interventions than is currently offered by the extant literature. What intervention strategies do teachers know to resolve common classroom problems? How specifically are they able to describe these interventions? Furthermore, information is needed about teachers' training experiences in this realm: do teachers feel that they are prepared to fulfill this role? What training experiences have led general education teachers to their present levels of intervention knowledge? Such knowledge can lead to specific preservice and inservice training programs that building on teachers' existing strengths and address identified areas of weakness.

Purpose

The purpose of the present study was to replicate a portion of the research of Wilson et al. (1998), which conducted interviews with general education teachers to assess their knowledge of classroom-based interventions. Specifically, this study used the structured interview and vignette portion of the Wilson et al. study. However, the present study was an extension of this approach in that, in this investigation, teachers' individual professional characteristics (including training experiences), as well as the IA practices of the schools in which they work, were measured to determine their degree of relatedness with teachers' knowledge of interventions. This study addressed following research questions:

1. What is the average number of interventions teachers offer to address a hypothetical classroom behavior problem?
2. How specific are teachers in descriptions of interventions/strategies they would use in their classroom (average specificity rating per teacher)?
3. What is the likelihood that a teacher will suggest a given type of intervention (e.g., instructional, behavioral, etc.)?
 - 3a. What 2 or more intervention categories, if any, are likely to be suggested by the same teacher (i.e., what is the probability that a given teacher will suggest both intervention type *x* and intervention type *y*)?
4. What is the relationship between *years of teaching experience* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention (e.g., instructional, behavioral, etc.)?
5. What is the relationship between the *number of times the teacher has participated in IA meetings* and the number of interventions/strategies

- suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?
6. What is the relationship between teachers' *referral-to-eligibility rate* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?
 7. What is the relationship between *training experiences* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?
 8. What is the relationship between *intervention assistance (IA) practices of the participants' school* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?

Definitions

- **Prereferral intervention:** *A general education teacher's modification of instruction or classroom management to better accommodate a difficult-to-teach pupil without disabilities* (Fuchs, Fuchs, & Bahr, 1990). Note that this definition is generally *not* used to discuss multidisciplinary, consultative services provided to assist teachers in the development of classroom-based interventions. Rather, "prereferral intervention" is used to refer to the actual interventions or strategies used to accommodate difficult-to-teach students within the general education setting, prior to any referral for suspected disability.
- **Knowledge:** Operationally defined by Wilson et al. (1998) as *the number of interventions offered to solve a problem and the specificity with which these interventions are described*. Thus, many highly specific intervention descriptions would indicate more intervention knowledge, while fewer, less specific interventions descriptions would be indicative of less intervention knowledge. It is important to note, however, that the measures proposed

for use in this study are not designed to be a comprehensive assessment of teachers' intervention knowledge. The interview/vignette method used in the present study can be conceptualized as a brief measure that taps into teachers' intervention knowledge, much in the way that a one-minute curriculum-based reading probe taps into a student's reading skills. Just as a single curriculum-based measure of reading is not used to make broad statements about a student's reading strengths and weaknesses, the interview/vignette method of this study should not be expected to completely reveal teachers' intervention knowledge. Results from Wilson et al. (1998) suggest, however, that the information obtained from the interview/vignette method can be used to make valid statements regarding teachers' general knowledge and comfort level with various classroom-based interventions.

- **Specificity:** Operationally defined by Wilson et al. (1998) as *the amount of detail or precision included in teachers' descriptions of intervention strategies*. Procedures for coding specificity of descriptions were adapted from the work of Gresham (1989), and were used by Wilson et al. (1998). Three levels of specificity may be observed in teachers' responses to the interview/vignette:
 - *low specificity:* descriptions consist of nonspecific or vague recommendations. Intervention could not be implemented based on current description alone.
 - Example: "I could change the workload."
 - *moderate specificity:* description contains some, but not complete, detail. Intervention could be implemented if some additional details were to be provided.
 - Example: "I could shorten his daily math assignments."
 - *high specificity:* descriptions demonstrate a detailed plan for assisting the hypothetical student. Intervention could be implemented on the basis of this description alone, and there

should be no questions about how the intervention would be implemented.

- Example: “I would take John’s math worksheets and cut them into strips of five problems each. When he finishes one strip, he will come up to my desk, and I will tell him he’s doing a good job and give him another strip. This will break down his work into smaller chunks and allow him to get a brief rest and some praise in between sets of problems.”
- **Intervention Nature/Type of Intervention:** To code the nature of interventions, a modified version of a scale developed by Ysseldyke, Pianta, Christenson, Wang, and Algozzine (1983) was used. This scale was also used to analyze responses in the Wilson et al. (1998) study; modifications to the Wilson et al. version were made following a pilot study of the research measures and materials. Interventions were categorized along the following types:
 - *Instructional:* A change in the teacher’s approach to instructing the child
 - Examples: Providing individualized instruction or assistance with classroom work, restating directions, or modifying length, content, or modality of academic task.
 - *Behavioral:* Consequence-oriented approach to changing identified behavior using positive or negative reinforcement, removal from reinforcement, or application of punishment.
 - Examples: Differential reinforcement of alternative behaviors (target student or other students), time-out (removal from reinforcement, or other removal from classroom, or positive reinforcement in the form of praise, stickers/tokens/points.
 - *Classroom structure:* Changes in the amount of the structure provided for student within the classroom context. Not limited to instructional tasks – may include changes to student’s

responsibilities or duties that impact level of structure of change to the classroom environment as a whole.

- Examples: Moving student's seat, assigning a peer tutor to assist with in-class work and/or behavior, or assigning student duties to allow appropriate opportunities to be out-of-seat or talking.
- Note that assigning a peer tutor is considered *classroom structure*, rather than *emotional/social support*, because it is intended to provide greater structure for the student's academic performance and behavior in the classroom, not to promote friendships.
- *Interdisciplinary Support*: Additional specialized assistance student receives directly from other school personnel
 - Examples: Pre-taught vocabulary with the resource teacher, counseling with the school counselor.
- *Information Gathering*: Teacher-requested or teacher-gathered additional information regarding the student
 - Examples: Check the student's cumulative file, called parents to ask if there is anything going on at home, or refer to the child study team for further evaluation.
 - Note that calling home in this context is considered *information gathering* rather than *communication – parents* because its purpose is to get more information, not to make changes in student behavior.
- *Materials*: Specifically identified materials used to supplement instruction or remediation.
 - Examples: Audio-visual tapes, manipulatives.
- *Communication, with student, class, or family*: Conversations, comments, or nonverbal cues directed at the student, class or parent(s) that are intended to change student(s) behavior.

- Examples: Telling student about the importance of not calling out, discussing how it disrupts others' thinking; alerting the whole class to raise their hands before speaking; conference with parents to come up with a plan to change behavior at school and at home.
 - *Emotional/social support*: Efforts on teachers' part to provide emotional support to the student, increase student's self-esteem, or create/enhance student friendships.
 - Examples: Working on building him up, achieving small successes; pairing student up with someone who can serve as a peer buddy to promote friendships.
 - *Compound*: An intervention which consists of more than one code above. The intervention must be described in a way that it is clear the multiple components are intended to be delivered simultaneously.
 - Example: Developing a behavioral contract (*Behavioral*), which is monitored by the guidance counselor (*Interdisciplinary Support*), and which is sent home to parents as a means of communication about his behavior (*Communication – Parents*).
- **Intervention Assistance (IA) team**: The term “intervention assistance” (IA) is used to describe formalized, data-based consultation services used to generate classroom-based interventions for students who are difficult-to-teach (Safran & Safran, 1996). The term “IA” is consistent with consultation and interventions literature; however, many other names have been used for this practice, such as Mainstream Assistance Teams, Pupil Assistance Teams, Child Study Teams and ITeams.

Chapter II

Review of the Literature

Historical Background

The passage of the Education for All Handicapped Children Act (PL 94-142) in 1975 represented a critical turning point in both the institution of public education and the profession of school psychology. By mandating that *all students* have a right to a free and appropriate public education (FAPE), the law forever altered the way educators and administrators conceptualized education for students with special needs. As a result of this change, the decade after PL 94-142 saw special education referral rates increase 16% nationally as teachers recognized that some students' needs were not being appropriately met in general education classrooms (U.S. Department of Education, 1988 as cited in Fuchs, Fuchs, Bahr, Fernstrom, & Stecker, 1990). The demand for school psychologists also was amplified, as comprehensive psychoeducational evaluations became increasingly necessary for eligibility determination. In the early 1980s, roughly 4-6% of the school-age population each year was referred for special education evaluation, and 67-75% of those students were identified as disabled and placed into various special education programs (U.S. Department of Education, 1988 as cited in Fuchs, Fuchs, Bahr, Fernstrom, & Stecker, 1990). In the early days of special education, there was little emphasis on designing classroom strategies that could prevent students from being labeled and placed in pull-out or self-contained programs. Special education was considered an intervention in its own right.

The dramatic increase in need for assessment and special education services resulted in disillusionment in Louisiana, where a class action suit was filed (*Luke S. and Hans S. versus Nix et al.*, 1981 in Safran and Safran, 1996). The suit estimated that as many as 10,000 children were left in the "limbo state of

postreferral waiting for multifaceted evaluations that were months overdue” and charged that the state was unprepared to address the massive quantities of referrals in a timely manner (Safran & Safran, 1996). Furthermore, the lawsuit stated that general educators were unable to determine what constituted appropriate referral to special education, indicating that some referrals were unnecessary and could have been resolved in general education classrooms. The ruling in this case stated that schools needed to provide a quick, effective evaluation system for students with special needs. From this edict, one of the first intervention assistance systems was created and implemented by classroom teachers in Louisiana. The new approach reportedly strengthened the whole system, increased collaboration among teachers, and nearly eliminated inappropriate referrals. However, this statement of improvement came from within the Louisiana education system, and an independent evaluation may have found differently (Safran & Safran, 1996).

Unfortunately, early modifications such as these did not entirely solve the problems of special education, and the promise of PL 94-142 was not entirely fulfilled. Besides logistical problems of managing referrals, research has determined that the evaluation process can result in inappropriate placement into special education, which is considered largely undesirable. Students may be unnecessarily separated from their peers, stigmatized and “labeled,” and disrupted in their current educational progress. Further, the financial ramifications of unnecessary placements in special education are considerable (Fuchs, Fuchs, Bahr, Fernstrom, & Stecker, 1990).

Even when educational modifications are warranted, research supports neither the traditional “refer-test-place” model of psychoeducational assessment in particular nor special education services in general as methods of promoting positive student outcomes (Reschly, 1988). According to the U.S. Department of Education in 1995, over 2.4 million students with learning disabilities age 6-21 receive special education services, but as few as 2-8% will return to general education over the course of the school year (Powell-Smith & Stewart, 1999).

Another report estimated that 80% of students placed in special education remain there three years after initial placement (Clarizio & Halgren, 1993). This statistic implies that for students whose performance is significantly below that of their general education peers, it is extremely difficult to reduce that discrepancy through services received in special education.

Widespread discontent with the special education system led to a reform movement in the late 1980s, which advocated for less emphasis on the “refer-test-place” pattern that had developed in recent years. Many of the suggested changes in special education focused on including students with mild disabilities in regular education classrooms, citing the detrimental effects of irrevocably removing students from general education. These initiatives capitalized on portions of PL 94-142 and IDEA-Part B stipulating that special education and related services must be provided in a setting that is the least restrictive environment (LRE) appropriate for the child. According to Jacob-Timm and Hartshorne (1998), the rationale behind the LRE clause came from a realization in Congress that integration of children with disabilities into general education classrooms was not likely to occur without a legal mandate.

This recognition turned out to be an astute one. Although LRE mandates had been in place since the 1970s, it took years of litigation and struggle for LRE to shift to the forefront of the education consciousness. A nationwide movement toward inclusion ensued, in which students are educated in the least restrictive environment, making accommodations for students in the general education classroom whenever possible. The Regular Education Initiative urged for the restructuring of both general and special education, and some advocates suggested a complete merger between the two systems (Lloyd & Gambatese, 1990). The debate over partial inclusion versus total abandonment of the special education system continues today.

A position paper issued in 1995 by the National Association for School Psychologists (*Rights Without Labels*; NASP, 1995) outlined several recommendations for schools and programs considering a noncategorical

approach to education. NASP provided directives on a variety of issues relevant for both educators and administrators attempting to overcome the inherent problems of the special education system by focusing efforts in the general education classroom. In particular, the paper states that the resources and materials (including teachers and aides) typically used in special education must be made available in general education classrooms in order to “reverse the practice of moving handicapped students to special education situations outside regular classes and schools” (NASP, 1995). The NASP statement also addressed the need to remediate educational difficulties before a referral is initiated in order to avoid unnecessary placements in special education and engender a respect for students’ rights (NASP, 1995). For this purpose, NASP recommended prereferral screening and intervention conducted by general education personnel and supported by other service providers within the school (school psychologists, special education teachers, social workers, administrators).

Prereferral screening/intervention in the general education environment, supported with special education resources such as personnel, strategies, and materials, was perceived by the educational establishment as a viable means for supporting the instruction of diverse groups of learners *before a referral was made*. Originally known as “prereferral intervention” (Graden, Casey, & Christenson, 1985) this service delivery model used problem-solving and consultation among educators and other professionals to develop hypotheses regarding potential causes for students’ academic and behavioral difficulties, formulate a systematic plan for treatment implementation, and empirically evaluate student outcomes to determine if further assessment, intervention, or special education placement are warranted.

Challenges Facing Today’s General Educators

As a result of these initiatives and movements, there is today an increased number of difficult-to-teach students (with and without diagnosed disabilities) who are educated in a least restrictive environment. A variety of students and needs

comprise today's general education classroom. More than two-thirds of special education students receive the majority of their schooling in the general education classroom (U.S. Department of Education, 1985 in Noell & Witt, 1999). Research suggests that there are approximately one to two children with ADHD in the average classroom (Raffaele & Bradley-Klug, 2000) and almost 20% of all students have significant difficulty learning to read (Good, Simmons, & Smith, 1998). In one study (Myers & Holland, 2000), general education teachers indicated that one in five of their students exhibited disruptive/off-task behaviors and one in 20 exhibited aggressive behaviors to the extent that some form of intervention was necessary for their resolution. While these changes are positive in that they indicate the realization of inclusion movements, the increase of difficult-to-teach students in general education also poses some serious challenges for teachers. In response to national reform movements, higher academic standards in education have increased pressure on teachers to move rapidly through complex curricula, leaving difficult-to-teach students behind (Rathvon, 1999). Although the spirit of the inclusion/LRE movement is laudable, the realities of these ideals may include unintended negative outcomes for difficult-to-teach students.

Intervention Assistance Programs

It should be noted that much of the research on preventative problem-solving and intervention has used the term "prereferral intervention" to describe a teacher's modifications of instruction or classroom management to better accommodate difficult-to-teach students. However, some scholars have suggested that this term perpetuates an attitude of categorical eligibility, making prereferral activities appear as another hurdle to overcome in the quest for formal evaluation and placement of students with special needs (Graden, 1989; NASP, 1994). The goal of so-called "prereferral" activities, however, is based on the notion that students should not have to fail or demonstrate a significant deficit before they can receive educational support, and that referral to special education should be avoided if at all possible. Many other names have been

proposed for this practice, such as Intervention Assistance (IA), Mainstream Assistance Teams, Pupil Assistance Teams, Child Study Teams and I-Teams. Kovaleski (2002) notes that there is presently a lack of professional consensus regarding both the terminology used to describe prereferral intervention and the various definitions or conceptualizations of prereferral intervention practices. For the purposes of this literature review, the terms “intervention assistance” or “IA” will be used to describe formalized, data-based consultation services used to generate classroom-based interventions for students who are difficult-to-teach (Safran & Safran, 1996), as “intervention assistance” best characterizes the goals and purposes of this effort. The term “prereferral intervention” will be used to refer to the actual interventions or strategies used to accommodate difficult-to-teach students within the general education setting, prior to any referral for suspected disability.

The earliest intervention programs were Teacher Assistance Teams (TATs), introduced as an alternative to traditional teacher inservice training (Chalfant, Pysh, & Moultrie, 1979). TATs primarily consisted of general education teachers, although other professionals (e.g., school psychologists, special educators, principals, etc.) were involved as needed. These groups were formed to boost teachers’ skills in educating difficult-to-teach students, taking traditional inservice one step further by emphasizing teacher accountability, communication, and effective decision-making (Sindelar, Griffin, Smith, & Wanatabe, 1992). TATs are characterized in the educational literature as a self-help approach available for teachers who felt they needed assistance with managing challenging students. Less emphasis was placed on the consultative and collaborative aspects of these teams, as the members typically were all teachers.

Intervention assistance (IA) teams, or multidisciplinary collaborative teams, were developed in response to the overidentification of students with mild disabilities in the early 1980s (Graden, Casey, & Bonstrom, 1983, 1985; Graden et al., 1985). These teams offer a more formalized, consultative approach to

prereferral intervention, with specific consultation procedures and goals specified prior to team formation. Like TATs, IA programs also work to increase teachers' ability to deal effectively with students in general education but place primary emphasis on the development and evaluation of intervention plans to prevent inappropriate special education referrals and placements rather than on teacher empowerment (Rathvon, 1999; Safran & Safran, 1996; Sindelar et al., 1992). Although IA teams vary across schools and states, they typically share some common characteristics, including the following (Rathvon, 1999):

- **Collaborative, consultative approach:** IA utilizes indirect services from other professionals. As a result, decisions are based on the input of several individuals. Furthermore, the team approach is intended to prevent the workload of interventionary efforts from falling on a single person (e.g., the general education teacher), thus expediting the process and allowing more students to be helped simultaneously.
- **Facilitate compliance with LRE of PL 94-142/IDEA 97:** By strengthening teachers' capacity to meet the increasing diversity of student needs, more students will be able to be educated in general education. The IA process should lead to a reduction in referrals as teachers resolve more minor problems within the classroom, as well as an increase in referral-placement accuracy as only the most critical referrals will be evaluated formally.
- **Ecological perspective/ problem-solving model:** The IA process is not driven by a search for student pathology, nor by discrepancy models that require considerable assessment. Rather, teachers and other professionals look at the student's environment (classroom and teacher factors), as well as variables in the curriculum, to locate prospective intervention targets. This approach may be empowering for teachers because many potential factors affecting student performance are under their direct control (classroom materials, peers, curriculum, time/practice allotted, and even their own instructional/behavior management practices).

Conversely, this ecological perspective may lead teachers to feel that they are solely responsible for a child's problematic behavior and might result in resistance to participate in the IA process.

- **Emphasis on finding solutions rather than diagnosing problems:** In the traditional refer-test-place paradigm, professionals tend to search for answers to the questions: "Is this student handicapped? If so, by what condition?" However, in keeping with the ecological/problem-solving model, IA programs ask, "What can be done to help teachers improve the performance of this student in regular education?" Environmental factors are considered in the definition and analysis of problems and the IA team's focus is on students' outcomes before and after intervention. Rather than requiring a lengthy referral and assessment process during which both student and teacher must wait to obtain support, IA provides direct and immediate assistance to teachers.

To date, both forms of building-level intervention programs (TATs and multidisciplinary teams) are in use around the country, although multidisciplinary teams are more commonly discussed in school psychology literature. Team names, formats, and goals vary according to district and state standards for prereferral practices, making summative research on prereferral intervention somewhat problematic (Kovaleski, 2002). Some reviews of the literature (e.g., Lloyd, Crowley, Kohler, & Strain, 1988; Nelson, Smith, Taylor, Dodd, & Reavis, 1991), as well as numerous empirical studies (e.g., Fuchs, Fuchs, Bahr, Fernstrom, & Stecker, 1990; Harrington & Gibson, 1986; Kovaleski, Gickling, Morrow, Swank, 1999; Wilson, Gutkin, Hagen, & Oats, 1998) do not make a distinction between TATs and collaborative multidisciplinary teams in their discussion of prereferral intervention. Others (Safran & Safran, 1996; Sindelar et al., 1992) describe teacher-based and multidisciplinary programs separately. This paper will primarily discuss prereferral intervention in the context of IA programs, whose collaborative, systems approach is most consistent with

practices in the School District of Hillsborough County (SDHC), in Tampa, Florida, where the present study was conducted.

Teacher Knowledge and Choice of Interventions

There is a wealth of research on the efficacy of IA programs (see Fuchs, Fuchs, Bahr, Fernstrom, & Stecker, 1990; Fuchs, Fuchs, & Bahr, 1990; Nelson et al., 1991; and Safran & Safran, 1996 for comprehensive reviews on this topic). Nelson et al. (1991) concluded that IA programs have a positive impact on special education service delivery systems and can serve an educative role in building teachers' intervention development, implementation, and evaluation skills. In discussing the quality and impact of IA programs, however, it is important to consider what teachers know about interventions, as well as the types of interventions typically used in general education classrooms. According to a survey of special education administrators regarding intervention assistance practices, multidisciplinary teams and general education teachers were the agents responsible for the design and evaluation of interventions roughly half of the time, while general education teachers alone were almost always the individuals implementing the intervention (92%; Bahr, 1990). Although IA teams are designed to reduce the burden of interventions on general education classroom teachers, Bahr's findings suggest that these professionals are still the primary individuals responsible for providing assistance to difficult-to-teach students in the general education classroom.

Teacher knowledge about interventions has been linked with their use of classroom interventions and self-efficacy for teaching challenging students (Wilson et al., 1998). Furthermore, both Harrington and Gibson (1986) and Inman and Tolefson (1988) reported that teachers were unsure if intervention assistance teams provided them with new, untried classroom intervention ideas and if a sufficient variety of intervention options had been explored by the team. Thus, it would seem that educational researchers and school personnel alike would benefit from a baseline measure of teachers' knowledge and use of classroom interventions, to serve as a foundation on which IA team suggestions

may build. Additionally, an understanding of teachers' acquaintance with interventions can impact research studies that aim to evaluate overall efficacy of IA programs.

Unfortunately, there is minimal research available that quantifies teachers' intervention skills and/or knowledge. This may be due to the difficulty inherent in defining and adequately assessing the whole of teachers' knowledge of intervention strategies. Of those studies conducted in this area, many focus on teachers' understanding or recognition of interventions for specific disorders such as ADHD (e.g., Hawkins, Martin, Blanchard, & Brady, 1991), or on broad teaching strategies and instructional modifications not necessarily related to the individualized nature of the IA process (e.g., use of modeling, visual aids, brainstorming, etc; Kling, 1997). A paucity of literature on teachers' intervention skills means that administrators, school psychologists and other educational professionals can only operate on the assumption that teachers are prepared to design, implement, and evaluate interventions, and such an assumption may mean diminished benefits for children targeted by IA teams.

Pugach (1985) interviewed 39 elementary and junior high school teachers to describe the day-to-day practices that influenced their decisions to refer difficult-to-teach students to special education, including intervention attempts prior to referral. In this study, prereferral interventions were not conducted in the multidisciplinary or teacher assistance team format traditionally described in IA literature. Rather, prereferral interventions were literally interventions implemented by the general education teacher prior to making a decision to refer a student for special education evaluations.

Prereferral interventions described by teachers in Pugach's study (1985) were coded as *major* (numerous/persistent attempts to remediate a problem, involving a specific intervention plan in which effects of intervention were evaluated) or *minor* (nonspecific, casual, passive, or nonsystematic attempts at remediation). In her analysis of qualitative data, Pugach found that the majority of elementary school teachers attempted major interventions prior to referring

students for special education evaluation. These teachers' verbalizations in the interview session indicated that they supported an ecological approach to prereferral intervention; they assumed that students were typically trying their hardest and took professional responsibility for recognizing student problems and rearranging the environment to address them accordingly. Although Pugach's data (1985) indicate that teachers can and often do implement intensive and exhaustive interventions considering environmental aspects of students' problems, more recent research suggests otherwise. In fact, much of the recent literature on prereferral intervention and intervention assistance expresses concern with teachers' abilities to effectively remediate students' problems in the general education classroom (Nelson et al., 1991; Wilson et al., 1998).

In a more specific investigation of teachers' intervention practices, Myers and Holland (2000) analyzed general and special educators' choices of interventions for a hypothetical problem to determine whether the function of problematic behavior was considered. Functional behavioral assessment (FBA) attempts to generate hypotheses as to why a child is engaging in a given behavior, in order to develop more appropriate, individually-oriented interventions. The FBA approach to intervening with behavior is consistent with professional best practices (Upah & Tilly, 2002), and is required by the 2004 reauthorization of the Individuals with Disabilities Education Improvement Act for some types of disability evaluations (IDEIA, 2004).

To assess teachers' consideration of behavioral function, Myers and Holland (2000) sent surveys to 177 general education and 32 special education teachers. The survey consisted of three vignettes of children displaying problem behavior, and respondents were asked to supply intervention suggestions for each vignette. Each of the three vignettes implied a different behavioral function: seeking teacher attention, seeking peer attention, and escaping from an aversive activity. Teachers' responses were rated by the authors as appropriate (i.e., the intervention addressed the implied function of problem behavior), inappropriate (i.e., the intervention did not address the implied function of problem behavior), or

vague (i.e., it was unclear whether the intervention suggestion addressed the behavioral function). Myers and Holland found that few general education or special education teachers suggested intervention strategies that were appropriate for the implied behavioral function. Teachers were more likely to suggest appropriate strategies for teacher attention-seeking behaviors, than for escape-motivated or peer attention-seeking behaviors. The authors noted that it is not clear whether teachers were able to accurately recognize and intervene with teacher attention-seeking behaviors, or if the most commonly used intervention strategies just happened to address the function of seeking teacher attention.

Although FBA may be conceptualized as more of a way of viewing behavior problems, rather than a specific requisite step of intervention development, the fact that teachers often do not give consideration to behavioral function is some cause for concern, especially given its recent inclusion in the reauthorization of IDEA (2004). Furthermore, Myers and Holland suggest that teachers may not be deliberate in their choices of interventions, taking a “cookbook” approach where they merely select from a list of commonly accepted interventions for a particular problem. Thus, interventions might not be appropriately individualized and may be less than effective.

To understand both teachers’ knowledge and use of classroom interventions in combination, Wilson et al. (1998) used two structured interviews with 20 general education teachers. Participants were given a standardized vignette describing a disruptive student and asked to offer as many intervention suggestions as possible to effectively manage the student’s behavior. Interviewers also encouraged teachers to describe strategies in as much detail as they could, and teachers were given examples of specific and nonspecific descriptions. In the second interview, teachers were asked to recall a student they had taught who eventually was identified as mildly handicapped. Again, teachers were asked to recall all intervention strategies they had employed as specifically as possible, from the time they first noticed the problem (prereferral)

through prereferral intervention team, referral, and postreferral stages of the process. Participants were to describe all classroom interventions, data collection and documentation methods, and types of people with whom they consulted. It should be noted that the authors of this study explained their decision to use an interview methodology by suggesting that survey, checklist, and rating scale procedures might impose *a priori* assumptions on data and limit or distort teachers' responses. The interview method was selected in order to allow teachers the greatest freedom in response possible, while still allowing for quantitative analysis of data.

In the standardized vignette portion, Wilson et al. found that teachers generated an average of 9.6 interventions each ($SD = 3.7$). Over half of the intervention suggestions were behavioral (54%), 23% were instructional, and 13% involved manipulation of the classroom environment. Teachers responding to the vignette interview generally did not use specific language to describe their intervention suggestions; only 10% of all intervention suggestions were considered highly specific.

In the referral case, teachers reported an average of 9.2 interventions each ($SD = 2.58$), 81% of which were implemented by the teachers themselves. Types of intervention used were similar to the case vignette, with behavioral strategies most frequently reported (34%). Intervention descriptions for the referral case also were nonspecific. Fifty-nine percent of teacher-mediated interventions were described in general terms, and only 13% were considered highly specific. Descriptions of interventions implemented by other individuals (e.g., support staff, parents, etc.) were even more vague; 71% were considered low in specificity. In detailing data collection procedures, 79% were rated as low in descriptive specificity, and almost all (94%) were considered haphazard in their approach. Teachers frequently commented that they felt under-trained in the area of data collection and other areas of IA team functioning. Most importantly, teachers reported that the majority of the intervention efforts they

made occurred *before a referral was ever initiated*, and that they rarely consulted with other professionals in this preliminary stage of the process.

Wilson et al. (1998) concluded that teachers' limited knowledge of interventions may hinder intervention plan development at IA meetings, and may lead teachers to have low expectations about teams' abilities to generate viable intervention options. Furthermore, this paucity could impact teachers' implementation and evaluation of interventions. The authors stated that school psychologists and other consultants in IA programs may need to function in an educative capacity, in order to enhance teachers' knowledge of potential strategies available to them. The interview format of this study also may have impacted these results. Teachers may not have given an exhaustive list of interventions or descriptions of adequate specificity due to the demands of the interview situation. However, the findings described in Wilson et al. (1998) suggest a powerful limitation in the IA process that must be considered by all involved professionals.

In addition, it is important to consider the finding that teachers most often implemented interventions *prior to referring the student to the IA team*. Although IA processes have been developed to support teachers' implementation of interventions and to render educational decisions in a team format, Wilson et al.'s data suggest that teachers still function independently in intervention development and implementation for a considerable portion of this process. This is consistent with Bahr's finding (1994) that teachers are often the designers and almost always the implementers of classroom-based interventions. In light of this finding, Wilson et al.'s conclusion that teachers are lacking in intervention knowledge becomes even more significant. Although the supportive, educative functions of IA teams may assist teachers in the intervention process once referral is initiated, data from Wilson et al. beg the question: Do teachers have the necessary and sufficient intervention skills to successfully remediate student problems on their own prior to the point of referral? Furthermore, are IA teams

receiving referrals that may have been unnecessary if teachers had stronger intervention skills?

Flugum and Reschly (1995) investigated the “typical prereferral intervention” and concluded that professional best practices for intervention design and implementation are frequently overlooked. The authors found that behavioral definition of the referral problem in objective, measurable terms, direct measure of student outcome, systematic and detailed intervention plan, graphic representation of results, or comparison of student progress to baseline levels were often lacking in prereferral interventions. Flugum and Reschly also found that interventions that did contain these elements were perceived as being more successful, although actual student data were not reviewed. Findings from Flugum and Reschly suggest that intervention attempts are not systematic or well-planned, and that teachers may be more random or capricious in their selection of intervention strategies than professional standards would dictate. This study directly contradicts the conclusions made by Pugach (1985), and further questions teachers’ abilities to effectively intervene with student problems.

A literature review by Gresham (1989) addressed the specific issue of treatment integrity, or the degree to which an intervention plan is implemented as intended, and argued that integrity of interventions is a critical component that is often overlooked in the empirical literature. Those few studies reviewed indicated that interventions without operational definitions of behavior or precise intervention plans were less likely to be implemented with high levels of integrity. Among the technical issues that support treatment integrity, Gresham cites the specification of all intervention components in exact, behavioral language as crucial to the success of an intervention. Adequate definition of intervention components allows them to be measured accurately, which facilitates both formative and summative evaluation processes. Gresham distinguished between three potential levels of specification (global, intermediate, and molecular), and concluded that intermediate specificity is the optimal level for which interventionist should aim when designing treatment plans. Although molecular

descriptions of intervention plans are ideal for determining a functional relationship between intervention and behavior change, Gresham notes that interventions at this level can be met with resistance by those who are required to carry them out (i.e., teachers). Thus, intermediate specificity provides adequate information at a depth that is reasonable to all participants.

Several studies have been conducted to determine which classroom interventions teachers frequently use to assist difficult-to-teach students. A qualitative study by Mamlin and Harris (1998) identified the most common prereferral interventions used by several teachers at one suburban school in Maryland. Among the most common were behavioral management (e.g., individual behavioral contracts, daily report cards), academic/instructional modifications (e.g., extra practice or manipulatives, individualized instruction or explanation, change of instructional grouping), and help from others (e.g., outside counseling, parent assistance, consultation with intervention assistance team). Although data were only collected from teachers at one school, limiting external validity, Mamlin and Harris's findings are representative of those from studies with larger and more diverse samples.

Sevcik and Ysseldyke's (1986) survey of 105 general elementary educators yielded a list of more than 90 interventions to assist students with behavior problems. Approximately one-third were specific behavioral interventions. Other commonly described strategies included discussion/conference with other professionals or parents and instructional modifications. Two-thirds of respondents supported the use of teacher-mediated interventions, as opposed to those implemented by other professionals. Sevcik and Ysseldyke determined that general educators were, by and large, willing to try interventions in their own classrooms, although consultation may be necessary for the most effective implementation. A similar study by Brown, Gable, Hendrickson, and Algozzine (1991) surveyed 201 teachers regarding their intervention practices. They found that consulting with other professionals was most common, followed by parent conferences, behavior management

techniques, and individual instruction. Cooperative learning and peer tutoring were used least frequently. Teachers in this study reported they were willing to work with teams and outside consultants when necessary.

Determinants of Teachers' Intervention Knowledge: Training

Although IA programs were initially conceptualized as a mechanism for helping teachers perfect their interventionary skills in lieu of more formal inservice training (Rathvon, 1999), recent best practices recommendations for conducting intervention assistance teams suggest that teachers need preliminary, preservice training in designing, implementing and evaluating interventions prior to participating in IA teams and programs (Kovaleski, 2002). Some academics have also suggested that IA should be supplemented with inservice training (Logan & Stein, 2001; Nelson et al., 1991), to provide teachers with a constant source of information on the latest empirically-supported practices in classroom-based interventions.

Unfortunately, there is presently very limited information available on the extent to which general education teachers are trained in intervention strategies for difficult-to-teach students. Numerous studies have bemoaned the lack of preparation available to teachers-in-training with regard to classroom-based interventions for students with a variety of problems (e.g., Newman, 1999; Wilson et al., 1998; Worthington, Wortham, Smith, & Patterson, 1997). Within the relevant teacher training literature, few studies directly address the goal of preparing teachers to design and conduct interventions within the general education classroom. For example, Newman (1999) described a supervised intervention training experience in which teaching interns went into a classroom to work with individual students, targeting specific behavioral or academic interventions. These interns' outcomes were compared with those of a control group, who were not exposed to the training experience. However, interns' skills in basic intervention elements (e.g., intervention planning, use of reinforcement strategies, gathering of baseline and intervention data, etc.) were not included as outcome variables in the Newman (1999) study; rather, the investigation

examined the effect of the intervention exercise on interns' own perceptions of self-efficacy and locus of control. Although this study is innovative in its experimental design and applied approach to this topic matter, it does not provide useful information about how teachers' skills and abilities actually changed as a result of participation in the intervention experience.

With regard to preservice training, Wood et al. (1990) found that although roughly 25% of states (13) require or recommend intervention assistance programs, only three reported that training in this area was provided at the preservice level by universities and colleges. Kovaleski (2002) also stated that the complex skills necessary for effective prereferral intervention are rarely included in typical teacher training programs. Although many training programs may briefly introduce concepts of observation and data collection to teachers-in-training, it is rare that teachers have the opportunity to attempt, under supervised instruction, a targeted intervention in the naturalistic setting of the classroom (Newman, 1999). Newman's research (1999) provides one notable exception, but does not offer results that are useful in describing how developing teachers' intervention knowledge might be facilitated by such a hands-on experience.

In addition to formal and informal training experiences, teachers may learn about recent innovations in intervention strategies via research and professional literature available in the form of journals and texts. Unfortunately, teachers do not often read research studies about classroom management; when they do so, they report that the strategies used in research investigations do not often appear to be feasible for use in their own classroom situations (Malouf & Schiller, 1995; Viadero, 1994). In an innovative attempt to inform teachers about empirically-supported classroom strategies, Logan and Stein (2001) developed the Research Lead Teacher Model. The goal of the 3-year program was to bring the research-based methods of instruction and classroom management often found in special education, such as positive behavior support and applied behavior analysis, into general education classrooms of one school. Teachers participated in building-wide staff development groups about behavior

management and positive behavior support, in which they had an opportunity to design positive interventions, collect progress monitoring data, and discuss the implementation of their interventions. These groups were facilitated by a Research Lead Teacher (RLT), a full-time teacher at the participating school who had extensive familiarity with research on behavioral interventions, special and general education classrooms, and mentoring teachers in a consultative relationship. In addition to staff development groups, teachers could also request observations and individual sessions with the RLT to develop more specific intervention recommendations and plans for ongoing classroom issues. Teachers reported a wide range of improvements in student behavior, rating 89% of all interventions developed through the RLT as successful. Additional qualitative information regarding teachers' perceptions of the RLT program indicated a generally positive response. Similarly to the Newman (1999) study, however, teachers' skills in intervention development and implementation were not assessed in either pre- or post-RLT phases, and follow-up data on teachers' long-term intervention practices were not collected. As a result, it is unclear to what extent teachers' knowledge of interventions was improved through their association with this program.

Given the importance of this role for teachers, especially in states in which IA processes are mandated, it is surprising that teacher knowledge of interventions has garnered so little attention in the extant literature. Furthermore, it is interesting that standards for training teachers to provide classroom modifications for difficult-to-teach students have not been better delineated in either theoretical or empirical treatments of this topic.

Determinants of Teachers' Intervention Knowledge: Building-level IA Practices

Although an emphasis on determining teachers' intervention practices is warranted, especially in light of the aforementioned literature, it is also imperative that teachers' intervention efforts are considered within the greater context of the school in which they work. Teachers do not operate in a vacuum and, as part of a complex educational system, their efforts on behalf of students may be

impacted by numerous variables external to their own knowledge and skills. Kovaleski (2002) notes that psychologists' skills in consultation and intervention development cannot be analyzed independently of the system factors that contribute to successful prereferral intervention programs. Similarly, any investigation of teachers' skills must consider the impact that existing prereferral programs within their schools may have on intervention knowledge and practices.

In a controlled experimental design, Pugach and Johnson (1988) investigated the effect of participation in a collaborative, problem-solving process on the tolerance, accuracy of problem identification, and effectiveness of the prereferral interventions of teachers. Results from this study indicated that participation in an IA-like program increased teachers' tolerance for a broad range of cognitive abilities, improved 91% of their target behavior definitions, and generated apparently successful interventions (teachers' perceptions of effectiveness were reported in lieu of data on actual behavior change). These findings suggest that teachers' intervention skills and perceptions regarding IA programs can be impacted merely by participating in such teams.

Kovaleski (2002) summarized factors that have been found to be related to successful prereferral intervention programs at the building level. These IA best practices can be conceptualized as either *system factors* (characteristics of school environments that facilitate IA programs), or *process factors* (procedural factors that help IA programs to realize meaningful outcomes). Although these conditions are described by Kovaleski in the context of multidisciplinary, building-wide IA teams, it can be argued that the presence or absence of these conditions may have an impact on the way school personnel (i.e., general education teachers) individually conceptualize and approach intervention efforts for difficult-to-teach students.

System factors.

- **Team format:** Research has demonstrated that when a general education teacher refers a student for intervention assistance, teams of school personnel are best able to successfully support

the teacher (Rathvon, 1999). In addition, creating building-level IA teams aids in encouraging a mission and sense of team enthusiasm (Kovaleski, 2002).

- **Principal leadership:** Although initial publications in the area of IA recommended *against* the inclusion of principals on building-level teams (Chalfant et al., 1979), more recent research has found that administrator involvement is a crucial component in gaining teachers' acceptance of IA teams and their activities (Kruger, Struzziero, Watts, & Vacca, 1995).
- **Mandating prereferral intervention:** Kovaleski (2002) noted that system-level adoption of IA programs is facilitated by state or district mandates, as administrators and personnel are essentially forced to direct their energy toward IA activities. Furthermore, resources necessary to conduct such programs are more readily available in areas where IA is required.
- **Assignment of staff:** IA teams are, by definition, multidisciplinary in nature, requiring the efforts of a variety of school personnel in order to be successful. However, teams are optimally effective when one or more school staff are assigned either part- or full-time to facilitating IA activities. In Hillsborough County, FL, this role is often fulfilled by the Exceptional Student Education (ESE) coordinator, although research indicates that school psychologists and guidance counselors are often asked to devote their time to this professional responsibility.
- **Ensuring accountability:** At the micro (student) level, accountability of IA teams can be indexed by examining formative and summative data from interventions developed for identified students. However, accountability at the macro (system) level is equally important to ensuring that the IA team is accomplishing broader administrative and educational goals.

School-wide indicators such as number of students served by the team, number of students referred for special education evaluations, and number of students retained can be useful indices of the IA team's overall impact on the school as a system.

- **Training:** Kovaleski (2002) underscored the importance of providing preservice and inservice training for all members of IA teams, especially teachers, in the fundamental skills of collaboration/consultation, curriculum-based assessment, behavioral assessment, and relevant instructional strategies or intervention strategies available to assist students. In addition, IA teams should go beyond inservice trainings to offer team members *in vivo* practice and professional mentoring in conducting these activities.

Process factors.

- **Creating a data-based practice:** As mentioned previously, collecting data on the actual interventions recommended and implemented by the team is crucial to monitoring the efficacy of both the individual intervention and the IA team as a whole. This need is supported by the research of Flugum & Reschly (1994), who found that data collection (both baseline and ongoing intervention data) contributed to the perceived success of prereferral interventions.
- **Selecting research-based strategies:** Given the increasing professional impetus to link assessment data to intervention strategies, selection of such interventions cannot be an arbitrary process (Batsche & Knoff, 1995). As indicated by Myers and Holland (2000) and Logan and Stein (2001) demonstrated, teachers' "cookbook" approach to selecting interventions may be to the detriment of difficult-to-teach students. Successful IA

teams select interventions that have been demonstrated in research to show quick and effective results, before considering more lengthy intervention or assessment activities (Kovaleski, 2002).

- **Establishing the intervention:** The multidisciplinary nature of IA teams should not be limited to intervention development. Rather, team members should go a step further to actually work with the student either in a group format or individually, assisting the teacher in the classroom implementation of the intervention. The involvement of additional team personnel works to ensure treatment fidelity and to model correct implementation to the general education teacher (Kovaleski, 2002).
- **Incorporating the intervention:** One of the most common refrains of teachers with regard to classroom-based intervention activities is, “I don’t have time for all this!” Teachers are fiercely protective of their already limited time, and intervention acceptance has been found to be related to the demands the strategy places on the teacher (Gresham, 1989; Inman & Tolefson, 1988). One way to ensure that teachers implement the intervention to the greatest extent possible is to design it such that it fits easily within the teachers’ day-to-day routine, rather than simply recommending a strategy and leaving to the teacher any specific plans for incorporating it into the classroom. Albin, Lucyshyn, Horner, and Flannery (1996) describe this premise in the positive behavioral support literature as “contextual fit,” which is defined as the congruence between intervention plan features and those variables that seriously affects the development and implementation, and therefore the effectiveness, of those plans.

- **Involving parents:** The intensive involvement of parents in IA activities has been found to be a characteristic of highly successful IA programs (Kovaleski, 2002). Parent input can greatly inform the development of interventions, and can allow for school- or classroom-based interventions to be extended into the student's home environment.
- **Screening for further evaluation:** One of the IDEA requirements for disability determination is to rule out the possibility of lacking instruction. Kovaleski (2002) argues that IA teams can be useful in testing this hypothesis by generating intervention plans that include instructional strategies or accommodations that are feasible in the general education classroom. However, in instances in which interventions do not successfully address student problems, a lack of instruction is ruled out and screening/evaluation is required to determine both the precise needs of the student and the various resources available to assist the student.

Given that IA programs are capable of functioning in an educative capacity (Nelson et al., 1991; Safran & Safran, 1996; Wilson et al., 1998), it can be hypothesized from the preceding list that the extent to which schools adhere to these IA best practices may have a positive effect on the ways teachers conceptualize and attempt interventions. When IA teams model effective, research-supported supports for intervention development, teachers may be more likely to have greater knowledge in interventions.

Purpose of Study

The purpose of the present study was to replicate a portion of the research of Wilson et al. (1998), which conducted interviews with general education teachers to assess their knowledge of classroom-based interventions. Specifically, this study used the structured interview and vignette portion of the

Wilson et al. study to examine the interventions teachers suggest in response to a multifaceted, hypothetical student problem. However, the present study extended their approach in that, in this investigation, teachers' individual professional characteristics (including training experiences), as well as the IA practices of the schools in which they work, were measured to determine their degree of relatedness with teachers' knowledge of interventions.

Research questions to be addressed in this study were as follows:

1. What is the average number of interventions teachers offer to address a hypothetical classroom behavior problem?
2. How specific are teachers in descriptions of interventions/strategies they would use in their classroom (average specificity rating per teacher)?
3. What is the likelihood that a teacher will suggest a given type of intervention (e.g., instructional, behavioral, etc.)?
 - 3a. What 2 or more intervention categories, if any, are likely to be suggested by the same teacher (i.e., what is the probability that a given teacher will suggest both intervention type x and intervention type y?)
4. What is the relationship between *years of teaching experience* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention (e.g., instructional, behavioral, etc.)?
5. What is the relationship between the *number of times the teacher has participated in IA meetings* and the number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?
6. What is the relationship between teachers' *referral-to-eligibility rate* and number of interventions/strategies suggested, specificity of

interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?

7. What is the relationship between *training experiences* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?
8. What is the relationship between *intervention assistance (IA) practices of the participants' school* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?

This study offered two major contributions to the present intervention literature base. First, by refining a method by which school psychologists might assess teachers' knowledge of classroom-based interventions, this study helps lay the groundwork for further research examining elements of teachers' intervention knowledge (i.e., types of interventions with which they are most familiar, average levels of familiarity/comfort with interventions). Secondly, characteristics that may be related to teachers' intervention knowledge (i.e., years of teaching experience, exposure to training activities, schools' adherence to IA best practices, number of children referred for evaluation, number of children found eligible for service) are suggested. Such teacher/school characteristics can be considered in the development of constructive recommendations for changes in preservice/in-service training, building-level approaches to IA activities, and future theoretical or empirical analysis of teachers' involvement in IA programs. In addition, it is hoped that this research may have some level of practical impact, shaping the ways present teachers assist difficult-to-teach students in the general education classroom.

Chapter III

Research Methods

Participants and Setting

Twenty-nine second- and third-grade general education teachers from six elementary schools in Hillsborough County, Florida were recruited to participate in this study. Second- and third-grade teachers were selected as participants in this study because rates of referral for suspected disability tend to be highest in these years of education (Ysseldyke et al., 1983). In earlier years (i.e., kindergarten/first grade), students' academic and behavioral skills are still developing and teachers are often encouraged to wait until potential problems become more pronounced. In later years (i.e., fourth/fifth grade), most of the students with relevant problems have either been placed in special education classes, had Individualized Education Plans (IEPs) developed for their general education programs, or had their needs addressed through intervention assistance (IA) programs in their schools. Sample size was limited *a priori* roughly 30 participants, in consideration of the time and effort necessary for the researcher to contact participants, conduct individual interviews, and transcribe/analyze interview sessions.

Sampling procedure. In the proposal for this project, schools were to be selected for inclusion using a stratified random sampling procedure. All elementary schools in the Hillsborough County School District were ranked on the basis of a "risk index," which was operationally defined in this study as an equation that averages each school's percentages of 1) students receiving free or reduced-cost lunch, 2) students receiving special education services, and 3) teachers without advanced degrees. These three demographic variables, obtained from the Florida School Indicators Report (available online at <http://info.doe.state.fl.us/fsir/>), were selected because they provide a measure of

student socioeconomic background, incidence of student disability within the enrolled population at a school site, and level of teacher training that can be detrimental to student outcomes. After ranking schools based on the “risk index,” all Hillsborough County schools were divided into five quintiles and one school was randomly selected for participation from each quintile, using a random number table. This was done to allow the sample of schools to roughly approximate the variability seen in the population of Hillsborough County Schools and to avoid the random variability seen in very small samples. The researcher contacted the assistant principals of each of the selected schools by telephone to discuss the proposed study and solicit initial support for data collection in their school buildings. If assistant principals declined to allow their school to participate, the original plan called for another school to be randomly selected from the same quintile to take its place.

Unfortunately, the sampling procedure had to be modified due to unforeseen complications in obtaining administrator support for data collection in the randomly selected schools. The researcher followed the proposed sampling procedure and spent several months making phone calls to assistant principals, often without receiving a return phone call. The researcher used a general rule of three attempts at initial contacts before abandoning efforts at a given school and selecting another school from the same quintile, and several schools were ruled out as participating sites through this procedure. In addition, several assistant principals declined to participate, citing low teacher interest or too many conflicting demands on teacher time (e.g., other research projects or school initiatives, statewide assessment, etc.).

These difficulties in obtaining building -level support for data collection led to a change to a convenience sampling method, which was approved by the supervising committee. Three elementary schools in Hillsborough County where first-year school psychology students were participating in an observational practicum were recruited as data collection sites. These sites were recruited because administrators and staff were familiar with the USF School Psychology

Program and were hoped to be more receptive to the research project. Furthermore, first-year practicum students volunteered to serve as data collectors to complete a research training requirement, and using their current practicum sites considerably facilitated the process of contacting and scheduling teachers for interviews. In addition to the practicum sites, three other local schools were recruited on the basis of previous contact with the USF School Psychology program or proximity to the university. This resulted in a total of six school sites from which teachers were recruited.

Despite the need to use convenience sampling, demographic characteristics of the resulting sample of schools were compared using the original risk index to assess variability among participating schools (see Table 1). It should be noted that risk index rankings are available for only 5 of the 6 schools participating in this study. School B opened in the 2003-2004 school year and because the Florida School Indicators Report used 2002-2003 data, no data were available to indicate school B's ranking among the participating schools. Of the schools participating in this study, risk index rankings ranged from a high of 15th out of 129 elementary schools in the county (school A) to a low of 91st out of 129 (school D). After dividing ranked schools into quintiles, it was found that schools represented the first (schools A and E), third (school C) and fourth (schools D and F) quintiles, indicating a broad range of risk as measured by percentage of students with disabilities, students receiving free or reduced-price lunch, and teachers without advanced degrees. No schools from the second and fifth quintiles participated in this study. Although equal representation from each of the quintiles was not achieved, the participating schools do reflect the variability seen within Hillsborough County schools' overall demographics. Limitations to external validity created by this change in sampling procedure are addressed in Chapter 5.

Once approval was obtained from each assistant principal, the researcher acquired a list of all second and third grade teachers in each school. From this list, six participants (3 second grade and 3 third grade teachers) were selected at

random, using a random number table. Teachers were contacted in one of two ways: (1) a flyer describing the purpose and basic method of the research study, along with lines for providing contact information were placed in teachers' mailboxes (see Appendix A), or (2) teachers were approached personally and verbally told the same information as on the flyer by a data collector or the main researcher. Both forms of contact were used to schedule a specific interview time with the teacher. As a form of incentive to participate, teachers were offered a \$15 gift card to Staples to compensate them for their time, and this was stated both in the flyer and in verbal contacts with data collectors. If a teacher declined to participate in the study, another teacher from the same grade level was selected from the list provided by the principal until the appropriate number of participants from each school and grade level had been recruited. If less than six teachers from a given school were available to participate, additional teachers were recruited from another participating school until the target number of participants ($N=30$) was reached. Due to a last minute cancellation, however, the total sample size for this study was 29.

Table 1

Demographic Characteristics of Participating Schools

School^a	% Students with Disabilities	% Students Receiving Free/Reduced Price Lunch	% Teachers Without Advanced Degrees	Risk Index	County Rank^b	Quintile
A	14.2	21.3	70.6	35.4	15	1
C	22.2	46.2	71.4	46.6	56	3
D	18.5	75.2	70.4	54.7	91	4
E	14.2	29.7	63.5	35.8	19	1
F	19.3	68.8	71.1	53.1	79	4

^a School B was a new school in 2003-2004. Because risk-index rankings were developed using 2002-2003 school year data, no indicators were available for school B.

^b Rank is out of 129 elementary schools in the School District of Hillsborough County, FL

Setting. Teachers were individually interviewed in a private location at their school at a time most convenient to them. Whenever possible, interviews

took place in a conference room or private office; however, when teachers were interviewed in their own classroom, the session took place at a time when he/she was not responsible for supervising or instructing students. Regardless of exact location, all interviews took place behind closed doors to ensure privacy and confidentiality.

Materials and Measures

Prior to initiating data collection, a pilot study was conducted to assess the validity and utility of the following measures. Although this phase of the study is described in greater detail under “Preliminary Data Collection” in the Procedure section of this chapter, modifications made to the measures and materials adapted from Wilson et al. (1998) are mentioned in the descriptions below to clarify how study instruments were improved to better meet the needs of the current research objectives. A summary of outcomes from the pilot phase can be found in Appendix B.

Demographic questionnaire. An 18-item demographic questionnaire was administered to each participant (see Appendix C). This instrument was used to obtain information about the participants’ age, gender, and race, as well as grade level currently taught, years of teaching experience, participation in IA teams, referral history, training experiences, and schools’ adherence to IA best practices. This information was used to describe the sample as well as to analyze intervention descriptions according to relevant teacher characteristics (i.e., grade level taught, years of experience, IA participation, etc.). To ensure confidentiality, participants were not identified by name on this form.

Modifications to the questionnaire resulting from the pilot study were minor and primarily consisted of wording changes to improve participants’ understanding of items. For example, pilot participants’ responses suggested that not all schools, whether public or private, have building-level problem-solving teams. This was problematic, as many questionnaire items referred to such teams in a way that assumed all elementary schools used these teams with regularity. As such, it was decided to add an item that specifically asked if such

a team exists. All references to such a team were modified to “school-based problem-solving team,” rather than “Child Study Team” or “intervention team,” to overcome the variability in terminology that may exist from school to school in Hillsborough County. Several other minor changes were made to make items clearer or to make the questionnaire less demanding for teachers (e.g., asking them to recall the past two years of referrals, rather than three, as teachers tended to struggle to recall that far back).

Interview instructions and standardized vignette. Prior to administration of the vignette, the researcher read a set of instructions to the participant explaining the task at hand (see Appendix D). The instructions informed the teachers that they would be asked to read a vignette that described a hypothetical student-related behavior problem in a general education classroom and subsequently would be asked to describe all the ways they knew to help the student achieve the goals presented. Before they began responding, teachers were informed that their intervention descriptions should be as descriptive and specific as possible.

The vignette, describing a classroom-based problem exhibited by a third grade student (“John”), was taken from the Wilson et al. (1998) interview protocol with permission of the first author (see Appendix E). It consisted of three paragraphs describing John’s academic difficulties in math and reading, behavioral problems exhibited in the classroom, and peer responses to John’s behavior. The vignette also listed two goals that the participant has hypothetically set for John: 1) to “stop talking out in class” and 2) to “stay in his seat.” All teachers received the same vignette, which was printed on an 8 ½” x 11” sheet of paper and handed to participants to read individually.

Data from the pilot phase of the study revealed the need for two modifications to the script in order to maximize participants’ responses. The first was a procedural change that clarified the number of interventions described to the data collector and/or transcriptionist. Although pilot participants had many intervention ideas in response to the vignette, it was difficult to determine where one intervention ended and another began. This complicated the process of

entering, coding, and counting each individual intervention. To facilitate responding in a way that designated clearly distinct interventions, a modification was made in the script to prompt teachers to hold a small token while describing each intervention idea and to drop it into a plastic cup when they were finished describing it. When listening to audiotapes of interviews for transcription, the sound of the token dropping into the cup provided a cue that marked the break between intervention ideas. This change in procedure facilitated data entry and analysis considerably and served as an additional prompt for providing detailed descriptions due to the statement "...unfortunately, this means you can't go back and add to an idea once you've dropped it into the cup, so try to describe your ideas as completely as possible before you drop it."

The second modification to the script was made to enhance the specificity of participants' responses. The original version of the script used in the pilot phase provided a brief prompt and example of specific responses. Pilot study data, however, indicated that participants' responses were typically brief and low in specificity. The script text was analyzed to determine if there might be a better way to elicit highly detailed responses from participants. The original script text used the following prompt:

"...Before we begin, I need to ask that you try to be as specific in your descriptions as you can. For example, if I asked you to describe the types of things you might do to help John to succeed in the classroom, and you said, "*I could change the mode of instruction,*" that would be too general and would not give us the type of information we need. However, if you said, "*I could shorten his daily math assignments by cutting them in half,*" and so on, that would give us more of the kind of information we need. Again, give us as much detail as you can."

Upon further inspection, it became clear that the above example of a more specific response would actually have only received a rating of a moderate specificity. As such, examples of low-, medium-, and high-specificity responses

were incorporated in the script with additional emphasis on the importance of providing highly detailed descriptions. Note that the text below also includes bracketed prompts to data collectors instructing them on precisely when and how to model the use of the tokens, referred to here as “poker chips.”

“...I also want to remind you to be as specific as possible in your descriptions. Give as much detail as you can. Try to describe what you would do in a way that is so clear that I, as another educational professional, would know exactly how to implement your idea just from hearing your description. Let me give you some example responses that provide low, medium and high levels of detail. While I give these examples, I will show you how to use the poker chips like I just described.

If I asked you to describe the types of things you might do to help John succeed in the classroom, and you said, [pick up a chip] *“I could change the workload,”*[drop chip into Goal 1 cup and pause for 2 seconds] that would be a low detail response. That is too general and doesn’t tell me exactly how you are planning to help John. If you said, [pick up a chip] *“I could shorten his daily math assignments,”*[drop chip into Goal 1 cup and pause for 2 seconds] that would give a medium amount of detail. I have a better idea of what you want to do, but I’m still not completely sure how you would do it. Finally, if you said, [pick up a chip] *“I would take John’s math worksheets and cut them into strips of five problems each. When he finishes one strip, he will come up to my desk, and I will tell him he’s doing a good job and give him another strip. This will break down his work into smaller chunks and allow him to get a brief rest and some praise in between sets of problems.”*[drop chip into Goal 1 cup and pause for 2 seconds], this would be a highly detailed response. I would know exactly how

to implement this idea based on your description. This is the kind of response we're looking for.”

Beyond these two modifications, no other changes to the script were made. The vignette text also remained unchanged after the pilot phase.

Interview coding form. Data obtained from the interview was typed into a form that facilitated coding of the salient characteristics of teachers' responses (see Appendix F). Each distinct intervention suggestion was typed into a separate text area on the form, and below each text area were categories for the type of intervention described (e.g., instructional, behavioral, etc.) and the degree of its specificity (e.g., low, medium, high). More information about the definition of each of the codes for intervention type and specificity is provided below. Finally, the number of intervention suggestions was counted by summing the text boxes used to describe each discrete intervention.

No changes were made to this form following the pilot study with the exception of adding new intervention type codes as described below. However, in the data entry phase, a summary page was added to the coding form, which provided all relevant information to be entered for analysis (number of interventions described, presence and frequency of hypotheses, frequency of intervention types, specificity ratings for each individual suggestion, mean specificity rating by intervention type, and overall mean specificity for the participant). This summary sheet is the last page in Appendix F.

Code definitions. A copy of the code definitions, including examples of suggestions for each dimension, can be found in Appendix G. Procedures for coding specificity of descriptions were originally adapted from the work of Gresham (1989) and were used by Wilson et al. (1998). The original coding procedures used in the pilot phase included the same descriptions of low-, moderate-, and high-specificity responses as those used by Wilson et al. (1998). They were as follows: (1) *low specificity*: descriptions consisting of nonspecific or vague recommendations (e.g., “I could use one of those B-Mod things,” or “I could write stuff down”); (2) *moderate specificity*: description contains some, but

not complete, detail (e.g., “A volunteer could help him with reading in the afternoons, in the library,” or “He could earn chips if he stays in his seat for the whole lesson”); and (3) *high specificity*: description demonstrates a detailed plan for assisting the hypothetical student (e.g., “During the recess period every other day, John and a paraprofessional would sit in the Reading Corner of the classroom and John would read aloud for 20 minutes. The para could keep track of errors and words read correctly per minute, and she and John could chart his progress on a special graph”).

Based on the changes to the interview script as previously described, however, the coding procedures were modified after the pilot phase to give clear examples and non-examples of specificity. Specificity of responses was operationally defined as a description that provided enough detail that another educational professional could implement the intervention idea without further information. Following the pilot phase, each intervention recommended by teachers was coded as follows: (1) *low specificity*, if it consists of nonspecific or vague recommendations, and/or responses where the intervention suggested could not be implemented based on the current description alone because more information is needed (e.g., “I could change his workload”); (2) *moderate specificity*, if the description contains some, but not complete, detail, and/or the intervention suggested could be implemented but additional details would need to be provided; (e.g., “I could shorten his math assignments”); or (3) *high specificity*, if descriptions demonstrate a detailed plan for assisting the hypothetical student that could be implemented on the basis of this description alone (e.g., “I would take John’s math worksheets and cut them into strips of five problems each. When he finishes one strip, he will come up to my desk, and I will tell him he’s doing a good job and give him another strip. This will break down his work into smaller chunks and allow him to get a brief rest and some praise in between sets of problems”).

To code the nature of interventions, a scale adapted from Ysseldyke, Pianta, Christenson, Wang, and Algozzine (1983) was used. A similar version of

the scale was also used to analyze responses in Wilson et al.'s (1998) study along the following types: (a) *instructional* (e.g., individual help, restating directions), (b) *behavioral* (e.g., behavior modification principles), (c) *classroom structure* (e.g., moving student's seat), (d) *interdisciplinary support* (e.g., pre-taught vocabulary with the resource teacher, counseling with the school counselor), (e) *information gathering* (e.g., checked the student's cumulative file, called parents, and (f) *materials* (e.g., audio-visual tapes, manipulatives).

Data from the pilot study indicated the need for three additional categories because several intervention ideas could not be coded using the existing codes described above. The three new categories, (g) *communication with student, whole class, or parent/family* (e.g., discussing with the student, class, or parents about the importance of not calling out in class), (h) *emotional/social support* (e.g., work on building the student's self-esteem and achieving success), and (i) *compound* (e.g., developing a behavioral contract that is monitored by the guidance counselor—behavioral and interdisciplinary support), made it possible to code all responses from the pilot study. Two existing intervention types, *behavioral* and *classroom structure*, also were modified on the basis of pilot data. Some intervention strategies consisted of prompts or cues (verbal and nonverbal) from teacher to student, and there was some confusion as to whether these could be classified as form of teacher-student communication or as an antecedent behavioral cue. As such, the *behavioral* category was redefined to be consequence-oriented responses to behavior, such as reinforcement, punishment, extinction, time-out, behavioral contracts, etc. All cues from teacher to students were coded as *communication*. The definition for *classroom structure* was modified to allow for interventions that included changes to student's responsibilities/duties that impacted the level of structure in noninstructional activities (e.g., providing the student with opportunities to run errands as a way to be able to walk around more frequently) or changes to the classroom environment, including rules or policies (e.g., allowing the student to stand at his chair if he can demonstrate that he is working productively on his assignment).

Finally, an additional note was added to the coding form about noting the presence of hypotheses about potential causes of behavior in teachers' responses. Hypotheses were occasionally apparent in pilot participants' responses, and it was decided that they would be highlighted in the body of the text and counted for later analysis.

Procedure

Protections of confidentiality and informed consent. Prior to data collection, approval to conduct this study was sought and obtained from both the Department of Assessment, Accountability, and Evaluation of the School District of Hillsborough County (SDHC) and the Institutional Review Board (IRB) of the University of South Florida. In addition, a letter of support for contacting teachers and conducting research on school grounds was obtained from school principals or assistant principals.

At the outset of each participant's interview session, the data collector used the interview script in Appendix D to thoroughly describe the purposes of the study and provided assurances of confidentiality. The teachers were informed both orally and in writing that they were being audiotaped for the purposes of recording, transcribing, and analyzing their responses. Teachers also were told that only the data collectors (including the primary researcher) and the major professor would have access to these tapes, that they would not be labeled/identified using participants' names (rather using number/letter combinations), and that the tapes would be destroyed upon completion of the study. Each teacher was given a consent form containing all of this information, which was signed in the presence of a data collector prior to his/her participation in the study.

Teachers also were assigned a participant code that included an individual participant number, a school code, and a grade level code. This code was used for the purposes of identifying teacher responses on audiotapes, interview transcripts, and all other research records. For example, a hypothetical participant "Mrs. Smith" from "Apple Elementary" was noted on all relevant

documentation as Participant 4A2, indicating that she was Participant #4 from School A, teaching grade 2. By using this coding system, no participant's name or school appeared on any research documentation or records.

Preliminary data collection ("pilot study phase"). To gather more information about the measures proposed for use in this study, a pilot study was conducted. In particular, the pilot study sought to address the following research questions:

1. Do the questions in the interview and questionnaire elicit the appropriate/desired responses from teachers?
2. Are there any aspects of the study that are confusing or unclear to teachers and which might require further explanation or changes in the research materials?
3. How much time does the interview session require of teachers (including informed consent procedures and administration of questionnaire)?
4. Are the proposed procedures for coding interview data sensitive enough to detect salient features of teacher responses (e.g., number of interventions, specificity of descriptions, and intervention type)?

IRB approval for the pilot study was sought in conjunction with approval for the main study in one comprehensive proposal. Several teachers were recruited from local schools, via convenience sampling, to participate in this pilot investigation. Identical procedures for obtaining principal consent for participation were followed in this phase of the study, with the only deviation being the explicit delineation of the goals of the pilot study. A total of 3 teachers participated in the pilot phase: one second-grade teacher and one third-grade teacher from a private school in Pasco County and one pre-kindergarten teacher from a preschool in Hillsborough County.

A fourth participant, an advanced graduate student in school psychology and instructor in classroom management strategies for preservice teachers, also participated in the pilot to confirm the utility of the procedure using tokens to

represent discrete interventions as they were being described. This participant was added because the pre-kindergarten teacher, the first to use this new procedure, had a total of only five intervention ideas with an overall mean specificity of 1.8. She attributed her responses to a lack of knowledge about interventions and limited teaching experience (less than two years), but there was concern that the token description procedure might have interfered with her ability to produce numerous intervention ideas. To address this concern, the fourth participant was recruited because of his advanced knowledge of intervention strategies. It was assumed that he would have many intervention ideas in response to the vignette, and if he also produced few ideas, then the token description procedure might indeed be inhibiting responding. The fourth participant, however, offered a total of 13 strategies for working with John, including six hypotheses, and had an overall mean specificity of 2.5. Based on the data from the fourth participant, it was concluded that the token description procedure did not significantly inhibit responding and it remained in the interview script for use with primary study participants.

Procedures for conducting teacher interviews, as well as for transcribing and coding the interviews, were nearly identical to the final phase of data collection and are described below. Pilot participants were also compensated with the \$15 gift card to Staples. One important exception to the protocol was that, upon the conclusion of the interview session, pilot participants were asked additional open-ended questions that addressed the pilot study research goals previously listed. Through these questions, participants provided qualitative feedback regarding the validity of proposed measures, which led to the previously described changes in measures and procedures. Answers to these questions can be found in Appendix B, which summarizes data from this phase of the study. Because data gathered in this phase of the research were preliminary, correlations were not calculated between teacher demographic information from the questionnaire and teacher responses to the interview. After analyzing data from the pilot phase, preliminary results (Appendix B) were

approved by the members of the supervising committee via e-mail, and necessary changes were made to the research protocol and instruments.

A secondary goal of this initial investigation was to develop necessary materials for training an advanced graduate student to serve as an independent rater for reliability checks. Blank copies of the transcripts resulting from the pilot study were developed for use in training exercises for the independent rater. In the interview sessions of the pilot study, teachers were informed that transcripts of their interviews were intended to be used as future materials for training. As no one had been trained to serve as an independent rater during the pilot phase, interrater reliability was not quantified for the pilot participants' data. Rather, to determine the sensitivity and reliability of proposed coding procedures for the pilot participants, the researcher and major professor both coded tapes from pilot sessions, compared coding forms, and discussed discrepancies until they were resolved.

Main study data collection. Once changes to the research protocol/instruments were approved by the supervising committee, seven first-year school psychology graduate students were trained by the researcher to serve as data collectors. Because data collectors had previously completed University of South Florida's IRB Human Subjects Training requirements, they were authorized to administer informed consent, as well as the demographic questionnaire, interview script, and vignette. Including the researcher, a total of eight people served as data collectors for this study; six first-year students worked in pairs at three schools (schools A, B, and E), while the researcher paired with the seventh data collector at a fourth school (school D) and collected data independently at the fifth and sixth schools (school C and F). Data collectors were trained in the administration of study materials and audiotaping of participants' responses to the vignette, but only the researcher transcribed and coded data.

Data collection in this phase began with the selection of schools and teachers for participation as previously described. During the teacher interview

session, informed consent procedures were followed as described previously. After written informed consent was obtained, each teacher was asked to complete the demographic questionnaire. The data collector then read the interview script, including a set of instructions describing the research task, and teachers subsequently were given the vignette to read themselves. All participants received the same vignette and the exact same set of instructions.

Teachers were given as much time as they needed to read and think about the vignette and were prompted to take notes if necessary. When they indicated that they were ready to begin, the data collector described how to use tokens to describe separate interventions (referred to in the script as “poker chips;” see Appendix D for complete text). Participants were told that each token represented an individual idea for helping the student in the vignette, and ... “just as there are many, many things we can think of to help students, there are many chips in the bag. You do not have to use them all.” Participants were then instructed to hold one token in their hand while describing an intervention, to be as specific and detailed as possible, and then to drop the chip in the cup when finished describing the idea. After reading this description, the data collector provided sample low-, medium-, and high-specificity responses for the participant and modeled the use of the token procedure for marking discrete interventions as he/she gave the examples.

After describing and modeling appropriate responses, the data collector asked teachers if they had any questions and then started tape recording the session at this time. Teachers then were prompted to begin with the first behavioral goal, “stop talking out in class,” and describe all the ways they could help the child achieve that goal. The data collector provided one final prompt to be specific and use the tokens as modeled and then allowed teachers to provide their intervention ideas while tape recording their comments. When a participant stopped offering intervention suggestions, the data collector asked, “Is there anything else you can think of that could help John achieve this goal?” This prompt was offered each time teachers stopped suggesting interventions until

each teacher indicated that he or she had exhausted ideas for the first goal. Then, the procedure was repeated for the second behavioral goal, “stay in his seat,” until the participant again indicated that he or she could not think of any additional intervention strategies. At that time, the teacher was thanked for his/her participation, and the session was concluded by giving him/her the gift card.

Data entry. Subsequent to the interview session, all tapes of teacher interviews were transcribed by the researcher onto the interview coding form and analyzed for number of suggestions offered, specificity of descriptions (Gresham, 1989), and intervention type (Ysseldyke et al., 1983). Because each participant’s coding form was at least three pages long, it is not feasible to include all participants’ intervention descriptions. A representative sample of five completed coding forms, showing the variability in the number of interventions, as well as the breadth (number of types suggested) and depth (overall mean specificity), are provided in Appendices H-L.

When transcribing interventions, the researcher used the sound of the token dropping into the cup as a cue to move to a new text box on the coding form for a new idea for the majority of intervention suggestions. Occasionally, however, teachers’ responses suggested that they did not understand the token procedure because they did not drop tokens as modeled by the data collector. One teacher (4A3), for example, described five discrete interventions before dropping the token in the cup. After her first response, the data collector prompted her to drop the token and she responded, “I know,” but did not drop the token in the cup and proceeded to describe additional ideas. She finally dropped the token when she indicated she had exhausted her ideas for helping the student achieve the first goal. This suggests perhaps this teacher misunderstood the purpose of the tokens to serve as a cue that she was ready to move on to the next behavioral goal in the vignette, rather than to indicate separate intervention ideas all targeting the same behavioral goal. In this and similar such situations, data collectors typically provided a single reminder about how to use the tokens,

and if the participant continued to use them incorrectly, he or she was allowed to continue so as to prevent any inhibition of response by stopping to retrain the token procedure.

When entering these data, a decision rule was used to determine how to break intervention ideas. First, if the participant provided verbal cues of discrete ideas such as, “Another thing I would do...” or “On the other hand...”, these were used to signal the break between intervention ideas. If no such cues were available, the content of the teachers’ ideas was used to guide the breaking of intervention ideas. Specifically, if the intervention was described in a way that clearly indicated the simultaneous use of two or more intervention ideas, it was kept together and coded as *compound*. If however, a participant switched from describing one type of intervention (e.g., *behavioral*) to describing a separate idea that would be coded as a different intervention type (e.g., *instructional*) and was not to be implemented in conjunction with previously mentioned strategy, this also served as a cue to break intervention ideas. In the text boxes of a coding form, the word (CHIP) is shown to indicate that a chip was dropped, and for situations such as participant 4A3, the parenthetical notation (continues on) at the end of an intervention description indicates that the participant did not drop a chip and the intervention was broken by the researcher.

On one occasion, a teacher (5B2) demonstrated incorrect use of the token description procedure in the opposite manner, dropping chips arbitrarily between ideas where there was no apparent shift in content or intervention strategy. A portion of a single intervention idea is provided below to illustrate this phenomenon:

“... We have a desk inspector who goes around and checks the desks (CHIP) to make sure they’re organized and keeps their papers where they should and if it’s not then they have their color moved and at the end of Friday, if they’ve had their color moved many times during the week then they don’t get to eat lunch in the classroom with me on Friday. So it’s kind-of like a good job, kudos,

yeah you get something, or a pull-back, not a punitive thing, you know you have to make them aware that you're not doing the right thing so you're not going to get the reward. (CHIP) You have to set up something in your room that's going to let them know the boundaries and always make it so that when they internalize that it's not you punishing them, that they are making you have to take this away, and "I'm sorry to have to take this away from you because I was really hoping that this week you'd get to have lunch with me, and we're going to have popcorn and watch a movie during lunchtime so I'm sorry you're going to miss that," so make them internalize that it's something they are making you do, rather than something you are doing to them. Because you don't want them to resent or see you as the Grim Reaper, it's more that they need to understand that "if I do these things then I get to have all of this" so that's sort of building. And then they love you and they can't wait to do those things, and they understand that when they are punished, they don't get those things, and it's something they need to work on so the next week it's like, "I know I'm going to do it right, I'm going to get to eat lunch" and it's something they realize they can control. (CHIP)"

Despite the fact that several tokens were dropped during the description, this intervention was transcribed and coded as a single *behavioral* intervention because everything this teacher described referred to the use of positive and negative consequences to impact student behavior. Participant 5B2 was the only teacher to use the chips in this fashion.

Following transcription, each participant's data from the demographic questionnaire and interview were entered into an SPSS™ statistical database for analysis.

Interrater reliability. Following the data entry phase of the study, an advanced graduate student was recruited to serve as an independent rater for

coded data. To establish the reliability of results obtained from analyzing interview transcripts along specificity, and intervention nature codes, an independent rater reviewed approximately 50% of the participant transcripts (N=14). The independent rater was familiar with the purposes and procedures of the study, and was trained on the definitions used to code teacher responses in terms of specificity of description, and type of interventions suggested (see Appendix G). For the purposes of training, the independent rater was required to complete a coding form from one of the four pilot study transcripts, on which responses had been transcribed into individual text boxes and counted but not yet analyzed for intervention type or specificity. The transcript used for training had been previously coded on a different form by the researcher and major professor prior to independent rater training, and the results obtained by the researcher/major professor served as the standard by which the trainee was evaluated. To check the reliability of coding for specificity and intervention nature during the training phase, the independent rater's codes for the training transcript were then compared to those obtained by the researcher/major professor, using the formula:

$$\frac{(\# \text{ of Agreements})}{(\text{Total Agreements} + \text{Disagreements})} \times 100.$$

This formula was used separately on specificity and intervention results to calculate the accuracy of coding on each coding variable. The independent rater was required to achieve 80% agreement with the researcher/major professor's results on each coding variable to pass the training exercise. This occurred on the first try, so no further training was provided.

Following transcription/initial coding by the researcher, 14 interviews (135 total intervention suggestions) were randomly selected to be reviewed for interrater agreement. The independent rater was given blank copies of the coding form for each participant with text only, void of any coding marks or notes, and was then asked to determine specificity and type of each of the intervention suggestions and identify any hypotheses generated by the participants. The

formula used for these calculations was the same as that which was used in the training exercise, and a standard of 80% agreement was set. If the interrater reliability fell below the 80% criterion, then coding for all transcripts would be reviewed and disagreements would be resolved. Final interrater reliability for specificity was 81.5% and 85.2% for intervention type, which met the standard levels of acceptable interrater reliability, so only 50% of transcripts were analyzed and resolved for discrepancies.

Data Analyses

Variables investigated in this study are listed in Table 2, and independent and dependent variables are discussed separately below.

Table 2

Independent, Dependent, and Types of Variables

Independent Variables	Type	Dependent Variables	Type
▪ Years of teaching experience	continuous	▪ Number of interventions offered	continuous
▪ IA participation	continuous	▪ Overall mean specificity	continuous
▪ Referral-to-eligibility percentage	continuous	▪ Presence of intervention types (each type is a separate dependent variable)	dichotomous 1= present 0= absent
		▪ Instructional	
		▪ Behavioral	
		▪ Classroom Structure	
		▪ Interdisciplinary Support	
		▪ Information Gathering	
		▪ Materials	
		▪ Communication	
		▪ Emotional/Social Support	
		▪ Compound	

Independent variables. Independent variables were those teacher characteristics obtained from demographic questionnaire data. To determine the reliability of the instrument, an internal consistency analysis was conducted by

calculating Cronbach's alpha. In particular, Cronbach's alpha values were calculated for questions on which sub-items were averaged to create a composite score to determine if any sub-items were answered in inconsistent ways that might affect the reliability and meaningfulness of the composite scores. These reliability values are highlighted below as they apply to individual variables.

The variables of *teaching experience* and *IA participation* were taken directly from the demographic questionnaire and required no calculation. *Referral-to-eligibility rate*, also an independent variable, is reported as a percentage and was calculated with data from obtained from the demographic questionnaire, using the following formula:

$$\frac{(\text{Mean students eligible for special education 2002-2004})}{(\text{Mean referrals for problem-solving 2002-2004})} \times 100.$$

In this way, *referral-to-eligibility rate* can be conceptualized as a "hit rate" or a measure of the accuracy with which teachers refer students to special education, providing the percentage of cases referred which resulted in the development of an IEP and/or change in educational placement (McNamara & Hollinger, 2003; Sindelar et al., 1992).

On the questionnaire, teachers reported their referrals to problem-solving teams, referrals to school psychologists, and children found eligible for ESE for two academic years: the previous school year (2003-2004) and two years ago (2002-2003). This was done to improve the accuracy and reliability of this rate for teachers, given the potential for annual fluctuations in the number of children referred for special education. It was assumed that these rates should be reasonably similar for teachers across years, though not necessarily identical. To test this assumption, three Pearson product-moment correlations (r) were calculated between the 2002-2003 and 2003-2004 rates for each of these variables to determine their degree of relatedness (see Table 3). Since all correlations were positive and statistically significant, 2002-2003 and 2003-2004 rates were then averaged to create a mean value for each variable. The *referral-*

to-eligibility rate for each teacher was calculated using these mean values and thus reflects two years of teacher referrals.

Table 3

Pearson Product-Moment Correlations (r) Between the 2002-2003 and 2003-2004 Rates of Referrals to Problem-Solving Teams, Referrals to School Psychologists, and Children Found Eligible for ESE Services

Questionnaire Items	Correlation (p-value)
10. How many children have you referred to your school's problem-solving team in each of the following years? <ul style="list-style-type: none"> ▪ Last Year (2003-2004) ▪ Two Years Ago (2002-2003) 	$r = .784$ $(p < 0.001)$
11. Of those above referred children, how many were eventually referred to the school psychologist or other personnel for evaluation for suspected disability in each of the following years? <ul style="list-style-type: none"> ▪ Last Year (2003-2004) ▪ Two Years Ago (2002-2003) 	$r = .694$ $(p = 0.001)$
12. Of those above children you referred for suspected disability, how many were eventually found to be eligible for ESE services in each of the following years? <ul style="list-style-type: none"> ▪ Last Year (2003-2004) ▪ Two Years Ago (2002-2003) 	$r = .737$ $(p < 0.001)$

There were two items on the demographic questionnaire that measured the independent variables of *training experiences* and *IA practices of schools*, each of which contained several sub-items scored on a 5- or 6-point Likert scale (see Appendix C questions 15 & 16). For each of these questions, scores from the Likert-scaled items were averaged to yield a *Composite Training Experiences* score and a *Composite IA Practices of School* score that reflects the whole of teachers' responses to each item. On the *Composite IA Practices of School* variable, items on which teachers responded "Don't Know" were not counted when calculating the mean. For example, if a teacher responded "Don't Know" to one of the eight subitems on Question 15 (*IA practices of school*), then that teacher's score was calculated as an average of seven possible items, rather than eight. For responses to item 15 (*IA practices of schools*), Cronbach's

coefficient alpha was 0.90, indicating a relatively high degree of reliability. It should be noted that this calculation is based on a sample of $N=12$, because 17 cases were eliminated due to missing data or responses of “Don’t Know” on one or more of the sub-items. With regard to responses on item 16 (*training experiences*), Cronbach’s coefficient alpha was 0.69 ($N=29$), indicating a moderate degree of reliability. Although this is a lower value than desired, this level of internal consistency was viewed as appropriate for the training experiences question, because there is expected to be more variability among teachers’ individual experiences with learning about interventions due to the college and timeframe in which they were trained, the schools in which they work, and their own motivation to seek out training on intervention strategies. Although there is no firm standard for interpreting alpha values, the psychological literature tends to view alpha values greater than .70 as acceptable (Cortina, 1993). Because both coefficient alpha values were close to or above this generally accepted standard for internal consistency reliability, the decision was made to proceed with creating composites for the *IA practices of schools* and *training experiences* variables in the above-described manner. Furthermore, Cortina (1993) suggests that the level of reliability that is deemed “adequate” for a given scale depends upon the decisions to be made with that scale. For a high-stakes assessment such as the Scholastic Aptitude Test (SAT), for example, high alpha values would be necessary since scores are often used for making important educational decisions such as college admissions. In this case, both *IA practices of schools* and *training experiences* variables are used as a self-reported indicator of teacher experiences at the personal and building-level and are not believed to be a perfect measure of either construct. As such, a more modest measure of reliability such as that obtained on the *training experiences* variable was deemed acceptable.

Dependent variables. Dependent variables consisted of the salient features of teacher responses to interview/vignette. The first dependent variable, *number of interventions*, was taken directly from the Intervention Coding Form,

on which the number of interventions described for each goal was reported. This variable required no calculation. The outcome variable *type of interventions* was treated as nine separate dichotomous variables in order to offer descriptive information regarding the proportions of teachers who described each of the intervention categories (e.g., “60 percent of teachers described one or more behavioral interventions”). In addition, treating *type of interventions* in this dichotomous fashion allowed calculation of correlation coefficients that index the degree of relationship both between intervention types (e.g., the likelihood that teachers will suggest both behavioral and classroom structure interventions) and among intervention types and teacher characteristics (e.g., relating years of teaching experience to a participant’s likelihood of suggesting instructional interventions). For each *type of intervention* variable, teachers’ responses were scored as 0 (indicating the teacher *did not* suggest that type of strategy) or 1 (indicating the teacher *did* suggest that type of strategy).

Finally, *overall mean specificity* of descriptions was calculated for each participant by taking the mean specificity rating from all of each teacher’s intervention descriptions. In order to appropriately combine teachers’ specificity ratings in this way, it was necessary to determine reliability across all participants’ specificity ratings. Cronbach’s alpha, commonly used for calculating internal consistency reliability, was not an appropriate metric for use with specificity ratings as it would likely be impacted by differences in the number of intervention suggestions between types (e.g., instructional interventions were suggested a total of 9 times across all 29 teachers while behavioral interventions were suggested significantly more often—90 times). To overcome this obstacle, individual participants’ intervention suggestions were entered from the coding form by the presence or absence of an intervention type (1 for presence, 0 for absence, as described above), intervention type frequency (e.g., how many times a participant suggested behavioral interventions), and the mean specificity of intervention descriptions by type (e.g., the mean specificity of a teacher’s behavioral intervention suggestions). To assess the reliability of specificity

ratings, the mean specificity ratings per type values were correlated, to determine if there was support for the notion of combining specificity ratings into an overall mean specificity value that represents all of a participant's intervention suggestions. Only mean specificity ratings of intervention types with an N greater than 10 (i.e., were suggested more than 10 times across the total sample) were included in the correlation matrix, as types with fewer than 10 observations were not likely to be reliable enough for analysis. Intervention types with frequencies greater than 10 were behavioral, classroom structure, communication, and compound. The correlation matrix in Appendix M depicts findings from this analysis that these four intervention types were indeed positively correlated, indicating that participants who tended to be specific in describing one intervention tended to be specific in describing other interventions, while those who were less specific in their descriptions tended to be less specific across interventions. These data support the decision to collapse specificity ratings into an overall mean specificity metric based on the average specificity ratings across intervention descriptions.

Design. This study employed a *correlational/nonexperimental design*, which involved collecting quantitative data to describe teachers' professional characteristics (i.e., years of experience, IA team participation, training, and school IA practices) and intervention ideas in response to the interview/vignette (i.e., number, specificity, and nature of interventions suggested), as well as to determine the degree of relationships that may exist between teacher demographic variables and intervention responses.

Interestingly, terminology used to describe research of this type is the subject of some controversy, as recently scholars have suggested that the term *correlational research* is outdated and places undue focus on a given statistical analysis rather than on a given research technique. Contemporary educational researchers suggest that this form of research instead be termed *nonexperimental research*, or

...systematic empirical inquiry in which the scientist does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulable. Inferences about relations among variables are made, without direct intervention, from concomitant variation of independent and dependent variables (Kerlinger, 1986, p. 348 in original, as quoted in Johnson, 2001, p.7).

The proposed category of *nonexperimental research* encompasses both causal-comparative and correlational designs, which determine the relationships among categorical or continuous independent variables (respectively) and relevant dependent variables. Furthermore, this study can be classified as *descriptive nonexperimental research* because the primary objective of the proposed is to describe the phenomenon of teachers' knowledge of classroom-based interventions, providing characteristics and potentially related factors where relevant (Johnson, 2001). Statistical prediction, characteristic of *predictive nonexperimental research*, is not a primary goal of this study.

Statistical analysis. Analysis of data in this study involved the use of various descriptive statistics to examine dependent variables, namely the number of interventions teachers offered, the specificity of their descriptions, and the nature of the interventions they suggested. In addition, correlation coefficients were calculated to examine the degree of relationship between independent variables obtained from teacher demographic information and dependent variables that resulted from teachers' responses to the interview and vignette. Specifically, analyses sought to answer the following research questions:

1. What is the average number of interventions teachers offer to address a hypothetical classroom behavior problem?
 - Analysis: Descriptive statistics

2. How specific are teachers in descriptions of interventions/strategies they would use in their classroom (average specificity rating per teacher)?
 - Analysis: Descriptive statistics
3. What percentage of participating teachers suggests a given type of intervention (i.e., instructional, behavioral, etc.)?
 - Analysis: Descriptive statistics
 - 3a. What 2 or more intervention categories, if any, are likely to be suggested by the same teacher (i.e., what is the probability that a given teacher will suggest both intervention type x and intervention type y)?
 - Phi coefficient (r_{ϕ})
4. What is the relationship between *years of teaching experience* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention (i.e., instructional, behavioral, etc.)?
 - Analysis: Pearson product-moment correlation (r) for number and specificity, point-biserial correlation (r_{pb}) for type
5. What is the relationship between *frequency of participation in IA meetings* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?
 - Analysis: Pearson product-moment correlation (r) for number and specificity, point-biserial correlation (r_{pb}) for type

6. What is the relationship between teachers' *referral-to-eligibility rate* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?
 - Analysis: Pearson product-moment correlation (r) for number and specificity, point-biserial correlation (r_{pb}) for type
7. What is the relationship between *training experiences* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?
 - Analysis: Pearson product-moment correlation (r) for number and specificity, point-biserial correlation (r_{pb}) for type
8. What is the relationship between *intervention assistance (IA) practices of the participants' school* and number of interventions/strategies suggested, specificity of interventions/strategies descriptions, and the likelihood that a teacher will suggest a given type of intervention?
 - Analysis: Pearson product-moment correlation (r) for number and specificity, point-biserial correlation (r_{pb}) for type

Pearson Product-Moment correlation coefficients (r) were used to determine if relationships existed between independent and continuous dependent variables. A series of point-biserial correlation coefficients (r_{pb}) were calculated to examine the relationships between continuous independent variables and the dichotomous *type of intervention* variables. Finally, any correlations among types of interventions were calculated using a Phi coefficient (r_{ϕ}) since both variables are dichotomous.

Chapter IV

Results

Descriptive Analyses

A series of descriptive analyses were employed to address the first three research questions of the study. Frequencies/percentages of responses and measures of central tendency (mean, range, standard deviation) are provided to illustrate the demographic characteristics of the participants, as well as their training and school-based experiences with regard to working with IA teams, consulting with other educational professionals, and developing interventions for referring difficult-to-teach students. Salient characteristics of teachers' responses to the vignette/structure interview are also presented, highlighting the number of interventions suggested, the overall mean specificity and types of interventions described. Finally, post-hoc descriptive analyses provide information about the degree to which teachers felt that their training in interventions was adequate, as well as the frequency with which they offered hypotheses about the causes of student behavior in the context of possibilities for supporting the difficult-to-teach student in the classroom.

Questionnaire

Participant demographics. A total of 29 second-and third-grade teachers from 6 elementary schools in one large metropolitan school district in southwest Florida participated in this study. Of those teachers, 15 (51.7%) taught second grade and 14 (48.3%) taught third grade. The sample was 96.6% female ($N=28$), with only 1 male participant (3.4%). The race/ethnicity of the teachers included 1 African-American (3.4%), 1 multiracial (3.4%) and 27 Caucasian (93.1%) participants. Teachers' ages ranged from 23 to 57 years with a mean age of 34.5 ($N=28$, 1 not reporting; $SD=9.71$). The majority of teachers ($N= 24$; 82.8%) held a bachelor's degree and 5 (17.2%) held master's degrees. All participants

held a Florida Elementary Education Teacher Certificate ($N=29$, 100%), and additional certifications among participants included English for Speakers of Other Languages (ESOL; $N= 14$; 41.4%), Early Childhood Education ($N= 2$; 6.9%), and Exceptional Student Education (ESE; $N= 1$; 3.4%). The average number of years of teaching experience was 9.67 years ($SD=9.84$), with a range of 0.5-35 years. Table 4 summarizes participant demographic characteristics.

Table 4

Demographic Characteristics of Participant Sample

	Mean Years Teaching (SD)	Gender		Highest Degree Earned		Race/Ethnicity		
		Male	Female	B.A./ B.S.	M.A./ M.S./ M.Ed.	Caucasian	African-American	Multi-racial
Grade 2 ($N=15$, 51.7%)	10.33 (10.20)	3.4%	48.3%	48.3%	3.4%	48.3%	3.4%	0%
Grade 3 ($N=14$, 48.3%)	8.96 (9.78)	0%	48.3%	34.5%	13.8%	44.8%	0%	3.4%
Total Sample ($N=29$)	9.67 (9.85)	3.4%	96.6%	82.8%	17.2%	93.1%	3.4%	3.4%

Participant problem-solving characteristics. Teachers responded to items on the questionnaire that reflected their perceptions of school-based problem-solving practices, as well as their own experiences with referring students to problem-solving teams, consulting with other educational professionals, and receiving training on intervention strategies. Twenty-three teachers (79.3%) indicated that their school had a problem-solving team that met regularly to discuss teachers' concerns about students' academic or behavioral performance, while six (20.7%) indicated that such a team did not exist at their school. Accordingly, a majority of teachers ($N=24$; 83%) indicated that they were required

to refer students to a problem-solving team before they could be referred for a suspected disability.

Notably, on several occasions teachers within the same school did not agree as to whether such a team existed. For example, at school B, four teachers responded that there was not a school-based problem-solving team, while two teachers indicated that there was a team that met on an “as-needed basis.” Overall, of all teachers who indicated the presence of a problem-solving team at their school, 10 (34.5%) reported that the team met on a weekly basis, four (13.8%) reported that the team met once a month, and nine (31.0%) reported that the team meet on an as-needed basis. Again, teachers within schools disagreed on how often problem-solving teams convened. For example, at school F, three teachers responded that the team met on a weekly basis, two teachers responded that the team met on a monthly basis, two teachers responded that the team met on an as-needed basis, and one teacher responded that there was no such problem-solving team. A summary of teachers’ responses to these items, broken down by response rates at each school, is displayed in Table 5 (see next page).

Table 5

Item Responses by School: Existence, Schedules, and Requirements of Schoolwide Problem-Solving Teams.

Questionnaire Item and Response Options	Response Frequency (% of participants from school)						Total - All Schools (N=29)
	School A (N=4)	School B (N=6)	School C (N=1)	School D (N=6)	School E (N=4)	School F (N=8)	
<i>Does the school have a problem-solving team that meets on a regular basis?</i>							
Yes	4 (100%)	2 (33.3%)	1 (100%)	6 (100%)	3 (75.0%)	7 (87.5%)	23 (79.3%)
No	0 (0%)	4 (66.7%)	0 (0%)	0 (0%)	1 (25.0%)	1 (12.5%)	6 (20.7%)
<i>Problem-solving team meets on the following schedule:</i>							
Weekly	2 (50.0%)	0 (0%)	0 (0%)	4 (66.7%)	1 (25.0%)	3 (37.5%)	10 (34.5%)
Monthly	0 (0%)	2 (33.3%)	1 (100%)	0 (0%)	2 (50.0%)	2 (25.0%)	4 (13.8%)
As Needed	2 (50.0%)	0 (0%)	0 (0%)	2 (33.3%)	0 (0%)	2 (25.0%)	9 (31.0%)
<i>Are you required to refer students to the problem solving team prior to referring to the school psychologist for testing?</i>							
Yes	4 (100%)	4 (66.7%)	1 (100%)	6 (100%)	2 (50.0%)	7 (87.5%)	24 (82.8%)
No	0 (0%)	2 (33.3%)	0 (0%)	0 (0%)	2 (50.0%)	1 (12.5%)	5 (17.2%)

If teachers indicated on the questionnaire that their school did have a building-level problem-solving team to assist teachers with addressing student concerns, they also answered an 8-part question about the degree to which the team utilized several best practices (Kovaleski, 2002). Participants rated the frequency of each practice on a 5-point Likert scale, ranging from 1 (Not at all) to 5 (Always); teachers indicated “DK” if they did not know about a particular item. The mean of the sub-items from this question was used as the participant's *Composite IA Practices of School* score, which was later correlated with

responses to the vignette. Table 6 (following page) summarizes means for each sub-item of this question, including an overall mean *Composite IA Practices of School* score for all participants of 3.81 ($SD=0.71$) suggesting that teams' IA practices are "somewhat" to "usually" consistent with best practices. Receiving the highest ratings were items asking about the degree to which empirically-based interventions are used ($M=4.52$; $SD=0.59$) and whether someone on the team (teacher or other member) is required to collect data on the intervention ($M=4.50$; $SD=0.89$).

Table 6

Sub-Item Means: Utilization of Best Practices among Schoolwide Problem-Solving Teams

Questionnaire Item	Mean*	SD	N(%) Resp. “Don’t Know”
(a) Does the principal or assistant principal participate in team meetings?	3.50	1.10	1 (3%)
(b) Does the team look at schoolwide indicators (e.g., number of students served by the team, number of students referred for special education, number of students retained) to determine the team’s impact on the school as a whole?	3.13	1.06	10 (34%)
(c) Does your school provide other opportunities to get information about interventions for students with academic/behavioral problems from inservice trainings, case studies, reading groups, etc.?	4.00	0.89	1 (3%)
(d) Are you (or is someone else) required to collect data on the intervention you implement?	4.50	0.86	1 (3%)
(e) Does the team attempt to use intervention strategies with demonstrated research support?	4.52	0.59	2 (7%)
(f) Does someone on the team assist you in getting interventions started in your classroom?	3.36	1.11	0 (0%)
(g) Does the team develop a plan to incorporate the intervention into your day-to-day instructional routine?	3.76	1.17	0 (0%)
(h) Does the team invite parents to participate in selecting interventions for their children?	3.61	1.41	2 (7%)
Composite IA Practices of School Score**	3.81	0.71	

Note. Response choices were as follows: DK) Don’t Know; 1) Not at all; 2) Rarely; 3) Somewhat; 4) Usually; 5) Always. “DK” responses were not calculated in the IA Practices of School Score.

* N=25 (87% of total sample)

Number and percent of participants is reported because participants who indicated that there was not a problem-solving team at their school did not respond to these items.

** Score was calculated using the following formula:

$$\frac{\text{Sum of items (a) – (h)}}{\text{Number of items with response of 1-5}}$$

Items with a response of “Don’t Know” were not included in the calculation of the *Composite IA Practices of School* score but are reported descriptively (percent of individuals responding “Don’t Know”) to indicate the relative degrees of certainty of each item. Most items were consistently answered with a rating of 1-5, although over one-third of participants ($N=10$; 34%) responded “Don’t Know” to the item “Does the team look at schoolwide indicators to determine the team’s impact on the school as a whole?” It should be noted that only 25 participants (87% of sample) responded to this 8-part item; participants who indicated that their school did not have a problem-solving team did not respond to this question.

Questionnaire items also included teachers’ individual behaviors with regard to referring students to problem-solving teams and school psychologists, as well as the frequency with which those same referred students were found eligible for ESE services. As mentioned previously, six participants indicated their current school sites did not have problem-solving teams; however, only four of these individuals reported that they referred zero students to the problem-solving team in the past two years; two teachers had been at a different school site during the previous two years and were able to indicate referral patterns at those sites. Five of these six teachers had referred students to the school psychologist, despite the lack of a problem-solving team at their site, and those responses are included in the results below. A total of five teachers did not provide any data about their referral behaviors across the past two years. Four of these participants were new teachers who had not had prior experiences with referrals; it is not clear why the fifth teacher failed to report these data as she had six years of teaching experience. Due to these irregularities in reporting, the following results about referral behaviors are described in reference to the total number of participants responding to each item.

In response to item 10 on the questionnaire, teachers indicated the frequency with which they referred difficult-to-teach students to problem-solving teams during the 2002-2003 and 2003-2004 school years, and the mean of these values across both years was calculated for each teacher. On average, each of

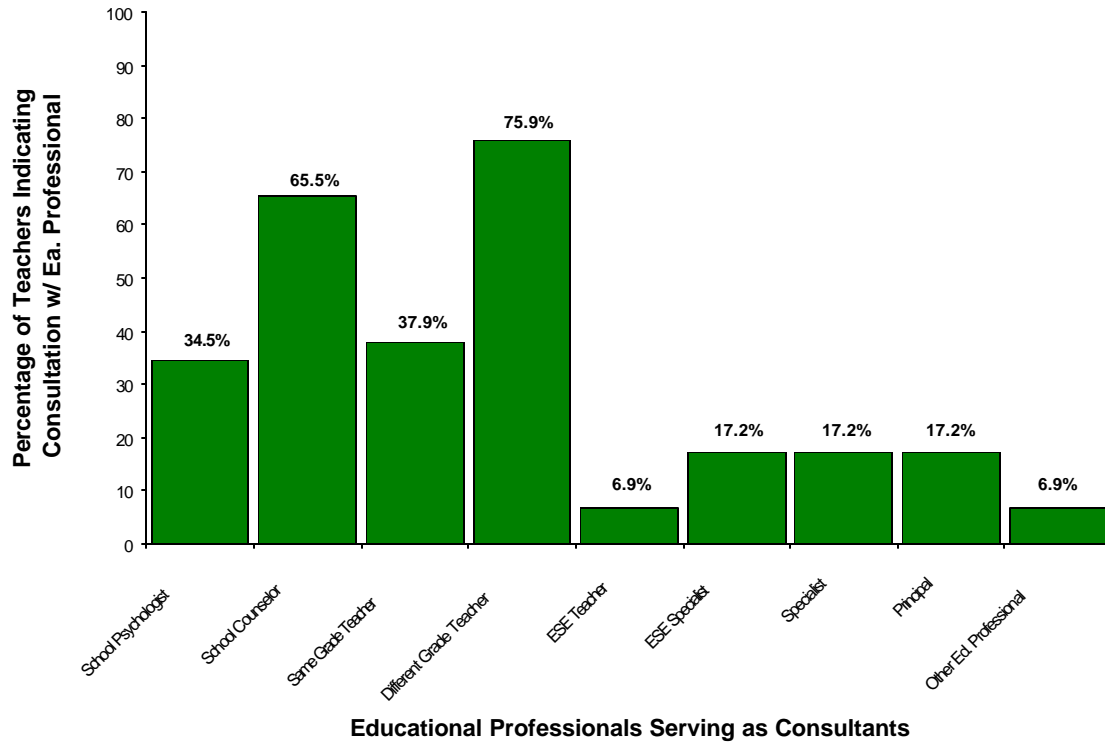
the 22 responding teachers referred approximately three difficult-to-teach students to their school's problem-solving team each year ($M=3.3$; range 0-9; $SD= 2.02$). Item 11 asked how many of those referred students from both academic years who had been referred to the problem-solving team were subsequently referred to the school psychologist or other personnel to conduct a psychoeducational evaluation for a suspected disability. Again, these data were collapsed across the two years reported. Of the 24 teachers responding to this item, an average of approximately two difficult-to-teach students were referred to the school psychologist each year ($M=1.8$; range 0-6; $SD= 1.42$). Finally, item 13 asked how many of the students from both academic years referred to the school psychologist were found eligible for ESE services. On average, each of the 24 responding teachers reported that a mean of 1.6 difficult-to-teach students were found eligible for ESE services (range 0-5; $SD= 1.40$).

These data were then transformed to provide a referral-to-eligibility percentage. As mentioned previously, five teachers did not provide information about their referrals in the 2002-2003 and 2003-2004 school years. Thus, the mean referral-to eligibility rate was calculated with an N of 24 participants. For teachers who did provide referral information but did not have a problem-solving at their building ($N=7$), an alternative method of calculating referral-to-eligibility rate was necessary to eliminate the possibility of having an undefined value (e.g., $3/0= 3$ students eligible out of 0 problem-solving team referrals). For participants who had missing data or values of zero for the variable of mean referrals for problem-solving from 2002 to 2004, the referral-to-eligibility rate was established by using the mean referrals to a school psychologist from 2002 to 2004. Across the 24 teachers for whom these data were available, the mean referral-to-eligibility accuracy was 52.1% (range 0-100, $SD= 34.5$), indicating that approximately half of all students referred either to the problem-solving team or school psychologist were found to have significant problems warranting some form of ESE services.

In addition to formal referral processes, teachers were also asked to indicate all the educational professionals with whom they were likely to consult about difficult-to-teach students. A list of educational professionals was provided that including school psychologists and counselors, teachers, specialists, and administrators; teachers were permitted to select more than one person from the list. Figure 1 (following page) indicates the percentage of teachers who indicated they consult with various educational professionals. Most teachers reported consulting with a different grade teacher ($N= 22$; 75.9%); in particular, they consulted with teachers from the grade prior to their own (e.g., third-grade teachers consulted with second-grade teachers). A majority of teachers also reported seeking the advice of school counselors ($N= 19$; 65.5%), while school psychologists and same-grade teachers were utilized as consultants by a minority of teachers ($N= 10$ or 34.5%, and $N= 11$ or 37.9%, respectively).

Figure 1

Educational Professionals with Whom Teachers Consult About Difficult-to-Teach Students



Teachers were asked to estimate the number of times they had consulted with any individual educational professional about a difficult-to-teach student (rather than a problem-solving team) during both the 2002-2003 and 2003-2004 academic years, in order to yield a more reliable estimate. As with referral-to-eligibility rate, it was assumed that rates of consultation should be reasonably similar for teachers across years, though not necessarily identical. To test this assumption, a Pearson product moment correlation (r) was calculated to determine the degree of relatedness between 2002-2003 and 2003-2004 rates of consultation. Since the correlation was positive ($r = .471, p < .05$), these numbers were then averaged to create a combined estimate of consultation frequency for each teacher that would reflect two years of experience. Overall, teachers

indicated that they had consulted with one or more of these educational professionals an average of 4.43 times (range 0-20, $SD= 4.84$) in an academic year.

To provide information about the degree to which they had been trained in classroom interventions for difficult-to-teach students, teachers completed a 5-part questionnaire item about several specific training experiences such as undergraduate/graduate coursework, CEUs and inservice workshops, participating in school-based IA teams, and supervision or teaching experiences in intervention development. Participants rated the frequency with which they had participated in each of the training experiences on a 5-point Likert scale, ranging from 1 (Not at all) to 5 (Extensively). Similarly to the *Composite IA Practices of School* score, a *Composite Training Experiences* score was calculated for each teacher by averaging the rating for each of the sub-items for the training question, and was later correlated with responses to the vignette. The mean *Composite Training Experiences* score was 2.56 ($SD=0.71$), indicating an overall training experience of “rarely”-to-“somewhat” participating in relevant intervention training experiences. Table 7 (following page) summarizes means for each sub-item of this question, as well as the overall composite.

Table 7

Sub-Item Means: Teachers' Training Experiences in Classroom-based Interventions

Questionnaire Item	Mean	SD
(a) <i>Classes taken in college or graduate school</i>	3.03	1.21
(b) <i>Inservice workshops</i>	3.03	1.21
(c) <i>Continuing Education Unites (CEUs) obtained at non-school workshops/professional conferences</i>	1.69	0.93
(d) <i>Participation in problem-solving teams or similar consultative groups</i>	2.79	1.11
(e) <i>Supervised practice in developing and implementing interventions</i>	2.48	1.21
(f) <i>Have taught/mentored others in developing and implementing interventions</i>	2.45	1.30
<i>Composite Training Experiences Score*</i>	2.56	.071

Note. Response choices were as follows: 1) Not at all; 2) Rarely; 3) Somewhat; 4) Often; 5) Extensively.

* Score was calculated using the following formula:

$$\frac{\text{Sum of items (a)-(f)}}{6}$$

Vignette and Structured Interview

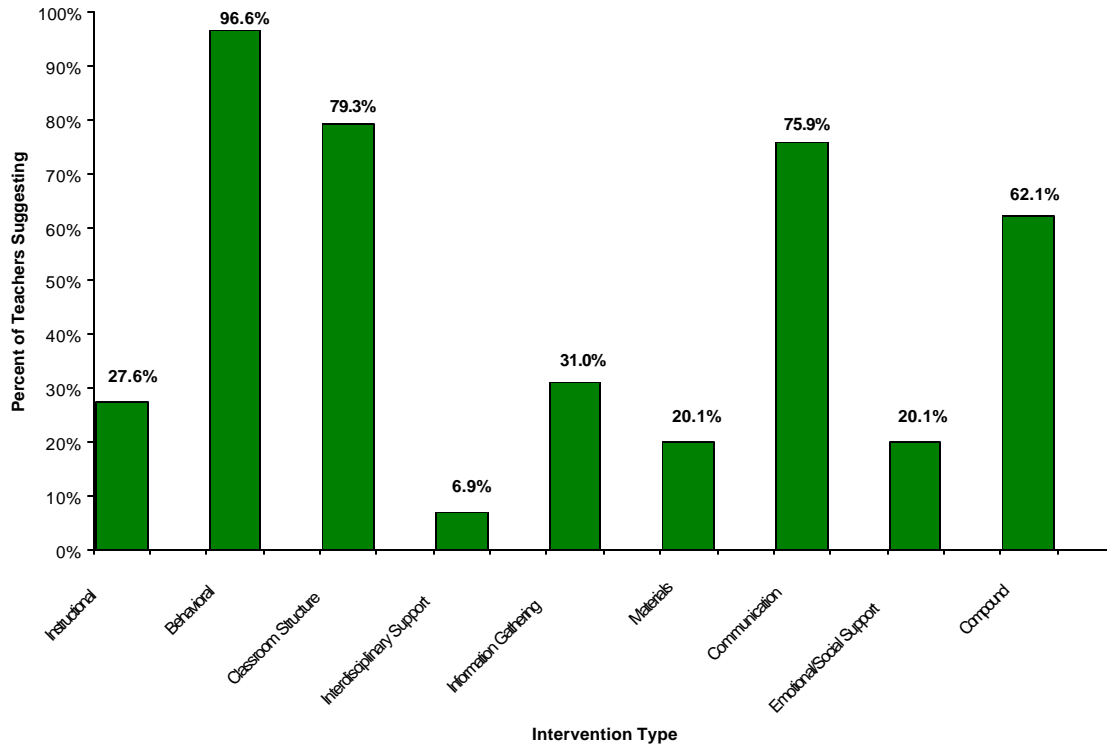
The first two research questions of this study addressed the outcomes from the vignette and structured interview: *What is the average number of interventions teachers offer to address a hypothetical classroom behavior problem?*, and *How specific are teachers in descriptions of interventions/strategies they would use in their classroom (average specificity rating per teacher)?* Across all 29 participating teachers, a total of 282 interventions were described in response to the vignette and structured interview, with a mean of 9.72 (range= 3-18; SD= 3.75) and a mode of 11 interventions described per teacher. The average of the overall mean specificity score across participants was 2.18 (SD= 0.43), commensurate with a rating of “moderate” specificity on a 3-point Likert scale of low (1) to high (3). No significant relationship was identified between number and specificity of interventions ($r=.054$, $p<.779$), suggesting that overall specificity rating was not a function of the number of interventions offered (i.e., teachers who offered many

interventions were not less likely to be specific than those who only offered a few intervention ideas).

With regard to the third research question, *What percentage of participating teachers suggests a given type of intervention (i.e., instructional, behavioral, etc.)?*, Figure 2 (following page) shows the percentage of teachers suggesting each of the intervention types. Nearly all teachers (96.6%) suggested at least one behavioral intervention, with a majority of teachers also offering one or more classroom structure (79.3%), communication (75.9%) and compound (62.1%) interventions. Because compound interventions were not coded to denote their constituent types (e.g., behavioral and communication), it is not clear from these data what types of interventions the compound interventions comprise. The breadth of teachers' intervention suggestions was analyzed by counting the number of intervention types each teacher offered. For example, one teacher might have suggested only one or two intervention types (e.g., behavioral and classroom structure), while another teacher might have suggested a variety of intervention types. The mean number of intervention types suggested was 4.14 (range= 2-6; $SD= 1.4$), indicating that teachers offered an average of approximately four of the nine intervention categories.

Figure 2

Percent of Total Sample Suggesting Each Intervention Type

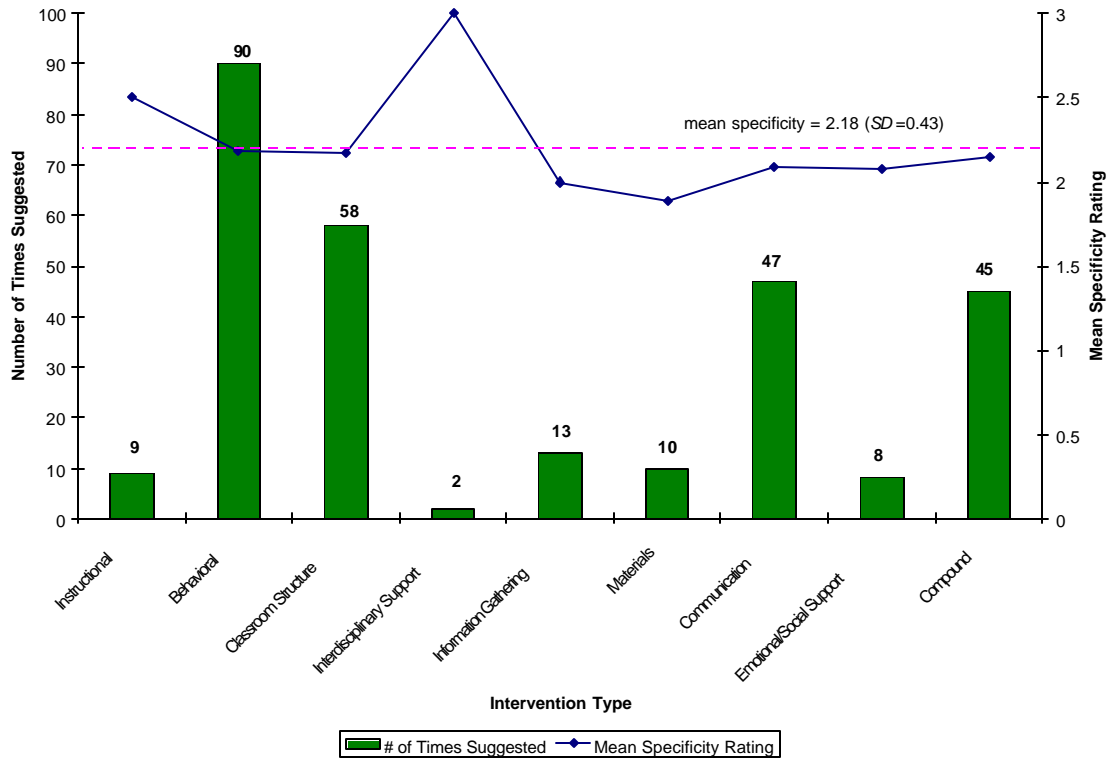


Intervention categories also were analyzed in reference to the mean specificity rating by type. Figure 3 illustrates the relative frequency and mean specificity rating for each intervention type, with the dashed line indicating the overall mean specificity across all intervention descriptions. Again, the most commonly offered interventions were behavioral ($N=90$), classroom structure ($N=58$), communication ($N=47$), and compound ($N=45$); these four types comprised approximately 85% of all intervention suggestions ($N=240$). Notably, not all of the most frequently described intervention types were among the most specific. Instructional ($M= 2.50$, $SD= 0.53$), behavioral ($M= 2.18$, $SD= 0.50$), classroom structure, and interdisciplinary support ($M= 3.0$, $SD= 0.0$) were described in the most specific language. It should be noted, however, that a total of only two interdisciplinary support interventions were offered by two separate teachers, and this low frequency explains the lack of variability and high rating of this particular intervention type. A summary of all relevant descriptive data for

intervention suggestions, including frequency, percent reporting, mean specificity, can be found in Table 8 (see next page).

Figure 3

Total Number of Suggestions and Mean Specificity Rating by Intervention Type



Post-Hoc Descriptive Analyses

Perception of training adequacy. Item 17 on the questionnaire asked teachers if they felt that they were adequately trained in classroom-based interventions, using a similar 5-point Likert scale that ranged from 1 (Not at all) to 5 (Definitely). Though this variable was not included in the proposed analyses, a summary of teachers’ responses to this item may provide useful information for educational professionals. Overall, teachers reported an average rating of 3.72 (SD=0.96), indicating a perception of “somewhat” -to- “mostly” adequate training in classroom-interventions.

Table 8

Intervention Suggestions in Response to the Vignette and Structured Interview by Number of Teachers Suggesting, Relative Frequency, and Mean Specificity

<i>Intervention Type</i>	Number (%) of Teachers with Type Present	Frequency of Suggestion	Mean (SD) Specificity Rating
<i>Instructional</i>	21 (27.6%)	9	2.50 (0.53)
<i>Behavioral</i>	28 (96.6%)	90	2.18 (0.50)
<i>Classroom Structure</i>	23 (79.3%)	58	2.17 (0.53)
<i>Interdisciplinary Support</i>	2 (6.9%)	2	3.00 (0.0)
<i>Information Gathering</i>	9 (31.0%)	13	2.00 (0.69)
<i>Materials</i>	6 (20.1%)	10	1.88 (0.87)
<i>Communication</i>	22 (75.9%)	47	2.09 (0.67)
<i>Emotional/Social Support</i>	6 (20.1%)	8	2.08 (0.66)
<i>Compound</i>	18 (62.1%)	45	2.15 (0.64)
Total		282	2.18 (0.43)

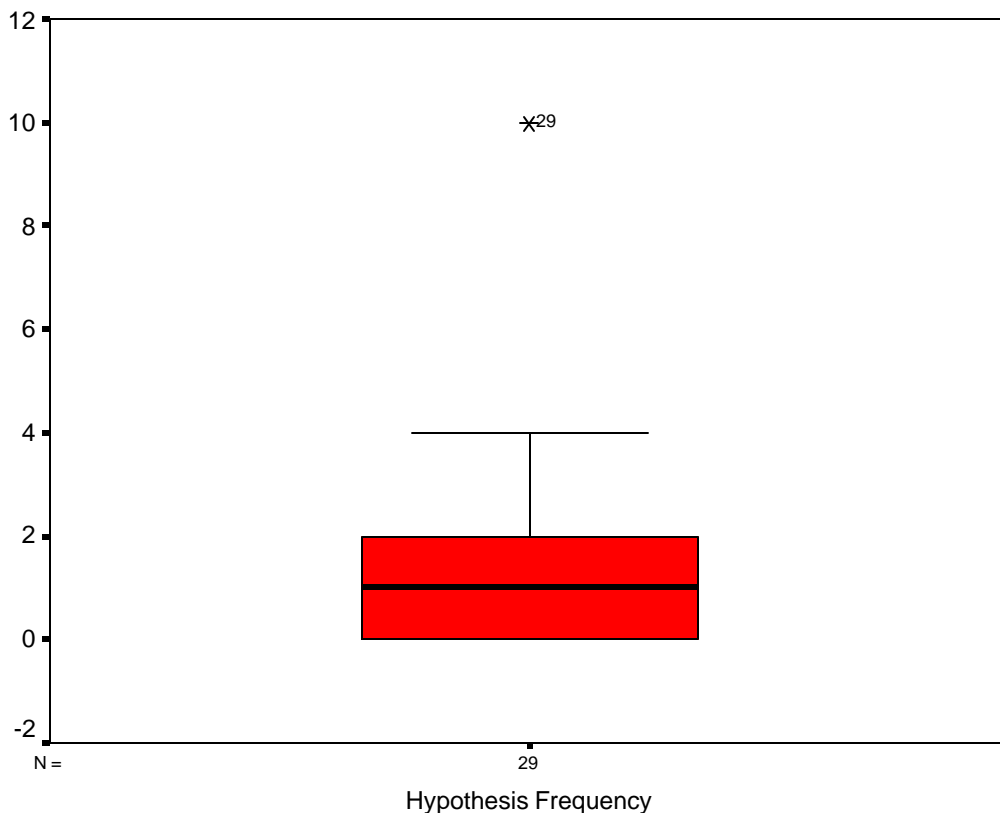
Presence and frequency of hypotheses. Data from the pilot study (Appendix B) indicated that in addition to describing ideas for helping the student in the standardized vignette, teachers occasionally offered hypotheses about the cause of student behavior. A prompt for noting and quantifying hypotheses was subsequently added to the code definitions and coding procedures (Appendix G) to allow for post-hoc analysis. A total of 18 teachers (62.1%) suggested one or more hypotheses, with a mean of 2.2 hypotheses offered per teacher (range 1-10; $SD= 2.16$).

A closer examination of these data revealed that the distribution of hypothesis frequency per teacher was positively skewed (skewness=3.09) and

considerably leptokurtic (kurtosis=10.67), with an extreme value of 10 hypotheses for a single participant (8F3; see Figure 4 for a boxplot depiction of this variable's distribution). Because this single observation was having such a strong impact on this variable, the extreme value was removed temporarily from the data set to better understand the distribution of hypothesis frequency. Without 8F3 ($n=17$), the mean hypothesis frequency was reduced to 1.76 (range 1-4; $SD= 0.97$); skewness and kurtosis values were within acceptable limits (less than 1). Given the impact of this single observation, it was decided to exclude participant 8F3's data when computing any correlations that involved the hypothesis frequency variable.

Figure 4

Boxplot Depicting Distribution for Hypothesis Frequency



Correlational Analyses

A series of correlational analyses were performed to answer the last five research questions of the study. The relationship between teacher demographic characteristics (years teaching experience, frequency of participation in IA teams, referral-to-eligibility rates, composite training experiences, and composite IA practices of school) and primary outcomes on the structured interview (number of interventions offered, overall mean specificity, and intervention types employed) were investigated. The degree of relationships between intervention types also was analyzed. Finally, a series of post-hoc correlational analyses were conducted to examine additional questions about the data that arose after the formal proposal of this study about the degree of relationship between the presence and frequency of hypotheses, perception of training adequacy, and other teacher characteristics.

Prior to calculating correlation coefficients, scatterplots were examined for nonnormal distribution (e.g., curvilinear relationships) or outlying/extreme observations that would significantly impacted correlation values. Unless otherwise noted, the data set remained intact for computing correlations and the analyses that follow should be understood to reflect all participants' data.

Rationale for Exploratory Correlational Analysis

All correlations described in the following pages are exploratory in nature and should be interpreted only as a means of further describing characteristics of the sample. Inferences about correlations in the population are not warranted by these data for two important reasons. First, the small sample size limits the precision of the correlation coefficients, creating large confidence intervals in which the population correlation coefficient (ρ) may fall. Second, and perhaps more importantly, assessing the statistical significance of these data is further complicated by the high number of correlations conducted.

Sample size. To provide information on the reliability of results for a sample of $n=29$, 95% confidence intervals were calculated for three Pearson

product-moment correlation coefficients (r) obtained in this study by applying Fisher's Z-transformation to r -statistics and using the following formula:

$$CI_z = Z_r \pm (1.96)(s_z), \text{ where } s_z = \frac{1}{\sqrt{n-3}}$$

The result of the above formula is a confidence interval using Fisher's Z; the final step is to transform confidence intervals back to an r statistic in order to be meaningfully reported and interpreted. It should be noted that Fisher's Z is not as accurate of a calculation for point-biserial and phi coefficients, so correlations among intervention types (dichotomous variable) were not tested in this way.

Confidence intervals were calculated for three correlation coefficients that represent the magnitude of correlations obtained from this data set. As Table 9 (following page) illustrates, a 95% confidence interval for a moderate-to-high magnitude positive correlation (e.g., $r_1 = .416$) indicates that 95% of the time, ? will be found between .055 and .680. The large span of this confidence interval suggests that the true magnitude of r_1 may be relatively low, indicating very little relationship, or considerably high, indicating a high degree of relatedness between variables. As such, very little certainty exists when interpreting such a statistic. Somewhat more definitive statements can be made about high magnitude correlations (e.g., $r_2 = -.714$). When applying the 95% confidence interval to r_2 , it appears that ? falls somewhere between -.860 and -.470. Both limits of the confidence interval indicate a fairly strong negative relationship between the variables, but the precise magnitude of the relationship in the population cannot be ascertained. Furthermore, correlations of this magnitude are rare in both the psychological literature in general (Cohen, 1992) and in this study in particular. Finally, examining the confidence interval of a low magnitude correlation indicating minimal relationship between variables (e.g., $r_3 = .097$) revealed that variables in the population may actually have anywhere from a low-to-moderate magnitude negative relationship (-.280) to a moderate-to-high magnitude positive relationship (.445). These analyses demonstrate that

inferential statements about correlations obtained with this small sample would not be precise.

Table 9
Sample Confidence Intervals for Obtained Pearson Product-Moment Correlations (r)

Obtained <i>r</i> statistic	CI _r (95%) =	
	$Z_r - (1.96) \frac{1}{\sqrt{n-3}}$	$Z_r + (1.96) \frac{1}{\sqrt{n-3}}$
$r_1 = .416$.055	.680
$r_2 = -.714$	-.860	-.470
$r_3 = .097$	-.280	.445

Number of correlations. Reporting the presence of intervention types as nine separate dichotomous variables greatly increased the number of correlations to be calculated. Comparisons of the five main independent variables against the 11 dependent variables (number of interventions, overall mean specificity, and nine intervention types), as well as inter-correlating the intervention types themselves, yielded a total of 106 single correlation coefficients. To determine the amount of power required for each individual correlation to reach achieve significance, an experimentwise alpha level of .05 would have to be divided by 106. As such, *p*-values of correlations are not reported and the magnitude of relevant correlation coefficients is discussed only as a means of describing relationships observed in the sample of the present study and developing hypotheses for future research exploration.

Relationships Between Teacher Characteristics and Interview Outcomes

The final five research questions were concerned with the degree of relationship between five teacher characteristics (years teaching experience,

frequency of participation in IA teams, referral-to-eligibility rates, composite training experiences, and composite IA practices of school) and the key interview outcomes (total number of interventions, overall mean specificity, and types of interventions). A series of exploratory Pearson product-moment correlations (r) were conducted among each of the teacher characteristics and the two continuous interview variables (total number of interventions and overall mean specificity). The correlation matrix in Table 10 (following page) illustrates the correlations found between these variables. Low magnitude positive relationships were identified between years of teaching experience and the total number of interventions teachers discussed ($r=.254$), and between frequency of participating in IA teams and overall mean specificity ($r=.312$). These data suggest that, for this sample, greater teacher experience was associated with a higher number of intervention ideas in response to the vignette, and that a history of more frequent participation on IA teams was associated with greater specificity in intervention descriptions.

Table 10

Pearson Product-Moment Correlations (r) Between Selected Teacher Characteristics, Total Number of Interventions, and Overall Mean Specificity

Teacher Characteristics	Total Number of Interventions	Overall Mean Specificity
<i>Years of Teaching Experience</i> (N=29)	.254	-.152
<i>Frequency of Participating in IA Teams</i> (N=22)	.164	.097
<i>Referral-to-Eligibility Rate</i> (N=24)	-.094	.312
<i>Composite Training Experiences Score</i> (N=29)	.181	.018
<i>Composite IA Practices of School Score</i> (N=25)	.063	.136

N values for each correlation are reported due to the irregularities in responses to questions about IA teams.

Point-biserial correlations (r_{pb}) were used to calculate relationships between the continuous teacher characteristic variables and the dichotomous variables of presence of intervention types (0= absent, 1=present). The majority of correlations were positive but small in magnitude. These relationships are summarized by the correlation matrix in Appendix N and several of the correlations from this matrix are highlighted below.

Years of teaching experience was related to several intervention types. Positive associations between years of teaching experience and interdisciplinary support ($r_{pb}=.305$) and compound interventions ($r_{pb}=.488$) suggest that teachers who have been teaching for a longer period of time are more likely to recruit support from their fellow educators and support staff or combine intervention strategies to assist difficult-to-teach students. A note of caution is warranted regarding the correlation between years of teaching experience and interdisciplinary support; only two teachers (6.9% of the sample) suggested

interdisciplinary support interventions and this restriction of variability is likely to affect the results of any correlation coefficients resulting from this variable.

Two moderately strong positive relationships were identified between frequency of participation in IA teams and intervention types suggested, specifically interdisciplinary support ($r_{pb}=.434$) and materials ($r_{pb}=.396$). Again, the correlation between frequency of participation in IA teams and interdisciplinary support should be viewed in light of low variability in the interdisciplinary support variable. The correlation between frequency of participation in IA teams and materials is more likely an accurate estimate of relationships in the sample, however, because materials interventions were offered by a greater proportion of participants (20% of the sample; $N=6$).

Referral-to-eligibility percentage was negatively associated with both behavioral ($r_{pb}= -.295$) and communication ($r_{pb}= -.517$) interventions, indicating that teachers who were more accurate in their referrals were less likely to suggest these interventions. Similarly to the interdisciplinary support variable, the correlation between referral-to-eligibility percentage and behavioral interventions should be interpreted with caution, as only one teacher in the sample (3B3, who also had a very high referral-to-eligibility percentage of 1.0 or 100%) did not suggest a behavioral intervention. Limited variability in the behavioral intervention variable, coupled with a high referral-to-eligibility rate in the single observation without a behavioral intervention, likely reduced the reliability of this particular estimate. The negative correlation between referral-to-eligibility and communication, however, is believed to be a more stable measure because it reflects a greater degree of variability in the communication variable; 75.9% ($N=22$) of the sample suggested communication interventions while 24.1% ($N=7$) did not.

The composite training experiences score was somewhat positively associated with the presence of three intervention types. These data indicate that teachers in the sample with higher composite training scores were more likely to suggest classroom structure ($r_{pb}=.346$), materials ($r_{pb}=.263$), and

compound ($r_{pb}=.217$) interventions. Finally, the composite IA practices of school score was not found to be meaningfully related with the presence or absence of any of the intervention types.

Relationships Among Presence of Intervention Types

A corollary to the third research question asked: *What 2 or more intervention categories, if any, are likely to be suggested by the same teacher (i.e., what is the probability that a given teacher will suggest both intervention type x and intervention type y)?* To address this question, the nine dichotomous variables of intervention type were inter-correlated using Phi coefficients (r_{ϕ}) to determine if two or more intervention types were likely to be present together. These correlations are summarized in Appendix O. Again, because the dichotomous variable of intervention type indicating presence/absence of each strategy was used in this analysis, correlations including behavioral and interdisciplinary support types should be interpreted in light of their limited variability as described above.

Although many of the correlations were of low magnitude, several noteworthy relationships emerged from this analysis. First and not surprisingly, compound interventions were positively associated with three other intervention types: behavioral ($r_{\phi}=.242$), interdisciplinary support ($r_{\phi}=.213$), and information gathering ($r_{\phi}=.214$). Somewhat more interesting, however, was the finding that compound interventions were negatively associated with instructional ($r_{\phi}=-.313$) and classroom structure ($r_{\phi}=-.224$) interventions, indicating that as compound interventions are increasingly suggested, instructional and classroom structure are less likely to be offered.

Other intervention types found to be positively associated included information gathering and communication ($r_{\phi}=.247$), behavioral and communication ($r_{\phi}=.306$), classroom structure and materials ($r_{\phi}=.261$), and emotional/social support and instructional ($r_{\phi}=.256$). All of these correlations were of a low-to-moderate magnitude, indicating that the strength of the relationship between variables was not especially strong in the sample. One

moderately strong negative relationship was observed between instructional and behavioral intervention types ($r_{\phi} = -.306$), indicating that the likelihood of suggesting behavioral interventions was associated with a decreased likelihood of suggesting instructional interventions.

Post-Hoc Correlational Analyses

Perception of training adequacy. Teachers' professional characteristics were correlated with responses to the questionnaire item asking how adequately trained they believed they were with regard to classroom-based interventions. Results in Appendix O indicate that several of the teacher characteristics were positively associated with a higher satisfaction with training as rated on the questionnaire, including years of teaching experience ($r = .275$), composite training score ($r = .433$), and composite IA practices of school score ($r = .323$). As would be expected, increases in composite training experiences scores were accompanied by increases in the degree to which teachers felt well-trained, and participants who had been teaching for longer periods of time also were likely to rate themselves as adequately trained. Additionally, teachers who rated their schools' IA teams higher on use of best practices also were more likely to feel that they were adequately trained in classroom-based intervention strategies.

Presence and frequency of hypotheses. Hypotheses, which were added to coding procedures following the pilot study, were also inspected for relationships with the study's five main independent variables describing teacher characteristics (years teaching experience, frequency of participation in IA teams, referral-to-eligibility rates, composite training experiences, and composite IA practices of school). Table 11 (following page) summarizes the relationships among hypothesis variables and teacher characteristics. Again, several of the teacher characteristics were found to be positively associated with the presence of hypotheses within teachers' responses to the vignette, including years of teaching experience ($r_{pb} = .286$), composite training score ($r_{pb} = .369$), and composite IA practices of school score ($r_{pb} = .279$). These data suggest that teachers in the sample who were more likely to suggest hypotheses were those

who had more years of teaching experience, more exposure to training activities, and perceived their schools' IA teams to be consistent with best practice recommendations.

Table 11

Pearson Product-Moment (r) and Point-Biserial (r_{pb}) Correlations Between Selected Teacher Characteristics, Perception of Training Adequacy, Hypothesis Presence, and Frequency

Teacher Characteristics	Perception of Training Adequacy (r)	Hypotheses Present (r_{pb})	Hypothesis Frequency (r)
<i>Years of Teaching Experience (N=29)</i>	.275	.286	.326
<i>Frequency of Participating in IA Teams (N=22)</i>	.096	.125	.033
<i>Referral-to-Eligibility Rate (N=24)</i>	-.052	-.020	-.144
<i>Composite Training Experiences Score (N=29)</i>	.433	.369	.127
<i>Composite IA Practices of School Score (N=25)</i>	.323	.279	.416

N values for each correlation are reported due to the irregularities in responses to questions about IA teams.

Hypothesis frequency was also examined as a dependent variable, to determine what (if any) teacher characteristics were associated with a high number of hypotheses within intervention descriptions. As discussed under descriptive analyses, however, inspection of skewness/kurtosis values and visual analysis of a boxplot for the hypothesis frequency variable indicated a nonnormal distribution (Figure 4) led to the decision to exclude an extreme observation (10 hypotheses, participant 8F3) from the data set. As such, correlations involving hypothesis frequency reported in Table 11 do not include participant 8F3.

Results of this analysis suggest that two main variables were associated with high hypothesis frequencies in the sample: years of teaching experience ($r=.326$) and composite IA practices of school score ($r=.416$). More experienced teachers, as well as those who reported perceptions of best practices within their IA teams, were more likely to generate high number of hypotheses about student behavior than less experienced teachers or those who did not feel that their IA teams operated in a manner consistent with best practices.

Chapter V

Discussion

As a result of laws such as EHA (1975), IDEA (1997) and IDEIA (2004), movements toward inclusion of students with disabilities in general education classrooms (Lloyd & Gambatese, 1990), and changes in psychoeducational service delivery emphasizing prereferral intervention for difficult-to-teach students (Graden, Casey, & Christenson, 1985; NASP, 1995), today's teachers must be capable of differentiating instruction for a heterogeneous group of students and responding proactively to a wide variety of academic and behavioral needs. School-based multidisciplinary IA teams have become a common mechanism for problem-solving and supporting teachers' efforts with difficult-to-teach students. Research suggests that most of teachers' intervention efforts for difficult-to-teach students occur prior to referring the students to the IA team (Wilson et al., 1998). If teachers often function independently in intervention development and implementation (Bahr, 1994; Wilson et al., 1998), then a baseline measure of teachers' knowledge and use of classroom interventions may serve as a foundation on which IA team suggestions may build. Additionally, an understanding of factors associated with teachers' intervention knowledge may provide insight as to the individual and building-level attributes that maximize a teachers' ability to respond to the needs of difficult-to-teach students.

The present study had two primary objectives: (a) replicate a portion of Wilson et al. (1998) to describe teachers' intervention ideas in response to a standardized vignette of a hypothetical student with academic and behavioral difficulties, and (b) expand upon the work of Wilson et al. by examining trends and relationships among teachers' professional characteristics and their responses to the vignette. The following discussion addresses the findings of this study, draws comparisons to the findings of Wilson et al. where relevant, and

considers implications with regard to how IA teams in general and school psychologists in particular can better support teachers' efforts to develop interventions for difficult-to-teach students. Limitations of the present study are discussed and implications for future research, including a follow-up investigation of the present data, are offered.

Teachers' Self-Reported Intervention Knowledge

As in Wilson et al., the present study utilized three variables to assess the self-reported knowledge base and behavioral regularities of second- and third-grade general education teachers when working with difficult-to-teach children in their classroom. In response to a vignette depicting a typical student problem, teachers were asked to provide information of how to help a target student achieve two goals ("Stay in his seat" and "Stop talking out in class"). Subsequently, the number, specificity, and nature of their intervention ideas were analyzed descriptively. Tables 12 and 13 provide a side-by-side comparison of the findings of the present study to that of Wilson et al.

Wilson et al. arrived at a "relatively pessimistic" characterization of teachers' intervention knowledge and speculated that teachers' limited knowledge of intervention strategies likely impeded brainstorming prior to and during IA team meetings (p. 56), observing that teachers may have many ideas for assisting difficult-to-teach students ($M=9.6$; $SD=3.6$) but that their ideas were often described in relatively vague terms (mean specificity rating=1.63). Results from the present research share some of Wilson et al. findings. Specifically, these data support Wilson et al.'s findings with regard to the number of intervention ideas generated and mostly concur with their findings on the most common types of interventions. However, participants in this study were able to offer ideas that were more specific than previously reported. Wilson et al.'s finding that teachers were largely nonspecific or vague in their intervention ideas is widely cited as evidence that teachers may lack sufficient intervention knowledge. Given the present study's findings, there may be cause to reassess this widely-held belief.

Table 12

Comparison of Findings between Wilson et al. (1998) and Present Study with Regard to Number and Type of Interventions

<i>Intervention Type</i>	<i>Wilson et al. (1998)</i> <i>N=20</i>		<i>Present Study</i> <i>N=29</i>	
	<i>Frequency of Suggestion</i>	<i>% of Total Interventions</i>	<i>Frequency of Suggestion</i>	<i>% of Total Interventions</i>
<i>Instructional</i>	43	23	9	3
<i>Behavioral</i>	103	54	90	32
<i>Classroom Structure</i>	24	13	58	21
<i>Interdisciplinary Support</i>	4	2	2	1
<i>Information Gathering</i>	17	9	13	5
<i>Materials</i>	0	0	10	4
<i>Communication</i>	N/A	N/A	47	17
<i>Emotional/Social Support</i>	N/A	N/A	8	3
<i>Compound</i>	N/A	N/A	45	16
<i>Total</i>	191 (<i>M</i>=9.6; <i>SD</i>=3.6)	100%	282 (<i>M</i>=9.72; <i>SD</i>=3.75)	100%

Table 13

Comparison of Findings between Wilson et al. (1998) and Present Study with Regard to Specificity of Intervention Suggestions

	<i>Wilson et al. (1998)</i>		<i>Present Study</i>	
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>
<i>Low</i>	90	47	49	17
<i>Moderate</i>	82	43	145	51
<i>High</i>	19	10	88	32
<i>Mean (SD) Specificity</i>	<i>M</i>=1.63 (<i>SD</i> not reported)		<i>M</i>=2.18 (<i>SD</i>=0.43)	

Number of interventions. Notably, teachers in both the current research and Wilson et al. offered nearly identical mean number of interventions ($M=9.6$; $SD=3.6$ in Wilson et al. and $M=9.72$; $SD=3.75$ in this study). An important caution must be offered here. The number of interventions described in response to the vignette and structure interview does not necessarily translate to number of interventions a teacher would try if they were actually working with the target student (“John”). In Wilson et al., although teachers listed a mean of 9.6 intervention strategies in response to the hypothetical standardized case, when reporting on actual cases with difficult-to-teach students they indicated that they had attempted only roughly six ideas before working with an intervention assistance team. Because an actual referral case was not used in the present study, conclusions about teachers’ actual use of intervention strategies cannot be inferred.

Type of interventions. Similar patterns in utilization of the intervention types can be seen across both studies, with behavioral interventions as the most often-recommended intervention strategy (54% of interventions in Wilson et al.; 32% of interventions in the present study). This finding is consistent with past survey research on the most prevalent types of interventions (Brown et al, 1991; Sevcik & Ysseldyke, 1986; Mamlin & Harris, 1998). Classroom structure interventions also featured prominently in the ideas of teachers in both studies (13% of interventions in Wilson et al.; 21% of interventions in the present study). However, teachers utilized instructional interventions (23% of interventions in Wilson et al.; 3% of interventions in the present study) and materials interventions to a lesser degree (0% of interventions in Wilson et al; 4% of interventions in the present study).

A greater breadth of intervention types was observed in the current study as evidenced by the expansion of the codes to include three new categories (communication, emotional/social support, and compound). Combined, these three categories constituted over one-third (36%) of all intervention suggestions. It is unclear if similar types of interventions were observed in Wilson et al. and

coded as one of the original six categories, or if these new codes represent an expansion of intervention efforts into previously unseen areas. Furthermore, the addition of a compound intervention category permits a better understanding of how teachers utilize intervention strategies simultaneously to address the needs of difficult-to-teach students. Because compound interventions were not “unpacked” in data entry and coding to reveal their constituent types, however, it is not clear exactly what comprises them.

Intervention types were also examined to determine if certain types were likely to be suggested together. In other words, the probability that a given teacher would suggest both intervention type x and intervention type y was estimated by inter-correlating intervention types. Findings from this analysis reveal some interesting patterns in intervention type utilization. First, and rather expectedly, the compound intervention type was found to correlate with behavioral, interdisciplinary support, and information gathering interventions. Given the nature of the compound type, containing two or more discrete intervention types in a single action, one possible explanation of this finding is that compound interventions are more likely to be suggested in conjunction with behavioral, interdisciplinary support, and information gathering interventions because compound interventions themselves often contain these components. Conversely, negative relationships were identified between compound interventions and instructional and classroom structure interventions. A similar explanation may also be applied to these negative relationships; if compound interventions frequently include instructional and classroom structure components, there may be less need to provide additional instructional/classroom structure interventions (thus decreasing their frequency). These contradictory findings underscore the need to further examine the compound interventions to determine what intervention types they comprise and possibly reveal the conditions under which teachers prefer to combine efforts rather than attempt them individually.

Beyond relationships with compound interventions, a negative relationship between instructional and behavioral was also discovered. This finding might indicate two different “takes” on the target student’s behavior described in the vignette: the instructional approach associated with hypotheses suggesting that academic issues are impacting behavior, and the behavioral approach suggesting that behavioral issues are either the primary concern or are impacting academic success. The following quote from participant 3B3, who offered one instructional and zero behavioral interventions (5 interventions total), might be viewed as an example of a more academic or instructional approach to “John’s” problem.

“Again, going along with this, I still feel he’s bored. So not necessarily to give him more work, but along the same lines of giving him his work in chunks, such as his math, reading, and writing. Give it to him in a portion, so that he raises his hand, tells me he’s done, so he can look forward to me giving him more work so that he will say, “I’m done with this point,” and I will go over, check his work, give praise, and then I say, “OK, here’s the next portion. Do this and when you’re done, raise your hand, wait for me to come, don’t come to me” just constantly reinforcing that I will come to him.”

Another quote from participant 5B2, who offered seven behavioral and zero instructional interventions (14 interventions total), is illustrative of a behavioral approach to the same problem.

“If you’re training him to say in his seat, you could also say, “If I notice that you’ve been staying in your seat until we go to lunch, and you don’t get out of your seat except when you give me a signal...” like if he needs to go sharpen his pencil, it’s a 1, if he needs to go to the restroom it’s a 2, if he needs a drink of water it’s a 3, set up some sort of symbol for a movement out of his chair, and then you say, “OK, once you use that symbol, you can’t use it

again. So if you need to go sharpen your pencil, you may go sharpen your pencil and then you make a tally mark on the board, OK? And after you've gone to the restroom, you've gone to the restroom and you can put a 2 up there for that, and after you've had your drink of water, that's your 3, so OK, before the first part of the day, you've used your three symbols, and once you've used them you can't use them anymore, you can't get out of your seat. If you do, then there will be a consequence for it, because you've used up your movement options. (CHIP) And then just keep a tally of that so he's more aware of the times he's getting up."

At present, these correlational data preclude any firm conclusions about why some interventions were found to be related while others were not. Content analysis of both instructional and behavioral intervention descriptions, as well as hypotheses indicating how teachers choose to employ certain interventions over other could further elucidate this phenomenon.

Specificity of intervention descriptions. An important finding revolves around the degree to which teachers described their intervention ideas in clear, replicable terms (i.e., another educational professional could implement the intervention based on the teacher's description). As illustrated in Table 15, teachers in the present study were able to offer fully 30% more moderate- or high-specificity intervention ideas than in Wilson et al. This discrepancy is attributed to the changes in the structured interview procedures for eliciting specific responses. Interview script text read by data collectors was revised to heavily emphasize the importance of providing specific responses. By providing clearer examples and nonexamples of specific responses, teachers had a better idea of what types of responses would qualify as "high specificity." In addition, the token description method, added after the pilot study, served as an additional prompt for providing detailed descriptions for a single intervention. This procedure included the statement "...unfortunately, this means you can't go back and add to an idea once you've dropped it into the cup, so try to describe your

ideas as completely as possible before you drop it.” Such a directive prompted teachers to focus their attention to one intervention at a time. Anecdotal observations of participants indicated that some teachers reached to drop a token into the cup and hesitated or made comments like, “Was that it for that one?” and sometimes subsequently elaborated on interventions before finally deciding to drop a token and move on to a new idea.

During the pilot phase, it was hypothesized that a heavy emphasis on specificity in the interview might result in a “trade-off” where participants reduced the number of interventions they offered in order to be more detailed and comprehensive. If this was the case, one would expect to find a negative correlation between number of interventions and specificity; the lack of a meaningful relationship between these two variables as reported in Chapter 4 provides preliminary evidence that no such “trade-off” existed. Teachers were allowed to write down their intervention ideas prior to responding to the vignette; this might have promoted high specificity in spite of a high number of interventions by reducing the need to respond primarily from memory.

Results from this study suggest that, when sufficiently prompted, teachers can offer many specific suggestions. It is not clear, however, to what degree the heavy emphasis on specificity might have prompted teachers to be more specific than they would be in “real life” consultation or prereferral intervention, or whether they may have included details that they might not have otherwise considered. For example, participant 1F2 offered the following high-specificity idea for helping “John” to stop talking out in class:

“I would give him a personal behavior chart so that, by class period, he would see how he’s doing each period. For some kids, I use a cup with the little teddy bear counters, but he would probably play with them. So we probably wouldn’t do that. For some kids I have a little piece of paper (basically a 3x5 index card) and have it copied on it M, T, W, Th, F and have the class periods listed top to bottom, and then either put like a smiley face when he’s doing well... so it

could be like a chart that I use to monitor his behavior and he sees his progress or it could be a chart that he does. I've also done it with students where when they do something, when they talk out of turn, they make a tally mark on how many times they do that. So depending on how John feels about that, and how the other kids take it (because if they see me going over and making a mark, that may make them wonder 'Oh, he's being bad', or 'he's being good'), so depending on how my conversation with John goes, that would make the decision of who does the chart."

There is no way to know whether this participant added details to her description (e.g., the use of the index card marked by day and class period, allowing John to self-monitor his behavior) to fulfill the requirements for specificity that were not a part of her typical teaching/intervention practice. Modifications to the interview script that emphasized specificity might have been *instructional* in nature, teaching participants through examples and nonexamples how to describe their ideas in detail when they might not otherwise have known how to do so. This is a marked deviation from the Wilson et al. protocol, which provided more neutral prompts for specificity, and comparisons between the Wilson et al. study and the present research must be viewed in light of this change. Whether intervention ideas are consistent with actual practice or not, it is clear that teachers' responses to the vignette do reflect their own intervention knowledge. The above example of a teacher- and/or self-monitored behavior chart was not modeled in the interview script; thus, it represents a teacher-generated idea for working with "John" based on either past experience, observation of fellow colleagues, or training in behavior change strategies.

As previously mentioned, Wilson et al. concluded that teachers in their investigation described interventions in vague or unclear terms and suggested that classroom-based interventions for difficult-to-teach students implemented by general education teachers may be of low quality. This assumption, however, might be premature. Gresham (1989) distinguished between three potential

levels of intervention specification (global, intermediate, and molecular) on which specificity ratings of low-, moderate-, and high-specificity in this study and Wilson et al. were based. In examining the role of specificity of treatment plans in resistance to consultation, Gresham concluded that intermediate specificity is the optimal level for which an interventionist should aim when designing treatment plans. Although molecular descriptions of intervention plans are ideal for determining a functional relationship between intervention and behavior change, Gresham notes that interventions at this level can be met with resistance by those who are required to carry them out (i.e., teachers). Thus, intermediate specificity provides adequate information at a depth that is reasonable to all participants. Although the discussion in Gresham (1989) was aimed primarily at school psychologists and other individuals developing interventions for difficult-to-teach students, it is not unreasonable to presume that teachers might operate in similar ways. If applying Gresham's standards to teacher's intervention suggestions obtained in this study, an overall mean specificity rating across all participants of 2.18 (corresponding to the "moderate specificity" rating) indicates an appropriate level of detail in intervention suggestions. Fully 83% of intervention ideas reported in this study received a rating of "moderate" or "high specificity," suggesting that when teachers are properly prompted and have specific responses modeled for them, the vast majority were able to communicate their ideas with sufficient detail such that they could be implemented by another educational professional based on the description alone.

Perhaps a more salient issue is whether specificity, as a dimension of teacher responses to the vignette and structured interview, is a valid indicator of teachers' intervention knowledge. This study employed an open-ended response format, using specificity ratings rather than a more traditional Likert-scale to further quantify responses and provide a more sensitive index of teacher knowledge of interventions than previous studies using checklists or Likert-scaled surveys. As stated in Chapter 3, checklists or surveys may impose an *a priori* structure on the data; however, specificity ratings likewise may unintentionally

distort or misrepresent the construct of teacher knowledge. Specificity of response may provide some insight as to precisely how a teacher plans to implement a given intervention, but a rating of a “high specificity” should not be interpreted as a good intervention, or one that is necessarily likely to achieve the goals stated in the vignette. With regard to the current study, it became clear during discussion and resolution of disagreements between the researcher and the independent rater that an intervention could have a high specificity rating because it is clearly described and replicable, even though the intervention itself might be simplistic in nature or even inappropriate for the target behavior. For example, to address the goal of “Stay in his seat” participant 1C2 offered the following idea:

“Another thing I might try to do is if he’s having a hard time sitting at math, saying “OK John, we’re doing math. Why don’t you go sit at my desk and do your math?” It might make him feel special and the other kids don’t give a hoot where they sit, they’re not having this problem. But if he gets to sit, not really in a rewarding area, just in a different area to take his mind off of things... or if my desk has too many things that might distract him, I might let him sit at the guided reading table or another area where it’s just a different scenario. Maybe I’ll let him sit in my teacher’s chair, so that it’s just something different to keep him staying in his seat. Even if it is a reward, if it’s a motivating reward, then it’s probably going to be worth it for him.”

Although this idea was coded as a “classroom structure” intervention because it modifies the amount of structure available to the student, from a behavioral perspective (one which many teachers described in their interventions), this intervention appears to be a misapplication of the Premack Principle (using preferred activities or events as reinforcers contingent upon completion of an unpreferred task; Cooper, Heward, & Heron, 1986). Allowing “John” to sit at the teacher’s desk at a time when he is demonstrating out-of-seat

behavior might actually serve as a reinforcer and could possibly increase the future rate of the behavior. One might suspect that if the goal is to get “John” to sit in his seat with greater frequency across the day, allowing him to complete his work in other areas of the classroom might not help achieve that goal.

Regardless of theoretical orientation or perspective, however, this idea should receive a specificity rating of “high” because there is no information missing about how to implement the intervention. It could be argued that a more “knowledgeable” teacher would anticipate the possibly reinforcing nature of this intervention and take a different approach to modifying the student’s behavior, but if specificity is used as a hallmark of knowledge then such problem-solving skills as gauging the appropriateness of certain interventions for a given problem are overlooked. By definition, problem-solving teams at the building-level should promote a process in which educators identify relevant characteristics of student academic and behavior problems, generate hypotheses about what might be causing student issues, and finally, implement and monitor evidence-based intervention strategies in classroom settings to decrease academic/behavioral difficulty (Graden, Casey & Christenson, 1985). Specificity might be representative of teachers’ understanding of how to implement various intervention types, but might not be an appropriate indicator of overall intervention functioning. Using specificity of description as a primary indicator of teacher knowledge without quantification of related skills such as hypothesis development, problem-solving ability, and progress monitoring, places undue focus on a single, isolated step of an otherwise complex and dynamic process.

Alternative methods similar to that employed here have been developed to assess teachers’ problem-solving skills. The neutral interview (Curtis & Watson, 1980) asks teachers to describe a problem they are having with a current student. Following transcription, the Consultation Verbal Analysis System (CVAS; Curtis & Zins, 1988) is used to code the teachers’ verbalizations to obtain a measure of problem-solving skills. Prior research has shown that the degree to which teachers can clearly state and define a problem in the problem

identification stage of consultation accounts for 60% of the variance in plan implementation ($r=.776$) and that plan implementation accounted for 95% of the variance in problem solution ($r=.977$; Bergan & Tombari, 1977). The neutral interview has been used in several empirical studies as a measure of teachers' problem-solving skills (Baker, 1997; Curtis & Watson, 1980; Durda, 2000; Grier, 2000, 2001). Perhaps a combination of approaches, including quantification of problem-identification skills via the neutral interview and intervention-specific knowledge via the specificity rating, could provide a more holistic assessment of teachers' overall functioning across all phases of the problem-solving process.

Teacher Problem-Solving Characteristics

The present study is unique in that it assessed teachers' individual characteristics (e.g., years of teaching experience, referral/consultation history, training experiences, and perceptions of training) and their perceptions of building-level practices regarding problem-solving (e.g., presence/absence of IA teams, use of best practices within the IA team). Although research regarding teachers' perceptions of IA practices is relatively common, the majority of research to date has focused on educators' attitudes about the process (e.g., Harrington & Gibson, 1986; Hawkins et al., 1991; Inman & Tolefson, 1988). Up-to-date information on how teachers perceive actual functioning of IA teams, including requirements for referral, frequency of meetings, and adherence with best practice recommendations, is currently unavailable. Though both Bahr (1994) and Carter and Sugai (1989) published reports from a survey of state education administrations regarding their requirements for IA and prereferral intervention, their findings are no longer current and likely do not reflect current requirements. More importantly, survey responses from high-level administrators removed from the day-to-day realities of education might not be consistent with perceptions of general education teachers working on the "front lines" to support difficult-to-teach students. Information on IA team functioning from teachers' perspectives was sought in the present study to better understand how teachers perceive IA teams to operate in the context of intervention development.

Existence and practices of IA teams. State and district ESE regulations require that teachers demonstrate efforts to provide interventions with difficult-to-teach students prior to referring them for a suspected disability. The majority of teachers in this study ($n=23$; 79%) indicated that their school had an IA team that met regularly to assist teachers with these cases; 24 teachers (83%) reported that they were *required* to refer difficult-to-teach students the IA team prior to initiating a referral to the school psychologist. Five teachers, therefore, indicated that they are not required to go through a problem-solving team before requesting an evaluation. Given state and local requirements to attempt prereferral interventions, this finding suggests that some teachers may be developing prereferral interventions on their own and without the multidisciplinary support that an IA team can provide. Most IA models expect that teachers will take some independent actions to assist difficult-to-teach students before consulting problem-solving teams (e.g., Tilly, 2002); however, teachers without any access to problem-solving teams are forced to go through the entire prereferral intervention process alone. It seems likely that these teachers may run out of ideas more quickly and fewer interventions would be attempted before a referral for suspected disability is initiated, though no data are available to support this contention.

Interestingly, teachers *within the same school* disagreed about (a) whether the school had an IA team, (b) the frequency with which the team met, and (c) whether they were required to refer students to the IA team prior to referring to the school psychologist (see Table 5 in Ch. 4). This finding may be due to variability across teachers' understanding of their school's policies related to classroom-based interventions. Alternatively, the school itself may not have a clear and consistent IA system in place and this is reflected in teachers' variable responses.

Another possible explanation for this finding might be that ambiguous questionnaire wording about IA teams failed to elicit the appropriate response from teachers. For example, participants from school E answered one of two

ways for questionnaire item #8 (“Does your school have a problem-solving team that regularly meets to discuss teachers’ concerns about students’ academic or behavioral performance”): weekly or as needed. Some participants provided anecdotal information on the questionnaire that revealed that teachers participate in weekly grade-level planning meetings and as needed administration/guidance meetings. Thus, the term “problem-solving team” might have been too general and may require further clarification (e.g., “multidisciplinary problem-solving team with one or more administrators, guidance counselor, ESE personnel, etc.”) to elicit a consistent and accurate response from teachers.

Teachers who affirmed that their school did have a building-wide problem-solving team were also asked about the degree to which the team engaged in several system- and process-level best practices associated with high-quality IA programs (Kovaleski, 2002). Responses to this 8-part item indicate that, across all schools and participants, each of the practices is utilized at least “somewhat” (corresponding to a rating of 3 or higher on a 5-point Likert scale; see Table 5 in Ch. 4). Teachers indicated that their IA teams were most likely to (a) use empirically-supported research strategies and (b) require that data be collected data on the intervention. These findings are encouraging, given the recent emphasis on evidence-based interventions in the field of education (Kratochwill & Shernoff, 2004) and prior research suggesting that progress monitoring data in prereferral intervention has been lacking (Flugum & Reschly, 1993; Wilson et al., 1998).

It is important to underscore that these responses are merely perceptions of teachers who have participated in IA teams. It is not clear to what degree these perceptions reflect the reality of IA team practices or functioning at the school level, and variability among teachers at the same school indicates similar patterns of inconsistency as previously described items. For example, composite IA practices scores of participants at school B ranged from 1.8 (“not at all” to “rarely”) to 4.0 (“usually”), with two participants not responding because they had indicated that their school did not have problem-solving team. The fact that

teachers within one school have different ideas about what their IA team does or does not require in terms of interventions may suggest that IA teams themselves are inconsistent in their practices and teachers' individual perceptions are indicative of their own personal experience with their school's team. Data from this study are inconclusive on this point and more empirical investigation is necessary to determine the cause of this phenomenon.

Self-reported consultation behaviors. In addition to seeking assistance through multidisciplinary teams, often teachers request more individualized and immediate guidance in the form of one-on-one consultation. Behavioral consultation, or more generically called "problem-solving consultation" (Kratochwill, Elliott, & Stoiber, 2002) has been a successful method for addressing a variety of educational issues including academic, emotional, and behavioral problems through the collaboration of a teacher and a school psychologist, guidance counselor, or other educational professional (Feldman & Kratochwill, 2004). Teachers in the present study confirmed that they engaged in individualized consultation with one or more school-based consultants an average of 4.4 times each year. Interestingly, though, teachers most often sought assistance from other teachers both at their own grade level and one grade below that which they taught ($N=22$; 75.9% of sample). For example, third-grade teachers reported consulting with second-grade teachers, typically asking their predecessors what strategies had been successful for a specific difficult-to-teach student in the previous year. Such a strategy for consultation is consistent with recommendations for multi-level service-delivery models in the literature, in which the amount of resources (time, money, personnel) increases with the intensity of a given problem (Tilly, 2002). Consultation among teachers represents an appropriate entry-level strategy for brainstorming on difficult cases; only those cases which cannot be adequately addressed with peer-to-peer consultation should be taken to the next level of team-based problem solving.

Anecdotal comments from teachers in this study suggested that consultation with same- or different-grade teachers might be less systematic and

might involve only a single instance of consultation rather than an ongoing, collaborative process as typically described in the literature. This form of consultation is somewhat consistent with the TAT model introduced in the late 1970s (Chalfant et al., 1979) and may be seen as qualitatively different from the behavioral/problem-solving consultation described in the literature by Kratochwill and colleagues, which typically entails a more prescriptive approach to problem description/analysis, intervention development, and progress monitoring. By contrast, TATs served more of a self-help function for teachers struggling to assist difficult-to-teach students. Less emphasis was placed on the consultative and collaborative aspects of these teams, as the members typically were all teachers.

Teachers who reported seeking assistance from other non-instructional professionals most often reported consultation with the school counselor ($n=19$; 65.5% of participants); only approximately one-third of the sample ($n=10$; 34.5%) indicated that they had consulted with a school psychologist in the last two academic years. Consultation has long been identified as a preferred professional activity by school psychologists (Meacham & Peckham, 1978), but these data indicate that school psychologists do not appear to function as the primary educational consultant in schools. Although this finding runs counter to the growing literature base on the role of school psychologist as consultant, recent data may explain this phenomenon.

Numerous studies in the school psychology literature indicate that, even with recent movements towards IA and problem-solving service delivery, school psychologists continue to spend the majority of their time engaged in assessments related to special education (Curtis, Hunley, Walker, & Baker, 1999). In a recent survey of school psychologists, teachers, and administrators, both teachers and administrators reported a greater desire for school psychologists to engage in teacher consultation than did school psychologists themselves (Gilman & Gabriel, 2004). While 62% of teachers and 63% of administrators indicated that they would like to see more teacher consultation

from school psychologists, only 41% of school psychologists wanted more involvement in teacher consultation and 59% wished to remain their present level.

Given that expectations for special education testing in recent years have not abated, school psychologists may have reached a ceiling with regard to the amount of time they can spend in consultation. It may be telling that 62% of school psychologists responding to the survey by Gilman and Gabriel (2004) indicated that they wished to maintain their current level of special education assessment. Thus, if most school psychologists do not want to decrease their assessment caseload, it is not surprising that they generally do not wish to further add to it by increasing their consultation with teachers. The data from the present study, however, are certainly not sufficient to draw such a conclusion and further examination of rates and activities of consultation with school psychologists, school counselors, and other teachers is warranted.

Training experiences. Although IA teams were originally conceptualized to provide multidisciplinary support for teachers' *in vivo* intervention skill development (Rathvon, 1999), recent best practices recommendations for IA teams suggest that teachers may require specific preservice and inservice training to prepare them for this important role (Kovaleski, 2002). A major question of this investigation was how teachers' training experiences might influence their ability to respond to classroom behavior problems. A brief assessment of training experiences revealed that, as a group, teachers in the sample had limited-to-moderate exposure to training experiences that might prepare them for intervention development, including preservice coursework, inservice/CEU/workshop credits, supervised practice, or an opportunity to mentor others. Not surprisingly, the primary mechanisms for training teachers were preservice and inservice education. It has been frequently observed in the IA literature that traditional teacher education programs lack direct training in and exposure to intervention strategies for difficult-to-teach students (Newman, 1999; Worthington et al., 1997); thus, although teachers in this sample report learning

about interventions in this venue, the intensity or quality of that training cannot be assessed.

Teachers in the present study indicated feeling that their training in classroom-based interventions was “somewhat” to “mostly” adequate, though teachers with greater professional experience were more likely to report high levels of satisfaction with their training than newer teachers. A relationship was identified between training experiences and perception of training adequacy, suggesting that teachers who are more trained on classroom-based are more likely to feel that their training is adequate. Perhaps more interesting, however, was the finding that teachers at schools where IA teams frequently followed best practices were also more likely to report satisfaction with their intervention training. Although these findings can only be applied to the present sample, if this same finding were reported in the general population it would offer support for the educative role of IA teams often espoused in the literature (Nelson et al., 1991; Rathvon, 1999; Safran & Safran, 1996).

Relationships Between Selected Teacher Characteristics and Interview Outcomes

Given teachers' prominence in the IA process, it is essential that teachers have a solid foundation of ideas and understand from which they can draw when working with difficult-to-teach students (Harrington & Gibson, 1986; Inman & Tolefson, 1988). An understanding of teachers' familiarity with various interventions, and any professional characteristics associated with such knowledge, may provide valuable information with which educators can evaluate the overall efficacy of IA programs. Knowledge of prereferral interventions, as conceptualized in the current study, is a complicated construct comprised of more than one variable (number, specificity, and type of interventions, presence and frequency of hypotheses). Several variables were explored to determine what, if any, relationship they might have to the intervention variables under investigation. Unfortunately, the present study found that teachers' intervention ideas are not strongly related to the majority of independent variables of interest

(years of teaching experience, IA team participation, referral-to-eligibility rate, training experiences, and IA practices of schools). In general, small sample size and variability among participants' responses to various items made correlations difficult to interpret and inferences about the population were not possible.

Relationships among teacher characteristics and primary intervention outcomes were negligible, with two exceptions. Based on low-to-moderate correlations, years of teaching experience appeared to be somewhat related to number of interventions and IA participation appeared to be positively related to specificity of descriptions. The magnitude of these correlations were both low, but these findings raise the possibility that the number of interventions a teacher can generate in response to a typical classroom problem may increase with years teaching. That years of teaching experience was the only variable to be associated with number of intervention ideas may suggest that personal experience and exposure to years of students with diverse needs may be a more powerful way to learn about interventions than other opportunities assessed in this study (participation on IA teams, preservice and inservice training, and schools' building-wide intervention practices). Similarly, teachers may become better able to elaborate on intervention ideas with increasing exposure to the IA process. Given that one of the primary goals of IA teams is to work with the teacher to establish a detailed plan for intervention (Kovaleski, 2002), this finding seems to suggest that teachers can indeed attribute some of their intervention knowledge to experiences with their schools' IA team.

Assorted teacher characteristics were found to be minimally associated with the choice of various intervention types, but a clear and consistent pattern among these variables could not be identified. Furthermore, limited variability on the interdisciplinary support and behavioral types precludes any firm conclusions about these data. These findings may indicate spurious correlations resulting from an unknown third variable (Vogt, 1999), and may be better understood through further investigation.

In addition to having numerous and detailed intervention ideas, the construct of “intervention knowledge” suggests that teachers should also be able to generate ideas about why the problem might be happening. Problem analysis, one step in the traditional problem-solving model, prompts educators to consider what variables in a child’s ecology might be causally related to manifestations in behavior and academics (Batsche & Knoff, 1995). Furthermore, hypothesis development is central to the functional behavioral assessment (FBA) process; teachers must not only learn to recognize behavioral contingencies maintaining students’ behaviors (e.g., attention, escape/avoidance, tangible), but must be able to effectively modify antecedents and consequences in the environment to alter those contingencies (Myers & Holland, 2000). The majority of participants suggested at least one hypothesis, and the number of hypotheses teachers suggested was moderately related to years teaching experience and IA practices of schools. Though preliminary, these data suggest that teachers may be more likely to offer ideas about the causes of student behavior as they gain experience working in schools, or as they participate in IA teams that consistently use best practices for intervention development (Kovaleski, 2002). This finding is somewhat encouraging to the degree that it suggests teachers’ ability to develop hypotheses might be influenced by the practices of other educators.

Limitations

Nonrandom sampling of participating schools, homogeneity of the participants (i.e., second and third grade teachers from only one county), methodological constraints, and small sample size of this study limit the external validity of these results. Each of these issues is discussed in greater detail in the following sections.

Nonrandom selection of schools. As described in Ch. 2, the proposal for this project called for schools to be selected for participation using stratified random sampling on the basis of districtwide “risk index” ranking. Unfortunately, this approach to sampling proved too logistically difficult to carry out for this thesis project. A comparison of participating schools’ risk indices were compared

in the rank-ordered database of all Hillsborough County schools (see Table 1, Ch. 3). This post-hoc analysis suggests that participating schools in this study reasonably approximated the variability of schools in the county on the indicators of free/reduced lunch, rates of disability, and percentage of teachers without advanced degrees. Furthermore, since school-level analyses were not conducted (e.g., comparing number, type, and specificity of interventions offered by teachers at each school), school-level characteristics are not believed to significantly impact the validity of these data.

Homogeneity of participants. The method of participant selection may have introduced some bias into the research sample, in that teachers who agreed to participate may be those who have greater knowledge, training, or experience in classroom-based interventions. Likewise, those teachers who declined to participate might be those who feel less experienced or knowledgeable in such interventions. For this reason, a \$15 gift certificate to a local teacher supply store was offered as an incentive, to make participation in this study rewarding to all potential participants rather than exclusively to those who may find discussing interventions intrinsically rewarding. Demographic characteristics and descriptive data for this sample appear to refute that possibility, as a range of age, teaching experience, training experience, consultation/referral behaviors were observed among the participants in this study. Furthermore, the variability in the number and specificity of interventions identified in response to the vignette, generally consistent with the findings of Wilson et al. (1998), demonstrates the representativeness of the current sample. Nevertheless, it is possible that recruiting teachers from multiple counties or even states might have further diversified the sample and illustrated local differences in IA practices, and recruitment from a single school district limits the generalizability of these findings.

Small sample size. A substantial limitation of the present research is the small sample with which it was conducted ($n=29$). Due to the time constraints of conducting interview research, the sample size was limited *a priori* to between 20

and 30 participants. Confidence intervals for obtained r values were calculated in order to predict the level of statistical precision analyses in this study would yield. Unfortunately, this exercise illustrated that confidence intervals at three potential r values ($r_1=.416$, $r_2= -.714$, $r_3= .097$) were relatively large (see Table 9, Ch. 4). Descriptive results from this study should be interpreted and generalized to larger populations with caution; correlational results are intended to describe relationships in the sample only and should not be used to infer the characteristics of the population. Broader research using a larger and more stringently selected sample could help validate the current findings.

Methodological limitations. The use of a single, hypothetical classroom situation as a stimulus for teachers' intervention suggestions can be considered both a limitation and strength of this study. Because the situation only described a single problem, it did not tap into all of the knowledge of interventions that a teacher might have and may have resulted in an underestimate of teachers' intervention knowledge. Only a limited sample of the construct of knowledge can be obtained from the present study's measures. However, the problem described in the vignette was a multifaceted problem that involved both low reading/math achievement and off-task/disruptive behavior. As described previously, these are some of the most frequently observed problems in elementary level general education classrooms (Good et al., 1998; Myers & Holland, 2000; Raffaele & Bradley-Klug, 2000). Thus, the vignette was expected to tap into some of the most necessary and often-used intervention skills. This assumption was anecdotally supported by several teachers who made comments about the vignette such as "Good one, this is so common," or "This IS a typical classroom behavior problem!"

With regard to the hypothetical nature of the scenario, it cannot be said to assess teacher's actual intervention practices *in vivo*. However, using a standardized vignette (rather than asking teachers to describe an actual referral case) greatly facilitates comparisons among participants' responses to the interview by eliminating numerous extraneous variables. In this way, use of a

single situation hypothetical vignette in this study can be likened to the use of a single curriculum-based measurement (CBM) probe to measure students' reading skills; both measures provide an index of performance on a given domain, but do not purport to measure the whole of the domain. Finally, the repeated prompts for specific responses might have elicited intervention ideas that were more detailed than they would have been in "real life." Teachers may have added components to intervention ideas that they might not otherwise have considered. Results from this study, therefore, should be interpreted as an indication of what teachers *are capable of* with regard to classroom-based interventions and not necessarily what they *do*.

A potential threat to internal validity is the use of an interview method. Wilson et al. (1998) explained their use of this procedure as a way to maximize teachers' ability to respond to questions, without the *a priori* limitations that surveys and checklists tend to impose on potential responses. However, demand characteristics of the interview may have impacted teachers' responses in several ways. First, teachers may have suggested interventions that they would not typically use or describe interventions in ways they would not actually conduct them, as a result of social desirability effects. This was observed in one participant (3F3), who used a book on prereferral interventions to generate ideas for responding to the vignette (McCarney, Cummins Wunderlich, & Bauer, 1993). Although she stated verbally that she would use the book in a "real life" situation to guide her prereferral intervention strategies, there is no way to determine the veracity of this claim. The researcher decided to permit the participant to use the book as the interview script and research protocol did not specify otherwise; she used it for the first two to three intervention ideas only and then closed the book and spoke extemporaneously. Subsequent inspection of this participants' data revealed that she was no more detailed or creative than other participants in this sample; if anything, her overall mean specificity rating (1.5) fell below the mean observed across all participants and her number of intervention ideas (11) was not a cause for concern. This participant illustrates that it is not possible to state

with any certainty that teachers' responses to the vignette represent their "true" response to a similar situation; rather, these data only indicate teachers' potential responses to a classroom-based problem idea.

Secondly, although the interview was designed to allow participants the greatest possible freedom of response, teachers may have rushed through their answers to complete the task quickly. This was observed in at least one participant (1D3), who indicated she was finished responding to the first behavioral goal after describing only one intervention. When asked if she could think of anything else, she responded, "Well, that's what I would try first. If that didn't work, then I would try something else, but that's the first thing I would do." Because this comment suggested that the teacher had other ideas that she was withholding, the data collector then prompted her to continue by saying, "Well, if that idea didn't work, what else do you know to do to help John?" The participant was then able to go on and describe another intervention for the behavioral goal, but still only produced a total of 4 interventions. It is not clear whether other teachers who did not make any revealing comments might have been responding in the same manner. Anecdotal observations of several participants suggested that they might have rushed through the interview or were not fully invested in it. Additionally, several teachers reported after the session that they would have liked to have received the vignette in advance of the interview so they could think it through. These participants indicated that they often spend a considerable amount of time thinking about how they will address the problems of "real-life" students before they actually begin to act on them. Comments such as these should be considered in future studies using similar methodology, to maximize participants' responses to the greatest degree possible.

As with all self-report data, results from the questionnaire portion of the study must be interpreted with some caution. Teachers reported on the existence, schedules, and practices of IA teams at their schools, but these data do not necessarily reflect the actual practices of schools. This was clearly illustrated in the question about whether schools have a building-level problem-

solving team; some teachers indicated that their school did have such a team, while other teachers at the same school reported that no such team existed. As previously discussed, it is not clear what caused these discrepancies in response. Teachers' responses to these questionnaire items should be interpreted as their self-reported perceptions of school practices, rather than statements about actual policies and practices of schools.

Finally, the number of correlations conducted in the present study significantly increases the likelihood of Type I error (inappropriately rejecting the null hypothesis; Cohen, 1992). Coding the variable of intervention type as nine separate dichotomous variables raised the number of total dependent variables to 11 and the total number of planned correlations to 106. To determine the amount of power required for each individual correlation to achieve significance, an experimentwise alpha level of .05 would have to be divided by 106. Because in this situation β -values are essentially meaningless, statistical significance cannot be reported and characteristics of populations cannot be inferred. Despite this limitation, correlations were reported in this study to provide further descriptive information about the characteristics of participants in the sample and to highlight potential avenues for further investigation.

Given these limitations, the results of the proposed study cannot be said to be definitive descriptions but rather a "rough guess" about the characteristics and behaviors of this population. This study offers a unique contribution to the literature because it is the first to examine the relationship between teachers' intervention knowledge and their professional characteristics. In addition, future studies of this scope and size could corroborate the findings of the present study, and aggregation of results in meta-analysis literature could more precisely examine this phenomenon.

Implications for School Psychologists

This study's primary contribution to the literature lies in its explication of teachers' response patterns to a typical classroom academic/behavioral problem and perceptions of IA team functioning. Although the problem presented in the

vignette was hypothetical in nature, it contained several relevant issues that teachers frequently encounter (Myers & Holland, 2000; Raffaele & Bradley-Klug, 2000). Many school psychologists serve as behavioral consultants to teachers, either at the individual or problem-solving team level (Kratochwill, Elliott, & Stoiber, 2002). A more comprehensive understanding of general education teachers' typical responses to classroom problems may expedite the problem-solving process by allowing behavioral consultants to quickly focus in on new intervention ideas that expand teachers' previous efforts. If patterns observed in this study were to be true in the general teaching population, consultants might consider aiming training efforts at intervention types that were not frequently utilized here. Although some types of interventions may overlap with IA teams' efforts, it might be appropriate to emphasize the importance of seeking interdisciplinary support (even if just from other teachers) and gathering information about the problem from early on in the process, as well as considering ways in which materials and/or emotional/social supports might enhance student functioning. Such training efforts could occur on an individual, building-wide, or district-wide level.

An important implication can be drawn from the fact that added prompts for specificity resulted in 30% more moderate- and high-specificity responses. To the extent that high levels of specification are beneficial in the problem-solving process, particularly in the problem definition stage (Bergan & Tombari, 1977), school-based consultants might wish to consider adding prompts (including examples and nonexamples) for specificity as a part of their initial consultation sessions. Such prompting might elicit more detailed description of student behavior and might encourage teachers to be more creative as they generate ideas for intervention in consultation.

Broader implications for school psychologists stem from findings related to building-level IA practices as reported by teachers in this study. To the extent that school psychologists are key players in the IA process (Kovaleski, 2002), these data may provide valuable information about potential weaknesses in the

IA service delivery model at the school level. School-based practitioners may wish to conduct an awareness survey of teachers at their school sites to establish what *teachers believe* the practices, policies, and schedules of IA teams are and to check these self-report data against stated or desired roles of the IA team. School psychologists might also be encouraged to note that IA practices do appear to have a somewhat educative function for teachers developing intervention skills. Consideration of how IA teams might be designed to promote professional development, rather than serve a reactionary function in response to student problems, might further enhance the efficacy of these teams.

Finally, teachers' self-report data regarding individual consultation with educational professionals suggested that school psychologists were not the dominant consultant in most schools. Given the availability of other administrators and support staff also available to assist teachers, as well as the itinerant status of most school psychologists, this may be an appropriate state of affairs. School psychologists who seek to increase their involvement in teacher consultation may find this result discouraging; however, data from Gilbert & Gabriel (2004) indicate that teachers generally welcome consultative support from school psychologists.

Implications for Future Research

The present study attempted to describe general education teachers' knowledge base with regard to classroom-based interventions. As previously discussed, modifications were made to the Wilson et al. (1998) protocol to achieve the highest possible specificity of response. Future research using open-ended, structured interview methodology must weigh the potential benefits of providing numerous prompts for specificity (i.e., capturing what intervention ideas teachers are *capable* of developing) against the limitations of such an approach (i.e., leading participants into overly-specific responses not necessarily typical in everyday practice). In the present investigation, a primary goal was to understand what teachers know about classroom-based interventions, so the emphasis on specificity helps elucidate the breadth and depth of teachers'

intervention knowledge. Studies focused on assessing teachers' *actual* intervention practices, however, should use prompts for specificity with caution as they might create social desirability effects that could skew data.

Despite limitations in external validity previously discussed, the present study expands the literature base on general education teachers' knowledge of prereferral intervention. Momentum is continuing to gather for IA models of service delivery. The President's Commission on Excellence in Special Education (2001) resoundingly announced that "children placed in special education are general education children first" (p. 7). IA processes offer an efficient model of ongoing, multi-level consultative support to the teacher while maintaining the student's placement in general education for as long as possible. More study of teachers as interventionists is critical to enhancing the effectiveness of the IA process. While descriptive and nonexperimental research can be helpful in describing current conditions of practice, applied experimental research will be imperative in demonstrating how teachers' intervention knowledge may be enhanced through training, supervised practice or mentorship, consultative relationships, and IA teams.

An immediate avenue for empirical investigation lies in the current data set. While the quantitative analyses described in this study offer some insights into patterns in teachers' responses to typical behavior problems, they stop short of clearly depicting how teachers' intervention ideas are or are not consistent with empirically-supported, best practice interventions, or are appropriate for the problem in the vignette. A mixed-method content analysis of the descriptions provided by this study's participants can help elucidate some of the more salient features of teachers' intervention ideas that might be more closely related to their ultimate effectiveness. As described previously, several intervention types (e.g., instructional, behavioral, communication, compound) need to be "unpacked" to better understand what ideas comprised them. Examination of what student characteristics teachers most closely attend to when suggesting interventions, as well as their hypotheses about potential causes of student behavior, is also

warranted. These two variables may shed light on how teachers come to perceive that a problem exists and what generally-held beliefs teachers might have about student behavior problems. Additionally, a panel of intervention experts could be asked to review participants' responses to rate the extent to which they represent high-quality, appropriate interventions for targeting behaviors described in the vignette. Unfortunately, an investigation of this magnitude is beyond the scope of the present study and will require significant consultation in mixed-methodology. For this reason, the present study remains focused on preliminary descriptive and correlational data originally proposed.

Conclusion

This research study replicated and extended the work of Wilson et al. (1998), which assessed the self-reported knowledge based of general education teachers. In the present study, second- and third-grade general education teachers responded to a hypothetical description of a student behavior problem with many and varied classroom-based intervention ideas. The most common types of interventions were behavioral, classroom structure, communication, and compound, but participants displayed a total of nine broad categories of interventions. Furthermore, when given numerous prompts and examples/nonexamples of specific responses, many teachers were able to describe their ideas with high levels of detail. Modifications to the interview script emphasizing the importance of giving specific responses yielded over 30% more moderate- and high-specificity responses than reported in Wilson et al.

Teachers also reported their perceptions of school practices with regard to IA, as well as their own consultation and referral practices and training in classroom-based interventions. Most teachers indicated that their schools have a building-wide problem-solving team to support teachers in developing interventions for difficult-to-teach student; 83% of participants indicated that they were required to refer students to these teams before requesting an evaluation for a suspected disability. However, teachers *within the same school* sometimes disagreed about (a) whether the school had an IA team, (b) the frequency with

which the team met, and (c) whether they were required to meet with this team before referring for a suspected disability. Participants indicated that they consulted with a variety of educational professionals about difficult-to-teach students, including same- and different-grade teachers, school counselors, and school psychologists, with an average of approximately four consultative interactions occurring each year. When working with IA teams at their schools, 2), teachers reported that their schools engaged in each of the eight systems- and process-level best practices of IA teams (Kovaleski, 2002) at least “somewhat”; among the most frequently reported of these best practices were use of evidence-based interventions and data collection to monitor intervention progress. Finally, teachers indicated that they had limited-to-moderate exposure to training experiences that might prepare them for intervention development; teachers most often received training in the form of undergraduate/graduate coursework and inservice training. Overall, teachers felt that their level of training in classroom-based interventions was “somewhat” to “mostly” adequate. Unfortunately, teachers’ intervention ideas were not found to be strongly correlated to the majority of these teacher characteristics. A small sample size ($N=29$) created large confidence intervals for each correlation and a high number of correlations (106) greatly increased the probability of Type I error.

Previous research (Harrington & Gibson, 1986; Inman & Tolefson, 1988; Wilson et al., 1998) has suggested that general education teachers are typically lacking in knowledge of classroom-based interventions. These results, although exploratory, suggest that teachers may have a greater knowledge base than previously thought; however, additional analysis of the present data might be helpful in establishing the quality and appropriateness of teachers’ intervention ideas, examining hypotheses regarding causes of student behavior, and determining the precise nature of teachers’ intervention ideas. Given the critical role that general education teachers play in the problem-solving process (Tilly, 2002), such research will be important in determining exactly how teachers function in this role and how IA processes can better support them in their efforts.

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Appendices

Earn \$15 for your classroom! Earn \$15 for your classroom!



You are invited to participate in a brief interview as part of a study at USF. Interviews will take place at XXX Elementary during the month of February 2005, before or after school. An interview time will be individually scheduled with you, if you decide to participate.

- **Purpose of the Study:** To learn more about teachers and what classroom-based interventions they use with difficult-to-teach students.
- **About the Researcher:** The Principal Investigator (PI) for this study is Jenine Sansosti, a graduate student in the school psychology program at the University of South Florida. This research project fills the requirement for the Ed.S. thesis as part of school psychology graduate training.
- **Time Required:** Approximately 20-25 minutes. Interview sessions will take place at your school, at a time that is convenient for you. Jenine will contact you to schedule an interview.
- **Format:** Participation in this study consists of two parts:
 - First, a brief questionnaire, to learn more about you as a teacher, will be put in your mailbox to complete on your own time.
 - Next, during a meeting with Jenine, you will be given a brief description about a hypothetical student with academic and behavioral difficulties. You will be asked to think of various ways that you can help the student within your general education classroom. All information you share in the course of this study is completely **confidential**.

If you agree to participate in this study, please do not discuss the activities with other teachers at your school until data collection is complete, as it may influence the responses of others who are also participating in this study.

- **Benefit to You and Your Students:** For your participation in this research study, **you will receive a \$15 gift certificate** to a local teacher supply store to use in your classroom. In addition, participating in this study may help you learn more about how to help children in your classroom who might be having difficulties.

Appendix A (continued)

•Interested? Here's what to do next: Complete the following contact information and return this form to Principal XXX. She will pass this on to Jenine, who will schedule an interview with you.

Your Name	School Name	Grade You Teach
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Address (*optional*- so I can mail you the gift certificate)

May I call you at school?	Daytime Phone	Best time to call
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May I call you at home?	Evening Phone	Best time to call
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Email address

Please Check ALL Days/Times You Are Available for Interview
This is just to help me get an idea... your interview day/time will still be scheduled with you individually!

Check if you are available on this day and circle which time would be best for you:

_____ Wednesday 02/02/05	Before school	After school
_____ Wednesday 02/09/05	Before school	After school
_____ Wednesday 02/16/05	Before school	After school
_____ Wednesday 02/23/05	Before school	After school

Other days/times you are available:

Thank you in advance for making this project possible!!

Jenine M. Sansosti, M.A., Doctoral Student in School Psychology
813/XXX.XXXX Fax: 813/XXX.XXXX

Appendix B: Summary of Pilot Results

Participants

Three individuals served as “full protocol” pilot participants. Two (1P3 and 2P2) were teachers at a local private school in Pasco County, and one (3PPreK) was a teacher at a local preschool. Each of these participants responded to the questionnaire and the structured interview, and also answered questions about the procedures and content of the study protocol. A fourth participant (4PNG, NG indicating “no grade”), responded to the interview only (no questionnaire) to address an issue that arose from a change made to procedure. This is discussed in greater detail under “Number of Interventions” in the “Changes to Interview Procedures” section.

Demographic Questionnaire

Participants 1P3 and 2P2, teachers at a local private school, had significant difficulty responding to the questionnaire. They were unfamiliar with the term “Child Study Team” and did not have formal procedures for referring difficult-to-teach students to building-level problem-solving teams and did not have a school-based or itinerant school psychologist with which they regularly consulted. Students with academic or behavioral challenges tended to be dealt with on an individual and somewhat informal basis. If school staff could not meet students’ needs, the student’s parents were recommended to get an evaluation by an outside psychologist or specialist. As such, participants 1P3 and 2P2 had difficulty responding to items 8-11¹, and 13c, 13d, and 13j.

Further discussion with Linda and other school employees suggested that not all schools, whether public or private, have building-level problem-solving teams. As such, it was decided to add an item that specifically asks if such a team exists. All references to such a team were modified to “school-based problem-solving team,” rather than “Child Study Team” or “intervention team,” to overcome the variability in terminology that may exist from school to school in Hillsborough County.

The order of items 11 (how many times have you consulted with an individual school psych or other ed. professional) and 12 (with which of the following individuals are you most likely to consult) was reversed. This was done because participants 1P3 and 2P2 both struggled to think of the number of occasions that they had consulted with someone about a student, but appeared to be better able to recall when they reviewed list of possible consultants on item 12. It seemed likely that putting item 12 first could serve as a way to prime teachers for responding about their consulting behavior.

Items 8-11, which require teachers to estimate instances of referral of consultation for the past three academic years, were altered to reference only the last two academic years. Teachers seemed to struggle to remember the third year. Jenine and Linda hypothesized that if they are unable to recall it with ease, their estimate is unlikely to be an accurate one.

Item 13 was reworded, because participants 1P3 and 2P2 were both confused by the question.

¹ Item numbers in this section reflect the numbers on the original demographic questionnaire. As a result of modifications, the item numbers in the revised version no longer match the original.

Appendix B (Continued)

Challenges in Interview Procedures

Jenine coded pilot interviews for number of interventions, specificity, and type of intervention, and Linda conducted interrater reliability coding for participant 2P2. Items that were difficult to code were subsequently reviewed and discussed by Jenine and Linda. This led to suggested modifications for both the interview procedures and the intervention code structure. These problems and proposed solutions are discussed below.

Number of Interventions. In general, the coding form made counting interventions easy because they were written into a numbered space (e.g., #1 ____, #2 ____). However, on occasion it was difficult to determine at what point the teachers' description of one intervention ended and another one began. This resulted in some disagreement on intervention numbers between Jenine and Linda and made reference to particular intervention numbers (e.g., 2.1 for Goal #2, Intervention #1) complicated because they did not match on each coding form.

To solve this problem and to potentially address some of the specificity problems described below, a modification to the interview procedure was proposed. Poker chips are now used to represent each individual intervention idea. Teachers are prompted to hold a poker chip in their hand while describing "each thing they can do to help John" and drop the chip into a plastic cup when finished describing an idea. The sound of the chip dropping into the cup is clearly audible on the tape, so it is possible to "hear" when each intervention stops and another one begins. This strategy also creates a situation where teachers cannot go back to add to a description once they've "dropped it," so they need to describe it as thoroughly as possible before moving on to a new one.

The poker chip strategy was implemented in the interview with 3PPreK, and she reported that it made sense to her and did not impede her description of ideas. However, she only provided three interventions for Goal 1 and two interventions for Goal 2. Because of the participant's position as a preschool teacher, it was unclear whether her low number of interventions was due to an unfamiliarity with elementary-age children (which she stated in follow up questions) or to the newly-added poker chip procedure.

To address this question, a fourth pilot participant (4PNG) was recruited. This participant is school psychologist and was expected to have many ideas in response to the vignette. It was hypothesized that if the poker chip strategy was somehow interfering with ability to respond, this participant would also have relatively few intervention ideas. This participant, however, had eight ideas for Goal 1 and 5 ideas for Goal 2, and also stated that the poker chip strategy did not interfere with or distract during the interview in any way.

Finally, two of the participants offered up the same intervention more than once for the same goal. As such, the procedure for counting the interventions was clarified to allow for the possibility of duplicate descriptions and non-interventions, or statements that don't actually fit the definition of intervention.

Appendix B (Continued)

Data collected subsequent to these interventions (participants 3PPreK and 4PNG) revealed that intervention counting was greatly improved. The sound of the poker chip dropping made it clear when one intervention stopped and another began. Additionally, it was observed that participant 4PNG came close to dropping a chip into the cup on several occasions but then appeared to “think twice” and continue to add to the description before dropping it, thus improving the specificity of response.

Specificity. Coding of the pilot participants responses revealed several problems. First, discriminating between low-, medium-, and high-specificity responses was difficult due to ambiguous definitions of these categories. Thus, the codes for specificity were revised and clarified to allow for easier differentiation between low-, medium-, and high-specificity. Second, none of the interventions described by any of the pilot participants could be categorized as high-specificity. Examination of the interview directions read to each participant revealed that the sample of a high-specificity response actually matched with the medium-specificity definition. Thus, the interview directions were modified to provide low-, medium-, and high-specificity examples of responses taken directly from the code definitions. A phrase was also added requesting participants to “describe your ideas in a way that someone else would know exactly what to do, based on your description.”

Two additional changes were made based on follow-up comments from participants 3PPreK and 4PNG. They both noted that it would have been helpful to have been told about the specificity descriptions before they had read the vignette. They both indicated that this might have impacted the way they read the vignette and the ideas they generated. Additionally, participant 3PPreK asked if she could make notes while reading the vignette, and this was permitted for participant 4PNG, who indicated this was indeed helpful. A statement encouraging participants to make notes if necessary was subsequently added.

Intervention Type. Upon trying to code the pilot data, it became clear that many of teachers’ responses could not be classified by the existing intervention code (adapted from Ysseldyke et al., 1989). The following are items that could not be coded under current coding structure. Parenthetical notation before each item indicates participant code (e.g., 1P3) and the goal/number of intervention to which item refers (e.g., 1.3 refers to Goal #1, intervention #3). The bullet below the problematic statement is a suggestion for a new classification code or revision to an existing code.

- (1P3 – 1.3) “Have student set a goal, see if the student recognizes it [own behavior]”
 - Communication (student)
- (1P3 – 1.4) “Alert whole class to raise hand”
 - Communication (whole class)
- (1P3 – 1.6) “Tell student ‘I will call on you’”
 - Communication (student)
- (1P3 – 1.7) Tell student(s) about the importance of not calling out; discuss how it disrupts others’ thinking
 - Communication (whole class)

Appendix B (Continued)

- (1P3 – 2.1) Use nonverbals
 - Communication (student)
- (1P3 – 2.11) Talk to student to see what they think
 - Communication (student)
- (1P3 – 2.14) Set timer or put dots on clock (e.g., dot on 3 and 6); “You need to stay in your seat between the dots.”
 - Communication (student)
 - Behavioral cue
- (2P2 – 1.1) Develop a signal between the student and the teacher, a reminder to raise hand that no one else knows.
 - Communication (student)
 - Behavioral cue
- (2P2 – 1.2) Have a discussion (privately) about the effect on the classroom. Ask him some strategies, as a team—what does he think might work?
 - Communication (student)
- (2P2 – 2.2) Gently remind him
 - Communication (student)
 - Behavioral cue
- (2P2 – 2.3) Make sure he knows that it’s a problem (he may not know). Make sure he knows when it’s OK to be out of seat.
 - Communication (student)
- (2P2 – 2.6) Give him some appropriate outlet to be out of seat... we don’t know, is he, does he have ADHD. Some duty when finished with work, an opportunity for John to be out of seat. He might not be able to control urge to get out of seat, so give him opportunities to get out of seat that are acceptable.
 - Modify classroom structure to accommodate this, because this changes the structure for the child.
 - Note the presence of the hypothesis (“does he have ADHD”) within this statement.
- (2P2 – 2.8) (reference to vignette, part that states “other students laughing”) Discussion with class re: acceptance and respect for other students in class, considering feelings, hurt feelings
 - Communication (class)
- (2P2 – 2.9) Don’t know if this is due to frustration or for attention; other students’ reactions may be encouraging his behavior.
 - This is not really an intervention, but a hypothesis.
- (2P2 – 2.10) Might be feeling self-conscious, recognizing differences in own behavior and that of other students. Would work on building him up, achieve small successes.
 - Emotional/social support
 - Note the presence of the hypothesis (“might be feeling self-conscious”) within this statement.
- (2P2 – 2.12) Putting in writing what goals are, a contract, can be helpful. Students feel some sort of accountability when it’s down in writing and they sign their name to it.
 - Communication (student)
 - This could be a behavioral intervention if there was some reference to consequences related to the contract.

Appendix B (Continued)

As a result, the following modifications to the intervention code were made:

1. Addition of two new categories: Communication (specify student, whole class, parent/family) and Emotional/Social Support.
2. Changes to Behavioral and Classroom Structure categories to clarify their definitions.
 - a. Behavioral was changed because of a recurring question about Behavioral Cues (or antecedent interventions), but these were later coded as Communication—Student.
 - b. Classroom structure was changed because several pilot interventions indicated changes in classroom environment or assignment of duties/privileges that did not fit under the current definition.

Addition of a procedure for coding hypotheses mentioned within intervention descriptions. Hypotheses are not formally coded because they are not mutually exclusive with any other intervention category, but rather underlined in the text for later analysis.

After making these modifications, data from participants 1P3, 2P2, and 3PPreK were recoded to check the utility of these modifications. All participants' responses were successfully categorized with the revised coding structure.

Follow-up Questions

To aid in the analysis of the questionnaire, interview protocol, and coding procedures, follow-up questions were asked of each pilot participant. Each question is listed below with a summary of participants' responses.

Did you understand everything required for the questionnaire and interview portions of this study?

- 1P3: Questionnaire—didn't feel very confident answering them because we don't have things like that. Interview—felt comfortable with it, understood everything. Felt like I was in the role of the student. I felt like I was being tested.
- 2P2: Understood, yes, though some [questions] were not directly relevant to me as a private school teacher, but yes, I understood.
- 3PPreK: Yes.
- 4PNG: No—when saying “what actions would you use to help achieve John's outcomes,” I wasn't clear on what actions you wanted to know. I didn't know if you wanted information about what I would do as an educator, or what interventions I could use. Did you want process, trying to look at the root cause of the problem, more of a problem-solving approach?

Appendix B (Continued)

Was there any point at which you did not know how to respond? What was it?

- 1P3: No.
- 2P2: No.
- 3PPreK: Probably a little more difficult to respond to the story because it was older children.
- 4PNG: (see above answer)

Were there any parts of the questionnaire or interview that were unclear because of the way they were worded?

- 1P3: Nothing unclear, though there was a typo.
- 2P2: No.
- 3PPreK: No.
- 4PNG: (see above answer)

Was there any terminology that you did not understand in either the questionnaire or interview?

- 1P3: Only terminology was related to teams we don't have in private school.
- 2P2: No.
- 3PPreK: No.
- 4PNG: No.

By asking you to be so specific in your descriptions of interventions, did you think that you were limited in the number of things you could say due to time constraints?

- 1P3: Didn't feel time constraint, but it was a list.
- 2P2: No (laughs) it was the end of the day and it wasn't time or anything like that, it was just trying to think on my feet. In reality, I would sit and really think about this student, and I would have days and days of anecdotal info. I have a journal and I've written things and behaviors when things come up, and then I would have a much clearer picture of what's going on, so it's just kind of general strategies that you would use at this point. You don't have any background information, does this child need to be tested? That kind of thing.
- 3PPreK: Yes, probably because I was thinking of a whole scenario, instead of like individual steps.
- 4PNG: Somewhat. For me, it would almost be better to write down all the steps necessary in a semi-detailed fashion and then talk, but that might just be a personal preference.

Did the poker chip strategy make sense to you?

- 3PPreK: Yes, for the purpose that you described, it did. A lot of times, I feel that the interventions all run together and there's not specific ones but for what you're trying to look for, that makes sense.
- 4PNG: Yes.

Appendix B (Continued)

Did the poker chip strategy distract you when you were trying to come up with ideas?

- 3PPreK: No.
- 4PNG: No.

This whole session lasted 30-40 minutes. Do you think this is a reasonable amount of time to ask teachers to participate?

- 1P3: Yes.
- 2P2: Sure.
- 3PPreK: Yes... not too short, not too long.
- 4PNG: Yes.

Most of the issues raised in these questions have been addressed in the above-mentioned modifications to procedure. The only remaining issue was from 4PNG, who indicated that it was not clear if responses to the vignette should be in the form of “interventions” or if ideas related to problem-solving and information gathering were acceptable. During this interview, I simply said, “Do your best” and reiterated that the protocol reads “give a detailed description of all of the ways that you know of to work with the child in your classroom to help him achieve those goals.” This participant interpreted that direction as including more problem-solving oriented actions, and as such 8 of 13 of this participant’s ideas were categorized as “information gathering,” which was already a part of the existing coding structure.

This may be an issue to attend to, both in terms of training other data collectors to respond in the same way, and in terms of subsequent analysis. At the present time, all participants’ ideas are referred to as “interventions” but in fact the information category does not currently fit with the Fuchs, Fuchs, and Bahr (1990) definition of intervention as provided in the Coding Procedures. It may be better to refer to teachers’ responses as “actions” which may include information gathering and/or intervention strategies. It would certainly be important to note the degree to which teachers are inclined to seek additional information before providing intervention strategies in response to the vignette.

Conclusion

Pilot data collection revealed that, in general, the questionnaire, interview protocol, and coding procedures were generally effective in eliciting desired responses from the participants. Several problems were brought to light, including difficulties in counting and coding interventions, less specific responses than desired, and ambiguities in questionnaire wording. These problems were addressed with multiple modifications all study procedures and materials. Changes in coding structure made it possible to code all pilot participants’ responses. Implementation of a new strategy for counting interventions (“poker chip strategy”) dramatically improved counting of discrete intervention ideas. According to participant feedback, allowing participants to take notes improved ability to respond to the vignette. Finally, all participants stated that the length of the interview was acceptable to them.

Appendix C: Demographic Questionnaire

Please tell us about yourself and your school...

1. Your age _____		
2. Your gender	a. Male b. Female	
3. Your race/ethnicity	a. White b. Black/African American/Caribbean Islander c. Hispanic d. Native American e. Asian/Pacific Islander f. Other (please describe _____)	
4. How many total years have you been teaching, including this year?	(any grade level, not including internship) _____	
5. Please list all Florida Certifications you hold. _____		
6. What is the highest degree you've earned and in what area?	a. High school diploma b. Bachelors in _____ c. Masters in _____ d. Specialist in _____ e. Doctorate in _____ f. Other degree in _____	
7. What grade do you presently teach?	a. 2 nd grade b. 3 rd grade	
8. Does your school have a problem-solving team that meets regularly to discuss teachers' concerns about students' academic or behavioral performance? (Circle yes or no and respond as directed—if you answered no, proceed to #10)	<p style="text-align: center;">Yes</p> <p>We have a schoolwide problem-solving team that meets on the following schedule (check appropriate item):</p> <p>___ weekly ___ monthly ___ as needed ___ other: _____</p>	<p style="text-align: center;">No</p> <p>We do not have a schoolwide problem-solving team.</p> <p>What happens at your school when you have concerns about a student's performance? _____ _____</p>
9. Are you required to refer students with academic/behavior problems to a problem-solving team before they can be referred to a school psychologist for special education eligibility testing?	<p style="text-align: center;">Yes</p> <p>We are required to attempt interventions for students with the problem-solving team before they can be referred to a school psychologist.</p>	<p style="text-align: center;">No</p> <p>We are not required to work with the problem-solving team... we can refer students to the school psychologist for testing at anytime.</p>

Appendix C (continued)

Please tell us about your experiences in consulting with others regarding students with academic or behavior problems.

<p>10. How many children have you referred to your school's problem-solving team in each of the following years? <i>*If your school does not have a problem-solving team, please write N/A the lines to the right and move on to #11</i></p>	<p>Last Year (2003-2004) _____</p>
	<p>Two Years Ago (2002-2003) _____</p>
<p>11. Of those above referred children, how many were eventually referred to the school psychologist or other personnel for evaluation for suspected disability in each of the following years?</p>	<p>Last Year (2003-2004) _____</p>
	<p>Two Years Ago (2002-2003) _____</p>
<p>12. Of those above referred children you referred for suspected disability, how many were eventually found to be eligible for ESE services in each of the following years?</p>	<p>Last Year (2003-2004) _____</p>
	<p>Two Years Ago (2002-2003) _____</p>
<p>13. When you decide to consult an individual staff person regarding a difficult-to-teach student, with which of the following individuals are you most likely to consult?</p>	<ul style="list-style-type: none"> a. School psychologist b. School counselor c. Teacher (same grade level) d. Teacher (different grade level—please specify _____) e. Special education teacher (please specify exceptionality taught _____) f. Exceptional student education (ESE) coordinator g. Specialist (e.g., reading, curriculum, etc.) h. Principal i. Other educational personnel (please specify _____)
<p>14. In each of the following years, how many times have you consulted an individual professional (rather than in a team setting) about a difficult-to-teach student, such as a school psychologist or other education professional listed above?</p>	<p>Last Year (2003-2004) _____</p>
	<p>Two Years Ago (2002-2003) _____</p>

Appendix C (continued)

Please tell us about your school problem-solving team's practices with regard to students with academic or behavioral problems...

If you do not have a problem-solving team at your school, please proceed to #16.

Use these categories to guide your response to #15	DK Don't Know	1 Not at all	2 Rarely	3 Somewhat	4 Usually	5 Always
15. When you work with a problem-solving team regarding concerns about a specific student...	a ...does the <u>principal or assistant principal participate</u> in team meetings? DK 1 2 3 4 5					
	b ...does the team look at <u>schoolwide indicators</u> (e.g., number of students served by the team, number of students referred for special education, number of students retained) to <u>determine the team's impact on the school as a whole</u> ? DK 1 2 3 4 5					
	c ...does your school <u>provide other opportunities to get information about interventions</u> for students with academic/behavioral problems from inservice trainings, case studies, reading groups, etc.? DK 1 2 3 4 5					
	d ...are you (or someone else) <u>required to collect data</u> on the interventions you implement (e.g., curriculum-based measurement data, baseline data, etc.)? DK 1 2 3 4 5					
	e ...does the team attempt to <u>use intervention strategies with demonstrated research support</u> ? DK 1 2 3 4 5					
	f ...does someone on the team <u>assist you in getting interventions started</u> in your classroom (e.g., a school psychologist demonstrates how to use a behavioral intervention)? DK 1 2 3 4 5					
	g ...does the team develop a plan to <u>incorporate the intervention into your day-to-day</u> instructional routine? DK 1 2 3 4 5					
	h ...does the team <u>invite parents to participate</u> in selecting interventions for their children? DK 1 2 3 4 5					

Appendix C (continued)

Please tell us about your training experiences with regard to classroom-based interventions ...

Use these categories to guide your response to #16	1	2	3	4	5
	Not at all	Rarely	Somewhat	Often	Extensively
16. To what extent have you participated in the following training experiences for learning about classroom-based interventions for difficult-to-teach students?	a. Classes taken in college or graduate school				
	1	2	3	4	5
	b. Inservice workshop(s)				
	1	2	3	4	5
	c. Continuing Education Units (CEUs) obtained at non-school workshops/professional conferences				
	1	2	3	4	5
d. Participation in intervention assistance teams or similar consultative groups					
1	2	3	4	5	
e. Supervised practice in developing and implementing interventions					
1	2	3	4	5	
f. Have taught/mentored others in developing and implementing interventions					
1	2	3	4	5	

17. Do you feel you are adequately trained in the use interventions for classroom problems with difficult-to-teach students?	1 Not at all	2 A little bit	3 Somewhat	4 Mostly	5 Definitely
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18. If not, would you like to receive additional training in developing and implementing classroom-based intervention?	<p>Yes</p> <p><i>I would like to learn more about interventions, especially about</i></p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>No</p> <p><i>I would not like to learn more about classroom-based interventions at this time.</i></p>
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Appendix D: Interview Instructions²

NOTE: ** Before you start the formal interview, you should explain to participants that you are required to read from a script to ensure consistency between all data collectors. This can help break the ice and comfort them that you do know what you are doing—this is just part of the procedure. 😊

When we begin in a few moments, I am going to be asking you to read a vignette, or a made-up description, about a child experiencing academic and behavior problems in a third grade general education classroom. Along with this vignette, you will see two goals that have been developed to address this student’s difficulties. After you’ve had a chance to read this problem, I will be asking you to give a detailed description of all of the ways that you know of to work with the child in your classroom to help him achieve those goals. Please keep in mind that there are no “right” or “wrong” answers to any of the questions I will be asking in this interview. I am interested in hearing all the strategies you know of for solving our hypothetical problem!

As you can see, the interview will be conducted privately between us. It should take about 20 minutes to complete. I will be audiotaping the interview, but your name and any identifying information will be not be on the tape recording nor on the label. Following this session, I will use the audiotape to make a list of your ideas for helping the student. Your name will not appear on this list, nor will it be used in any future publications or presentations resulting from this research. Another data collector may also listen to the tape later, to double-check the accuracy of my list. Following the completion of the study, all interview tapes will be erased and lists will be discarded.

I also want to remind you that your participation is strictly voluntary. If you would like to stop the interview, you may do so at any time.

Let’s begin with the vignette!

² INTERVIEWER NOTES

Bold type reflects phrases to be said aloud to interviewee. Parenthetical notes and non-bold-face type reflect interviewer instructions not to be read aloud.

Do not use prompts to obtain additional information, as teachers will already have been instructed to be as specific as possible.

Appendix D (continued)

Here's how I'd like you to tell me about your ideas for helping John. In front of you is a bag of poker chips. [Open bag so teacher can see inside] Each chip represents one complete idea for helping John improve in your classroom. Just as there are many, many things we can think of to help students, there are many chips in the bag. You do not have to use them all. When you are ready to describe an idea you have for helping John, [pick up a chip] take a chip from the bag and hold it in your hand. Describe your idea for helping John with lots of detail, and hold the chip the entire time you are describing it. When you are done with that idea and want to move on to another one, [drop chip into Goal 1 cup] drop the chip into the cup. Then pick up a new chip [pick up a chip] and repeat this process. Unfortunately, that means you can't go back to add to an idea once you have dropped it into the cup [point to cup], so try to describe your idea as completely as possible before you drop it [drop chip in cup].

I also want to remind you to be as specific as possible in your descriptions. Give as much detail as you can. Try to describe what you would do in a way that is so clear that I, as another educational professional, would know exactly how to implement your idea just from hearing your description. Let me give you some example responses that provide low, medium and high levels of detail. While I give these examples, I will show you how to use the poker chips like I just described.

[Get ready to demonstrate, but don't pick up yet!]

If I asked you to describe the types of things you might do to help John succeed in the classroom, and you said, [pick up a chip] *"I could change the workload,"* [drop chip into Goal 1 cup and pause for 2 seconds] that would be a low detail response. That is too general and doesn't tell me exactly how you are planning to help John. If you said, [pick up a chip] *"I could shorten his daily math assignments,"* [drop chip into Goal 1 cup and pause for 2 seconds] that would give a medium amount of detail. I have a better idea of what you want to do, but I'm still not completely sure how you would do it. Finally, if you said, [pick up a chip] *"I would take John's math worksheets and cut them into strips of five problems each. When he finishes one strip, he will come up to my desk, and I will tell him he's doing a good job and give him another strip. This will break down his work into smaller chunks and allow him to get a brief rest and some praise in between sets of problems."* [drop chip into Goal 1 cup and pause for 2 seconds], this would be a highly detailed response. I would know exactly how to implement this idea based on your description. This is the kind of response we're looking for.

Appendix D (continued)

Do you have any questions about how to use the chips, or how to describe your ideas in detail? [After answering any questions, empty Goal 1 cup and place bag and cup in front of teacher.]

OK, then, let's move on to the vignette. Please take as much time as you need to read this material carefully and feel free to jot down any notes as necessary. When you are ready, I will be asking you to describe as many ways as you know of to reach the goals that are presented. Let me know when you have finished reading and are ready to discuss your ideas on how the goals for this child might be achieved. I will need to start the tape before you begin sharing your ideas. [Give vignette, scratch paper, and a pen to teacher and allow them to read. Continue when s/he indicates to do so]

OK, then, why don't we get started. First, though, I need to start the tape and state your participant code, so later on, I know who we're listening to. Ready?

→ Start audiotape now! Pause 3-5 seconds, then state participant code (e.g., 2P2).

Let's start with the first goal, "stop talking out in class?" Describe all possible ways you know to help John achieve this goal. Remember, always hold a chip when you're describing an idea, drop it into the cup when you're done, and be as detailed as possible. Go ahead.

When the teacher has stopped suggesting interventions for the first goal, ask:

Is there anything else you can think of to help John achieve the first goal?

Continue asking the above question each time the teacher stops, until the teacher indicates that he/she cannot think of any additional strategies. Then move Goal 1 cup off to the side (do NOT empty it!!) and place Goal 2 cup in front of the teacher. Continue with:

Let's move on to the second goal, "stay in his seat?" Describe all possible ways you know to help John achieve this goal. Remember, always hold a chip when you're describing an idea, drop it into the cup when you're done, and be as detailed as possible. Go ahead.

When the teacher has stopped suggesting interventions for the second goal, ask:

Is there anything else you can think of to help John achieve the second goal?

Appendix D (continued)

Continue asking the above question each time the teacher stops, until the teacher indicates that he/she cannot think of any additional strategies.

→ *Stop audiotape now!*

Thank teacher for his/her participation, and remind him/her not to discuss the activities of the study with other teachers at the school until all participating teachers have been interviewed.

Appendix E: Standardized Vignette

PROBLEM STATEMENT

John is a third grade student who is working slightly below grade level in the areas of Reading and Math. During the first few weeks of the school year, John appeared quiet and well behaved in your class of 22 children, but lately you've noticed several behaviors that concern you. For example, John has begun disrupting class by talking out on a regular basis. He frequently calls out the correct answers; however, many of his comments are loud and have nothing to do with the lesson.

During periods designated for independent seatwork, John often plays with any objects left on his desk. He seems to be constantly out of his seat, either under his desk retrieving dropped articles, looking at the other students' papers, or grabbing materials from their desks. On many occasions, John complains that he "can't do this stuff," and it seems like you must redirect him back to task repeatedly until it is completed. While his daily worksheets and papers are messy, most of his answers are correct.

His actions often draw some laughter from the other children in class. More often, however, his actions appear to annoy his peers. John has few friends. On many occasions, John's behavior has disrupted all productive classroom activity and demanded a great deal of your attention.

TEACHER GOALS

You have decided that you want to help John learn to:

1. Stop talking out in class.
2. Stay in his seat.

Appendix F: Coding Form

GOAL 1: Stop talking out in class

# _____								
<div style="display: flex; justify-content: space-around; font-weight: bold; font-size: 1.2em;"> ABCDEFGHI </div> <div style="display: flex; justify-content: space-around; font-size: 0.8em;"> Instruct.BehavioralClassroom StructureInterdisc. SupportInfo. GatheringMat'lsCommunicationEmotional/Social SupportCompound </div> <div style="display: flex; justify-content: space-around; font-size: 0.7em; margin-top: 10px;"> Student Class Family </div> <div style="display: flex; justify-content: space-around; font-weight: bold; font-size: 1.2em; margin-top: 10px;"> 123 </div> <div style="display: flex; justify-content: space-around; font-size: 0.8em;"> Low SpecificityModerate SpecificityHigh Specificity </div>								

# _____								
<div style="display: flex; justify-content: space-around; font-weight: bold; font-size: 1.2em;"> ABCDEFGHI </div> <div style="display: flex; justify-content: space-around; font-size: 0.8em;"> Instruct.BehavioralClassroom StructureInterdisc. SupportInfo. GatheringMat'lsCommunicationEmotional/Social SupportCompound </div> <div style="display: flex; justify-content: space-around; font-size: 0.7em; margin-top: 10px;"> Student Class Family </div> <div style="display: flex; justify-content: space-around; font-weight: bold; font-size: 1.2em; margin-top: 10px;"> 123 </div> <div style="display: flex; justify-content: space-around; font-size: 0.8em;"> Low SpecificityModerate SpecificityHigh Specificity </div>								

Participant	1	2	3	4	5	6	7	8	Date of I'view: DC: JS _____
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix F (continued)

GOAL 2: Stay in seat

A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication Student Class Family			H Emotional/ Social Support	I Compound
				2 Moderate Specificity				3 High Specificity		
1 Low Specificity										

A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication Student Class Family			H Emotional/ Social Support	I Compound
				2 Moderate Specificity				3 High Specificity		
1 Low Specificity										

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		DC: JS _____
Grade	2	3							

Appendix F (continued)

SUMMARY OF RESPONSES	
Total number of interventions offered:	
Goal 1:	
Goal 2:	

Were any hypotheses offered?	Yes	No	If so, how many?
-------------------------------------	-----	----	-------------------------

	1	2	3	4	5	6	7	8	9	10	Sum of Spec. Ratings (Sum across row)	Total Freq. for this Type	Mean Spec. Rating
(A) Instruct.											/	=	
(B) Behavioral											/	=	
(C) Classroom structure											/	=	
(D) Interdiscip. Support											/	=	
(E) Information Gathering											/	=	
(F) Materials											/	=	
(G) Comm. (Student, Class, Family)											/	=	
(H) Emotional/Social Support											/	=	
(I) Compound											/	=	
Total (Sum down)											/	=	

Participant	1	2	3	4	5	6	7	8	Date of I'view: DC: JS _____
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix G: Code Definitions

NUMBER OF INTERVENTIONS:

1. The final number of interventions is determined using the interview coding form. Each separate intervention should be written in a new intervention box. You should be able to hear on the tape the chip drop sound that separates one intervention from another. DO NOT number interventions as you go, but rather, enter interventions into each box and follow the procedures below before numbering.
2. After completing the transcription from tape to interview coding form, review non-interventions and duplicates.
 - Non-interventions: Occasionally, teachers will describe ideas about student behavior that are not actually interventions (e.g., “don’t know if this is due to frustration or attention – other students’ reactions may be encouraging his behavior”). Use the following definition to determine if the statement is actually an intervention:
 - *Interventions* are defined as “... a teacher’s modification of instruction or classroom management to better accommodate a difficult-to-teach pupil without disabilities” (Fuchs, Fuchs, & Bahr, 1990). Thus, **any actions a teacher describes that are offered with the intention of improving student behavior or performance may be considered interventions.**
 - Cross out any descriptions that do not fit this intervention definition.
 - Duplicates: If interventions are mentioned more than once for the same goal, **cross out the least specific version(s)** of that intervention. It is OK for the same intervention to be suggested once for Goal 1 and then again for Goal 2.
3. After coding interventions, the Total, Goal 1 and Goal 2 will go in the Summary of Responses Box at the end of the Coding Form.

Appendix G (continued)

SPECIFICITY OF INTERVENTIONS:

In the designated space below the intervention, **highlight in black** the specificity of the teachers' intervention description. Determine the specificity of intervention descriptions using the following code (adapted from Gresham, 1989):

Specificity Rating	Definition	Examples
Low specificity	<p>descriptions consist of nonspecific or vague recommendations</p> <ul style="list-style-type: none"> ▪ intervention could not be implemented based on current description alone 	<ul style="list-style-type: none"> ▪ "I could use one of those B-Mod things" ▪ "Use nonverbals" ▪ "I could give him more help in reading"
Moderate specificity	<p>description contains some, but not complete, detail</p> <ul style="list-style-type: none"> ▪ intervention could be implemented if some additional details were to be provided 	<ul style="list-style-type: none"> ▪ "Develop a signal between the student and the teacher, a reminder to raise hand that no one else knows." ▪ "He could earn chips if he stays in his seat for the whole lesson"
High specificity	<p>descriptions demonstrate a detailed plan for assisting the hypothetical student</p> <ul style="list-style-type: none"> ▪ intervention could be implemented on the basis of this description alone ▪ should not have questions about the who, what, when, where, why, how of the intervention 	<ul style="list-style-type: none"> ▪ "During the recess period every other day, John and a paraprofessional would sit in the Reading Corner of the classroom and John would read aloud for 20 minutes. The para could keep track of errors and words read correctly per minute, and she and John could chart his progress on a special graph." <ul style="list-style-type: none"> ○ <i>If participant refers to a predetermined consequence system in the classroom, each step needs to be explained fully to receive a rating of 3.</i>

HYPOTHESES

Within intervention descriptions, teachers may hypothesize about potential causes of behavior. These are neither counted nor coded, but should be underlined for later analysis. (E.g., "Might be feeling self-conscious, recognizing differences between his Bx and other students. Would work on building him up, achieve small successes.")

Appendix G (continued)

TYPE OF INTERVENTIONS:

In the designated space below each intervention description, **highlight in black** the code for the type of intervention described. If an intervention clearly includes more than one type of assistance delivered to the student simultaneously, record it as a “Compound intervention” (I). Determine the type of intervention described using the following code (adapted from Ysseldyke et al., 1989):

Intervention Type	Definition	Examples
(A) Instructional	A change in the <u>teacher's</u> approach to instructing the child	<ul style="list-style-type: none"> ▪ Individualized help with classroom work ▪ Restating directions (for academic work) ▪ Curriculum modifications
(B) Behavioral	Consequence-oriented approach to change identified behavior, using positive or negative reinforcement, removal from reinforcement, or application of punishment.	<ul style="list-style-type: none"> ▪ Differential reinforcement of alternative behaviors (target student or other students) ▪ Time-out (removal from reinforcement) or other removal from classroom. ▪ Positive reinforcement in the form of praise, stickers/tokens/points, etc.
(C) Classroom structure	Changes in the amount of the structure provided for student within the classroom context. Not limited to instructional tasks – may include changes to student's responsibilities/duties that impact level of structure, or changes to the classroom environment as a whole.	<ul style="list-style-type: none"> ▪ Move student's seat ▪ Peer tutor/buddy ▪ Assign student duties to allow appropriate out-of-seat opportunities ▪ Allow student to stand or move while working, but in an appropriate, predetermined way. ▪ (Student) work with aide <ul style="list-style-type: none"> ○ Use of an aide is considered <i>change in classroom structure</i> rather than <i>interdisciplinary support</i> because it does not involve assistance from professionals of other disciplines.
(D) Interdisciplinary support	Additional specialized assistance student receives directly from other school personnel.	<ul style="list-style-type: none"> ▪ Pre-taught vocabulary with the resource teacher, ▪ Counseling with the school counselor, ▪ Social skills training from school psychologist
(E) Information gathering	Teacher-requested or teacher-gathered additional information regarding the student.	<ul style="list-style-type: none"> ▪ Review the student's cumulative file ▪ Call parents to ask questions about behavior at home <ul style="list-style-type: none"> ○ A call home in this context is considered <i>information gathering</i> rather than <i>communication – parents</i> because its purpose is to get more information, not to make changes in student behavior. ▪ Refer to child study for additional evaluation ▪ Gather baseline data on problem behavior

Continued on next page...

Appendix G (continued)

<p>(F) Materials</p>	<p>Specifically identified materials used to supplement instruction or remediation, such that the materials themselves are the primary intervention tool.</p>	<ul style="list-style-type: none"> ▪ Audio-visual tapes ▪ Manipulatives
<p>(G) Communi- cation</p> <ul style="list-style-type: none"> ▪ Student ▪ Whole class ▪ Parent/ family 	<p>Conversations, comments, or nonverbal cues directed at the student, class, or parent that are intended to change student(s) behavior</p>	<ul style="list-style-type: none"> ▪ Tell student about the importance of not calling out, discuss how it disrupts others' thinking; Ask student why they are out of seat or asking them what is going on for them at home; Remind student of classroom rules; Allow student opportunities to write down comments to share with teacher (journal, etc.) <ul style="list-style-type: none"> ○ Student ▪ Alert the whole class to raise their hand <ul style="list-style-type: none"> ○ Whole class ▪ Conference with parents to come up with a plan to change behavior at school and at home <ul style="list-style-type: none"> ○ Parent/family
<p>(H) Emotional/ Social Support</p>	<p>Efforts on teacher's part to provide emotional support to the student, increase student's self-esteem or provide/enhance student friendships.</p>	<ul style="list-style-type: none"> ▪ Work on building him up, achieve small successes ▪ Talking one-on-one with the student for purposes of supporting concerns (not for information gathering or changing the behavior) <ul style="list-style-type: none"> ○ A student talking with a guidance counselor would be considered interdisciplinary support because the teacher is not implementing this intervention. ▪ Pair him up with someone who can serve as a mentor/buddy <ul style="list-style-type: none"> ○ A peer buddy in this context is considered emotional/social support rather than change in classroom structure because its purpose is increase student friendships, not provide academic/behavioral support in the classroom.
<p>(I) Compound Intervention</p>	<p>An intervention which consists of more than one code above. The intervention must be described in a way that it is clear that the multiple components are intended to be delivered simultaneously.</p>	<ul style="list-style-type: none"> ▪ Developing a behavioral contract (B – Behavioral), which is monitored by the guidance counselor (D – Interdisciplinary Support) and which is sent home to parents as a means of communication about his behavior (G - Communication – Family). <ul style="list-style-type: none"> ○ It is not necessary to note the other categories the intervention can be coded on, as done above. Simply code as Compound. ○ If two or more interventions are described but both came be coded the same (e.g., ignoring and differential reinforcement → both behavioral) DO NOT code as compound. Code as behavioral.

Appendix H: Completed Coding Form for Participant 4A3

GOAL 1: Stop talking out in class

# 1									
Well, John is going to need to know first of all his boundaries, making sure that those are clear and that he understands what the expectations are in the class. Once he understands that we're all in this together, and when you disrupt people you keep them from learning, and going through the whole process, more of a one-on-one, spending that extra minute with him... (Continues on)									
A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication		H Emotional/ Social Support	I Compound
						Student	Class	Family	
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

# 2									
...Giving him that pat on the back of praise when he's doing good, and just really going through with him when he's making poor choices, giving him immediate feedback as to his warning, you know whatever signal it is that you signal. In my class, I use a sticky, and when you get "stickied" they know to stop and think, what is happening, what am I doing that is a poor choice? So once he's warned on his sticky, you know, when I verbally tell him that's he's "stickied" he should try to reflect. (continues on)									
A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication		H Emotional/ Social Support	I Compound
						Student	Class	Family	
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

Participant	1	2	3	4	5	6	7	8	Date of I'view: 03.02.05 DC: JS
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix H (continued)

# 3									
And then at that point, if he doesn't, another intervention that I might try would be setting something up with him as far as consequence. Which would be if he chose to keep doing what he's doing, then he would have to go through the steps of what the consequences are for everybody in the class. (continues on)									
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'ls	G Communication Student Class Family			H Emotional/ Social Support
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

# 4									
It sounds like he is going to be an everyday disruption, so every child is different and what works for one child doesn't work for all of them. But usually when the connection is made, they respond to you, because they know you care about them and the other kids in the class, and they are going to want to do good for you. So I really personally think that relationship is the most important thing and the expectations for what you expect of him. So as long as he knows your expectations and he knows you care about him, then you are probably going to get a positive response where he wants to do good for you. (continues on)									
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'ls	G Communication Student Class Family			H Emotional/ Social Support
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

Participant	1	2	3	4	5	6	7	8	Date of Interview:
School	P	A	B	C	D	E	F		03.02.05
Grade	2	3							DC: JS

Appendix H (continued)

5

If there's not a response like that, it could be where you look out for something else happening, as far as home, things that are going on at home, which is another connection for you to work with his parents and see if they are seeing the same things going on at home. But really, take care of it right off the bat. (CHIP)

A	B	C	D	E	F	G			H	I
Instruct.	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'l's	Communication			Emotional/Social Support	Compound
						Student	Class	Family		
1 Low Specificity				2 Moderate Specificity			3 High Specificity			

DC: Is there anything else you can think of to help John achieve the first goal?

6

We could go through things that he enjoys doing in the classroom, ways that you could reward him, whether it be 15 minutes or on the computer, whatever, something extra that makes him want to work quietly so he can earn something that is important to him and a little bit of something to celebrate his success (CHIP)

A	B	C	D	E	F	G			H	I
Instruct.	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'l's	Communication			Emotional/Social Support	Compound
						Student	Class	Family		
1 Low Specificity				2 Moderate Specificity			3 High Specificity			

DC: (after a pause) If you have other ideas, just keep going. At the end, when you're done, I'll keep prompting you, but for now, if you have other things, just keep going.

4A3: *Yeah, well, not really. You know, for the most part, that works really well. In all the years, for me, it works well... you know you might have one child that might be a severe disruption, but for the most part, as long as you are consistent, and they know exactly, immediately what their next consequence is going to be, then they can control themselves. And if they are having a hard time controlling themselves, then you know that's something you sit down and go through with the parents as far as what you're faced with and kind-of brainstorm together, what can we do to fix this, because things aren't working out for him and he's going to end up academically slipping. And that really throws the red flag up to the parents, but usually once the parents get involved things start to get better.*

DC: Again, so I just have to clarify, is there anything else that you can think of to help John achieve the first goal?

4A3: No.

Participant	1	2	3	4	5	6	7	8	Date of l'view: 03.02.05 DC: JS
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix H (continued)

GOAL 2: Stay in seat

# 1										
I think that it goes right along with the other, stop talking out in class. When he knows that the class is set up in a situation where he's going to have to be in his seat at times, and the whole class knows that they can't get up and come to you because the expectation is that if they need you then they can raise their hands and they can come to you. And again, when they're not following procedure, whatever signal it is, whether its five fingers up, one finger up, whatever it is when you know that your student needs you and you need to come to them. I don't let them come to me. (continues on)										
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'ls	G Communication <small>Student Class Family</small>			H Emotional/ Social Support	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity				

# 2										
If he's having a hard time out of his seat, you know, disturbing other people, then that's going to be an immediate consequence of being "stickied" and when that continues, his consequence would be our classroom procedure for when they are breaking the rules ... (continues on)										
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'ls	G Communication <small>Student Class Family</small>			H Emotional/ Social Support	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity				

# 3										
... and just really having a little bit of lee-way for him. Depending on, if he's standing up at his chair, I can deal with that, unless we're having a test or something but you gotta have patience and understand that every child is different. Some kids have a hard time. (continues on)										
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'ls	G Communication <small>Student Class Family</small>			H Emotional/ Social Support	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity				

Participant	1	2	3	4	5	6	7	8	Date of l'view:
School	P	A	B	C	D	E	F		03.02.05
Grade	2	3							DC: JS

Appendix H (continued)

# 4										
But if he's just flat-out being defiant then he's going to have the consequence and go through what we talked about for the first goal of calling out, which is working for positive things, praise, and when he does good then at the end of the week he gets 30 minutes of free time. (continues on)										
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication			H Emotional/Social Support	I Compound
			2 Moderate Specificity			Student	Class	Family	3 High Specificity	
	1 Low Specificity									

# 5										
Again, interaction with the parents to see what you can do to help him understand that home and classroom is very clear and connected. (CHIP)										
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication			H Emotional/Social Support	I Compound
			2 Moderate Specificity			Student	Class	Family	3 High Specificity	
1 Low Specificity										

DC: Anything else you can think of for helping John stay in the seat?

4A3: No... pretty much like I previously stated, a parent conference. Definitely a parent conference so they know what's going on and hopefully with that connection that he can get himself focused and back on track.

DC: Ok, well, thanks...

4A3: OK, no wait, let me tell you this, I want to say this.

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		03.02.05
Grade	2	3							DC: JS

Appendix H (continued)

# 6								
For severe disruptions, they would eventually go through the Child Study Team for ideas and you'll go through that process, because when it's severe disruptions, you've gotta look at alternative possibilities for the classroom. <u>He might need a behavior packet to see if he's got some emotional things going on.</u> That's always a possibility too.								
A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication Student Class Family	H Emotional/ Social Support	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity		

DC: OK, anything else?

4A3: No.

Participant	1	2	3	4	5	6	7	8	Date of I'view: 03.02.05 DC: JS
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix H (continued)

SUMMARY OF RESPONSES	
Total number of interventions offered:	12
Goal 1:	6
Goal 2:	6

Were any hypotheses offered?	Yes	No	If so, how many?	1
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	1	2	3	4	5	6	7	8	9	10	Sum of Spec. Ratings (Sum across row)	Total Freq. for this Type		Mean Spec. Rating
(A) Instruct.											/		=	
(B) Behavioral	2	1	1	1	2						7	/ 5	=	1.4
(C) Classroom structure	1										1	/ 1	=	1
(D) Interdiscip. Support											/		=	
(E) Information Gathering	1										1	/ 1	=	1
(F) Materials											/		=	
(G) Comm. (Student, Class, Family)	1	1	1								3	/ 3	=	1
(H) Emotional/Social Support	1										1	/ 1	=	1
(I) Compound	2										2	/ 1	=	2
Total (Sum down)											15	/ 12	=	1.3

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		03.02.05
Grade	2	3							DC: JS

Appendix I: Completed Coding Form for Participant 3B3

GOAL 1: Stop talking out in class

1

I would give John a limit of questions. For example, I would give him 20 sticks, and each time he would like to ask a question, and any time he would like to ask a question about a subject, being math, reading, writing, he would have to hand me a stick. It is up to him to decide... he could use them all then, and if he doesn't have them at the time to ask another question, then he doesn't get to ask another question. The sticks are his limit to ask a question, and if he doesn't have one, then he's not allowed to do that. (CHIP)

A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication		H Emotional/Social Support	I Compound
						Student	Class	Family	
	1 Low Specificity				2 Moderate Specificity			3 High Specificity	

2

Basically, after reading this, he seems very bored and he's just doing this to get attention, so I would try to pair him with another student that may be... not popular, but... I'm just thinking of my own kids, I have my kids in different groups. I'm trying to think of a personality that's not as strong as his, he seems to have a very strong personality so I would pair him with another personality that's maybe not as strong and help work together. I actually did that with one of my own students, and that's actually working because they work together in pairs. And he seems to be getting the attention he needs that I can't give at the time, you know, the peer will give him the attention he needs and I will withdraw and let the peer give him the attention he needs to work on the specific task. (CHIP)

A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication		H Emotional/Social Support	I Compound
						Student	Class	Family	
	1 Low Specificity				2 Moderate Specificity			3 High Specificity	

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		02.16.05
Grade	2	3							DC: JS <u> </u> JH <u> </u>

Appendix I (continued)

GOAL 2: Stay in seat

# 1								
<p>Again, going along with this, I still feel he's bored. So not necessarily to give him more work, but along the same lines of giving him his work in chunks, such as his math, reading, and writing. Give it to him in a portion, so that he raises his hand, tells me he's done, so he can look forward to me giving him more work so that he will say, "I'm done with this point," and I will go over, check his work, give praise, and then I say, "OK, here's the next portion. Do this and when you're done, raise your hand, wait for me to come, don't come to me" just constantly reinforcing that I will come to him. (CHIP)</p>								
A	B	C	D	E	F	G	H	I
Instruct	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'l's	Communication	Emotional/Social Support	Compound
						Student Class Family		
	1 Low Specificity			2 Moderate Specificity			3 High Specificity	

Participant	1	2	3	4	5	6	7	8	Date of I'view: 02.16.05 DC: JS <u> </u> JH <u> </u>
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix I (continued)

SUMMARY OF RESPONSES	
Total number of interventions offered:	3
Goal 1:	2
Goal 2:	1

Were any hypotheses offered?	Yes	No	If so, how many?	2
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	1	2	3	4	5	6	7	8	9	10	Sum of Spec. Ratings (Sum across row)	Total Freq. for this Type		Mean Spec. Rating
(A) Instruct.	3										3	/ 1	=	3
(B) Behavioral												/	=	
(C) Classroom structure	3	3									6	/ 2	=	3
(D) Interdiscip. Support												/	=	
(E) Information Gathering												/	=	
(F) Materials												/	=	
(G) Comm. (Student, Class, Family)												/	=	
(H) Emotional/Social Support												/	=	
(I) Compound												/	=	
Total (Sum down)											9	/ 3	=	3

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		02.16.05
Grade	2	3							DC: JS <u> </u> JH <u> </u>

Appendix J: Completed Coding Form for Participant 3D2

GOAL 1: Stop talking out in class

# 1										
<p>It seems like John has a lot of attention-seeking behavior and so it seems to me it seems to me that he needs a lot of positive reinforcement and positive attention. I would probably start with some kind of chart on his desk just for him that when he was doing a good job and not talking out in class and he raised his hand, I could come give him a sticker on his chart... some kind of positive reinforcement, so that he is getting the attention he needed in a positive attention in a positive way instead of a negative way. (CHIP)</p>										
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'ls	G Communication Student Class Family			H Emotional/ Social Support	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity				

# 2										
<p>If the positive reinforcement doesn't work then we might have to move to some negative consequences, like taking away privileges, such as having a ticket or a card pulled every time he talked out in class, and if he gets a ticket pulled so many times, then he loses some kind of privilege like P.E. or fun centers, or something like that. (CHIP)</p>										
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'ls	G Communication Student Class Family			H Emotional/ Social Support	I Compound
1 Low Specificity		2 Moderate Specificity				3 High Specificity				

Participant	1	2	3	4	5	6	7	8	Date of I'view: 02.16.05 DC: JS DD
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix J (continued)

# 3									
The next step, what I would probably do is bring him some kind of outside help, like call a parent or ask the guidance counselor to come talk to him, or the principal or something, so he would be able to continue with his progress for not talking out in class. (CHIP)									
A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication		H Emotional/ Social Support	I Compound
						Student	Class	Family	
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

Participant	1	2	3	4	5	6	7	8	Date of I'view: 02.16.05 DC: JS DD
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix J (continued)

GOAL 2: Stay in seat

1

The same as what I would do for the first one, I would have some kind of behavior modification chart on his desk, just for him, and if he could stay in his seat for a given amount of time, we would start off small like 10 or 15 minutes, and if he could stay in his seat in that 15 minutes then I could come over and give him a sticker. And if he earns so many stickers then he gets to go to the treasure box or some other kind of positive reinforcement. So I would start small, with small time increments, and then when he got used to that, I would up that to half an hour of staying in his seat, or 45 minutes and so on, until hopefully he could stay in his seat all the time. (CHIP)

A	B	C	D	E	F	G			H	I
Instruct	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Communication			Emotional/Social Support	Compound
	1					Student	Class	Family		
	1				2				3	
	Low Specificity				Moderate Specificity				High Specificity	

2

Just like I said with the first goal, if that didn't work, we would probably have to move to something negative like taking away a privilege of some sort: teacher P.E., fun centers, something like that. (CHIP)

A	B	C	D	E	F	G			H	I
Instruct	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Communication			Emotional/Social Support	Compound
	1					Student	Class	Family		
	1				2				3	
	Low Specificity				Moderate Specificity				High Specificity	

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		02.16.05
Grade	2	3							DC: JS <u>DD</u>

Appendix J (continued)

# 3										
And just like with the first one, if both of those didn't work, I would probably send a letter home to the parent or talk to the guidance counselor. (CHIP)										
A	B	C	D	E	F	G			H	I Compound
Instruct.	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Communication	Student	Class	Family	
1 Low Specificity				2 Moderate Specificity			3 High Specificity			

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		02.16.05
Grade	2	3							DC: JS <u>DD</u>

Appendix J (continued)

SUMMARY OF RESPONSES	
Total number of interventions offered:	6
Goal 1:	3
Goal 2:	3

Were any hypotheses offered?	Yes	No	If so, how many?	1
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	1	2	3	4	5	6	7	8	9	10	Sum of Spec. Ratings (Sum across row)	Total Freq. for this Type		Mean Spec. Rating
(A) Instruct.												/	=	
(B) Behavioral	2	2	3	1							8	/ 4	=	2
(C) Classroom structure												/	=	
(D) Interdiscip. Support												/	=	
(E) Information Gathering												/	=	
(F) Materials												/	=	
(G) Comm. (Student, Class, Family)												/	=	
(H) Emotional/Social Support												/	=	
(I) Compound	1	1									2	/ 2	=	1
Total (Sum down)											10	/ 6	=	1.67

Participant	1	2	3	4	5	6	7	8	Date of I'view: 02.16.05 DC: JS DD
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix K: Completed Coding Form for Participant 2E2

GOAL 1: Stop talking out in class

1

I would definitely explain to the class what the class rule is that we cannot talk out for disruptive reasons and I would provide nonexamples and examples of how we should respond with raising our hand. (CHIP)

A	B	C	D	E	F	G	H	I
Instruct.	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Communication	Emotional/Social Support	Compound
						Student Class Family		
1 Low Specificity			2 Moderate Specificity				3 High Specificity	

2

If the problem still continues, I would praise him every time he does not talk out in class. I would also give him a physical token that he can see: a sticker, points on a chart, something like that. (CHIP)

A	B	C	D	E	F	G	H	I
Instruct.	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Communication	Emotional/Social Support	Compound
						Student Class Family		
1 Low Specificity			2 Moderate Specificity				3 High Specificity	

3

I would also put him on an hourly contract, with the goal being just for talking out, to not talk out. And the hourly contract, out of 6 hours a day would first start out with him only needing to achieve 4 out of 6 to have success and then as he improves, 5 out of 6, and then 6 out of 6. So an hourly goal chart. (CHIP)

A	B	C	D	E	F	G	H	I
Instruct.	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Communication	Emotional/Social Support	Compound
						Student Class Family		
1 Low Specificity			2 Moderate Specificity				3 High Specificity	

Participant	1	2	3	4	5	6	7	8	Date of I'view: 02.23.05 DC: JS IR
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix K (continued)

# 7									
I always have cooperative learning groups in my classroom, where students work in teams and if he shows that he does not talk out in class, his team could receive bubbles on a surprise chart and he could work toward earning that surprise. (CHIP)									
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'ls	G Communication		H Emotional/ Social Support	I Compound
						Student	Class	Family	
	1 Low Specificity			2 Moderate Specificity					3 High Specificity

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		02.23.05
Grade	2	3							DC: JS IR

Appendix K (continued)

GOAL 2: Stay in seat

# 1										
Sometimes students physically cannot stay still all the time; I would not expect him to do that at all times. If he is doing independent work, I would allow him to stand up as he does his work, as long as he is on-task. So that would be one accommodation I would make for him—as long as his is at his spot, then he will be allowed to stand to complete his work. (CHIP)										
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication <small>Student Class Family</small>			H Emotional/ Social Support	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity				

# 2										
Another thing I would do is add another goal to the contract of talking out, you can have two goals, but I would never have more than two goals. And stay in his seat would be the other goal that I monitor on an hourly basis. Starting with a goal of 4 out of 6, then working up to a goal of 6 out of 6.										
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication <small>Student Class Family</small>			H Emotional/ Social Support	I Compound
1 Low Specificity		2 Moderate Specificity			3 High Specificity					

Participant	1	2	3	4	5	6	7	8	Date of I'view: 02.23.05 DC: JS <u> R </u>
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix K (continued)

# 3									
Praise... I could have a buddy teacher that would regularly check on his progress, and when he can show that he has spent from morning until lunch in his seat or working hard to stay in his seat before lunch time, at midday he could go see that buddy teacher and show his contract. Some sort of time where he is physically leaving the room, that gives him a small little break to get out of his seat because sometimes students who have this problem need that movement. So by doing that with a buddy teacher, it's not always me that's giving that consequence, he's got someone else he can show that he is making that progress. (CHIP)									
A	B	C	D	E	F	G		H	I
Instruct	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'l's	Communication		Emotional/Social Support	Compound
						Student	Class	Family	
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

# 4									
Teacher proximity... circulating around the class, as much as possible. If I see that he may be wanting to get up or get down to the floor, or whatever he's doing, patting his shoulder just to let him know "I'm here if you need something, you don't need to get up out of your seat." So teacher proximity of always moving around to show him that he doesn't have to get up to come to me, I can go to him. (CHIP)									
A	B	C	D	E	F	G		H	I
Instruct	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'l's	Communication		Emotional/Social Support	Compound
						Student	Class	Family	
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

# 5									
Also, positive role models, those buddies who sit next to him and show the good examples of staying in your seat. A lot of it has to do with who they are sitting next to, someone that can get along with them and encourage them to do well. (CHIP)									
A	B	C	D	E	F	G		H	I
Instruct	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'l's	Communication		Emotional/Social Support	Compound
						Student	Class	Family	
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

Participant	1	2	3	4	5	6	7	8	Date of I'view: 02.23.05 DC: JS <u>IR</u>
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix K (continued)

# 6									
Again, communication with the parents, letting them know what we're working toward so that when he gets that communication going home daily, they can reward him at home too or they talk to him, you know "What is going on here, why are you constantly out of seat?" (CHIP)									
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l s	G Communication			H Emotional/ Social Support
						Student	Class	Family	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

# 7									
Looking at why he's getting out of his seat... is it that he doesn't understand the work? I could definitely cut his workload down to see... Tell him, "I want you to do these 5 problems, give me a thumbs-up when you're ready, I'll circulate back to your desk and check on you." Giving him shorter assignments and a silent signal to let me know to come to him. (CHIP)									
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l s	G Communication			H Emotional/ Social Support
						Student	Class	Family	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

# 8									
I also do silent signals for water, bathroom, sharpening pencil. This way they know the code, and they don't have to get up or call out or be walking around the room. So silent signals for routine procedures in the classroom. (CHIP)									
A Instruct.	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l s	G Communication			H Emotional/ Social Support
						Student	Class	Family	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		02.23.05
Grade	2	3							DC: JS <u>IR</u>

Appendix K (continued)

# 9								
Another thing I could do is provide the child with a tally chart taped to his desk in the corner, and every time that I circulate to his seat and he is in his seat, I put a tally mark and every time they reach 5 tally marks to reward the behavior, they could get a sticker, they could get a piece of candy. (CHIP)								
A	B	C	D	E	F	G	H	I
Instruct.	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Communication	Emotional/ Social Support	Compound
						Student Class Family		
	1 Low Specificity			2 Moderate Specificity			3 High Specificity	

# 10								
We do "I Spy's" where we can reward a student for staying in their seat, or a certain goal they're working towards, or they could go on the morning show to show an accomplishment or good thing they've done, and that could be added as part of their reward. (CHIP)								
A	B	C	D	E	F	G	H	I
Instruct.	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Communication	Emotional/ Social Support	Compound
						Student Class Family		
	1 Low Specificity			2 Moderate Specificity			3 High Specificity	

# 11								
I also would sit him in a low-traffic area in the classroom. Really think about where that child should be sitting, where there's not so many distractions. Definitely a low-traffic area. (CHIP)								
A	B	C	D	E	F	G	H	I
Instruct.	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Communication	Emotional/ Social Support	Compound
						Student Class Family		
	1 Low Specificity		2 Moderate Specificity				3 High Specificity	

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		02.23.05
Grade	2	3							DC: JS IR

Appendix K (continued)

SUMMARY OF RESPONSES	
Total number of interventions offered:	18
Goal 1:	7
Goal 2:	11

Were any hypotheses offered?	Yes	No	If so, how many?	1
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	1	2	3	4	5	6	7	8	9	10	Sum of Spec. Ratings (Sum across row)	Total Freq. for this Type	Mean Spec. Rating
(A) Instruct.	3										3 /	1 =	3
(B) Behavioral	2	2	2	3	1						10 /	5 =	2
(C) Classroom structure	2	3	2	3	1	2					13 /	6 =	2.2
(D) Interdiscip. Support	3										3 /	1 =	3
(E) Information Gathering											/	=	
(F) Materials											/	=	
(G) Comm. (Student, Class, Family)	2	1									3 /	2 =	1.5
(H) Emotional/Social Support											/	=	
(I) Compound	2	2	2								6 /	3 =	2
Total (Sum down)											38 /	18 =	2.1

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		
Grade	2	3							DC: JS _____

Appendix L: Completed Coding Form for Participant 4F3

GOAL 1: Stop talking out in class

# 1										
<p>The first thing that I would definitely do is get in touch with the parents and let them know that it's become an increasingly more difficult problem, and tell them that I think that, especially since he already is slightly below grade level, I'm afraid that it would continue to inhibit his learning. So to just make them aware that I am going to try some interventions and also ask them do they have any suggestions, because maybe it's something they've seen at home, or maybe they could tell me more about why this has happened, why all the sudden the change, and let them know what I plan on doing, and more specifically tell them "these are the things I'm going to do" and ask them to ask him regularly so he's accountable to me and to them for how he's progressing. I'll either write a note in his agenda that goes home everyday to tell the parents, "today was a good day, this is what happened" or "this is what we're still working on. (CHIP)</p>										
A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication Student Class Family			H Emotional/ Social Support	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity				

# 2										
<p>Then I would really focus on reminding him, by positive reinforcement of the other students, the appropriate way to respond in class. If calling out is now a problem for him and it wasn't as much before, he clearly just needs to be reminded of what the rules are. So if he does call out, I would not respond to his answers, I would remind him, "This is the proper procedure, we need to wait and raise our hand and wait to be called on" and then I would praise the other students who did just by saying "Thank you, I like the way you raised your hand and waited for me to call on you," so that he's reminded of that and also sees that you get good positive attention when you do that. Hopefully that will be a nice reminder and a gentle way to reinforce that behavior for him and for everyone else too. (CHIP)</p>										
A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication Student Class Family			H Emotional/ Social Support	I Compound
1 Low Specificity			2 Moderate Specificity			3 High Specificity				

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		02.17.05
Grade	2	3							DC: JS

Appendix L (continued)

# 3									
<p>I would have to make sure that he has the same rules and consequences as the other students do. Even though I might implement some other interventions for him, he is still going to have to realize that within our behavior system, if you are warned, if it's so severe, if it's too the point that it's disruptive and the other kids aren't even getting a chance to answer because he's calling out so much, then I would have to say, "OK, this is your warning, after that you're going have to follow the normal discipline procedure," which in my class would be first a hole punch on your behavior card, and then if you get up to 5, he loses free time, things like that. So I would have to do that, even though I might be doing some additional things to help slow down the process of getting to that, that would be mandatory for him to realize that we are going to work on this together but I can't treat you differently than any of the other students, because if they broke the rule, this is what I would do so you have to have the same consequences. (CHIP)</p>									
A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication Student Class Family		H Emotional/ Social Support	I Compound
1 Low Specificity					2 Moderate Specificity		3 High Specificity		

# 4									
<p>I would also encourage him that maybe if he was wanting to answer so badly, especially for questions that are not right and wrong, if he just has an idea that he wants to share and get out there, I'm not always going to be able to get to him. He's one out of 22, and I'm not always going to be able to hear his ideas, and if he feels that they are really extremely important, I will give him a piece of paper and make sure that he always has paper and he write those down for whatever question it is. Even if it's just to go "OK, that was my idea" and he can know that he can share with me later so he still feels like 'I can tell her, she'll know that I was on the right track,' and I can reinforce that. And then I'm giving him a little more one on one time later, even if it's on the way to lunch we can look over that sheet and he can say "this is what I was trying to say, this was my point," and I can let him know "OK, that's right, where can we go" and we can just have our own mini-conference, even on a daily basis if we needed to just to help him feel like he can still be heard, I can still know what he was thinking, but in the proper setting and with the proper classroom discipline still in place. (CHIP)</p>									
A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication Student Class Family		H Emotional/ Social Support	I Compound
1 Low Specificity					2 Moderate Specificity		3 High Specificity		

Participant	1	2	3	4	5	6	7	8	Date of I'view: 02.17.05 DC: JS
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix L (continued)

# 5								
<p>I would also want to keep some kind of tracking system for him. If it's such a big problem that it's interrupting instruction, then they have all kinds of charts or grids that I could put on his desk and we would just stick to the goal of not calling out in class. I would write it on the top of the chart, Monday through Friday, and I would definitely do it hourly, you know, check his progress and give him a smiley face if he did well that hour or a sad face if he didn't, and then develop some kind of reward system with him. Either "if you do well for a day, you will get..." something that he enjoys, whether it's computer time, or library time, or helping another teacher... or, just a good note home to his parents. Or if you get three this week, you know, start with something small that he feels like he can accomplish, because if he doesn't feel like it's possible it's not going to work and he's not going to do it. So start with small goals, maybe the first week say, one happy face a day, or a week, or wherever we need to start with him to let him see... and then I would keep those, to show to his parents and for my own records so we could look at his progress. It would serve well as anecdotal notes for me on how he's been doing, and has it been working, has it been worth it, and have him tell me, "what would you like to have as a reward if you get this? Would you like a popsicle or a homework pass" or something like that... that would help him feel like "OK, I want to do this." And I think if he sees that chart it's going to be an excellent visual reminder, and I wouldn't even have to take time away from other students to say anything, I could just point to that chart and he would know "don't forget" especially if it's right there on the desk. (CHIP)</p>								
A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'ls	G Communication		I Compound
						Student	Class	Family
							Emotional/ Social Support	
1 Low Specificity			2 Moderate Specificity			3 High Specificity		

Participant	1	2	3	4	5	6	7	8	Date of Interview: 02.17.05 DC: JS
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix L (continued)

# 6								
<p>I pull smaller groups for reading and things like that, and I think that it would be very helpful for him to be in a smaller group like that where he is going to have more of a chance to talk, and so tapping into and reinforcing that behavior in that small group would be an excellent way for him to feel like “you did it, I’m proud of you, you didn’t call out in the reading group just for like 20 minutes, you took your turn when you were supposed to,” because usually when we do reading groups they can talk whenever they want, but it would be good for him if we could say “alright, just for that particular reading group, if you have a comment, just knock on the table” and if that’s what works for him, he could do that in class. If that’s what works for him, I’d be fine with him carrying that over, so giving him a setting where he does feel like he can accomplish that. Because maybe it is more difficult in the larger group setting, he might feel like he is getting lost. So I would definitely make sure that when we are working in smaller groups that he is achieving that goal then too, and then taking that to determine where to go from there. (CHIP)</p>								
A	B	C	D	E	F	G		I
Instruct	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat’ls	Communication		Compound
						Student	Class	Family
							Emotional/ Social Support	
1 Low Specificity			2 Moderate Specificity			3 High Specificity		

Participant	1	2	3	4	5	6	7	8	Date of I’view:
School	P	A	B	C	D	E	F		02.17.05
Grade	2	3							DC: JS

Appendix L (continued)

GOAL 2: Stay in his seat

# 1								
<p>Similar to what I would do for the other situation, I would definitely contact the parents and let them know that this is an increasingly difficult problem that we're facing. And with something like staying in his seat, some students need to not always be like everyone else. I would ask the parents if maybe do they have a hard time at home staying in their seat at the dinner table, are they able to just sit and watch TV or carry on a conversation without being up. And really, based on what the parents say is going to have a lot to do with what I decide to do. If the mom says, "I just can't even get him to stay in his seat while we are having dinner," then I would think "OK, maybe he needs something different." Or if they say, "Yes, he's fine at home, I don't understand why it's a problem at school," then I would know which way to go from there. Because I would not have a problem if he just needs to stand, he can stand, that's fine with me. Or if maybe he just needs a different place, to sit to feel comfortable, that's fine, I'm willing to work on that. But we need to know if it's even possible first, so that would be the first thing I would do with the parents. (CHIP)</p>								
A	B	C	D	E	F	G		H
Instruct	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Communication	Emotional/Social Support	Compound
						Student	Class	Family
	1 Low Specificity				2 Moderate Specificity			3 High Specificity

Participant	1	2	3	4	5	6	7	8	Date of I'view: 02.17.05 DC: JS
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix L (continued)

# 2								
<p>Then, also similar to the other one, I would have an incentive chart for him. Something like staying in your seat, he is clearly going to know whether or not he's doing it. If we decide that he can stay in his seat and that is what he needs to do, then I would once again put some chart on his desk. And this would probably be something that I might even have him take responsibility for—"Any time that you are out of your seat, I am just going to put my finger on that chart and you need to mark or tally the number of times that you are out of your seat." And then I would talk with him and say, "OK, what's the reason? Is it just because you're bored, or do you want to want to get up and talk to other people? Why are you doing this, no one else is doing this and it can't be any different for you, unless you can give me a good reason why it should be." And I think that probably the first day of doing that would make him realize, "oh, I am out of my seat 20 times, that's a little excessive!" And once again, let him know that I am going to send that home, and just daily track this to see is it getting better, what can we do, and offer those little incentives along the way—"If you can just stay in your seat while we are doing this reading group, then you can stand up for 10 minutes of math" or whatever. And quite possibly a good incentive that would work for that would be maybe helping him going around, finding something that he can do, that he can achieve only if he can meet his goal of only if he can meet his goal of not getting out of his chair or staying in his seat or only getting out of his seat only 3 times a day. Start with the small goals and let him work up to that, and give him those rewards for that. Because maybe he just needs movement, so just say "OK, if you can just stay in your seat during the reading lesson, then you can pass out the papers for the math lesson." And continue to give him that, and or you can go and stand next to a possible peer tutor that he might need, to give him something that he can accomplish, and a way to do it, and make it increasingly more difficult so that he can finally get that behavior down and under control. (CHIP)</p>								
A	B	C	D	E	F	G		H
Instruct	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Mat'ls	Student	Class	Family
								Emotional/Social Support
	1			2				3
	Low Specificity			Moderate Specificity				High Specificity
								Compound

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		02.17.05
Grade	2	3							DC: JS

Appendix L (continued)

# 3									
<p>Definitely having him look at the class around him and although it's difficult to positively reinforce the other kids for that (like "Thank you for staying in your seat!" because that really is going to single him out), but maybe if he was working in a smaller group setting, he would see "No one else around me is up out of their seat," and just start to point that out to him about other children, just as a way to remind him of the rules. Not yelling from across the room, "John, sit down!" but just going over to him and saying, "Just look at your classmates around you; everyone else is seated and it should be the same for you, that's our deal, that's how it works." So just reminding him "That's what the rules are, those are the expectations, and I don't have a reason to make them any different for you, so I'm not going to. You're going to have to stay in your seat or we're going to have to continue with the discipline procedures. (CHIP)</p>									
A Instruct	B Behavioral	C Classroom Structure	D Interdisc. Support	E Info. Gathering	F Mat'l's	G Communication		H Emotional/ Social Support	I Compound
						Student	Class	Family	
1 Low Specificity			2 Moderate Specificity			3 High Specificity			

Participant	1	2	3	4	5	6	7	8	Date of I'view: 02.17.05 DC: JS
School	P	A	B	C	D	E	F		
Grade	2	3							

Appendix L (continued)

SUMMARY OF RESPONSES	
Total number of interventions offered:	9
Goal 1:	6
Goal 2:	3

Were any hypotheses offered?	Yes	No	If so, how many?	n/a

	1	2	3	4	5	6	7	8	9	10	Sum of Spec. Ratings (Sum across row)	Total Freq. for this Type		Mean Spec. Rating
(A) Instruct.											/		=	
(B) Behavioral	3	3									6	/ 2	=	3
(C) Classroom structure	3										3	/ 1	=	3
(D) Interdiscip. Support											/		=	
(E) Information Gathering											/		=	
(F) Materials											/		=	
(G) Comm. (Student, Class, Family)	3	3	3								9	/ 3	=	3
(H) Emotional/Social Support											/		=	
(I) Compound	3	3	3								9	/ 3	=	3
Total (Sum down)											27	/ 9	=	3

Participant	1	2	3	4	5	6	7	8	Date of I'view:
School	P	A	B	C	D	E	F		02.17.05
Grade	2	3							DC: JS

Appendix M: Correlations Among Specificity Ratings

	Behavioral Intervention Specificity	C'm Structure Intervention Specificity	Communication Intervention Specificity	Compound Intervention Specificity
<i>Behavioral Intervention Specificity</i>	1.00			
<i>C'm Structure Intervention Specificity</i>	.314	1.00		
<i>Communication Intervention Specificity</i>	.477	.574	1.00	
<i>Compound Intervention Specificity</i>	.356	.430	.703	1.00

Appendix N: Point-Biserial Correlations (r_{pb}) Between
Selected Teacher Characteristics and Intervention Types Suggested

<i>Teacher Characteristics</i>	Intervention Types Suggested								
	Instructional	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Materials	Communication	Emotional/Social Support	Compound
<i>Years of Teaching Experience (N=29)</i>	-.190	.169	.181	.305	-.012	-.247	.147	.052	.488
<i>Frequency of Participating in IA Teams (N=22)</i>	.040	.143	-.029	.434	.167	.396	.064	.056	.164
<i>Referral-to-Eligibility Rate (N=24)</i>	.163	-.295	.057	.006	-.019	.028	-.517	-.059	.105
<i>Composite Training Experiences Score (N=29)</i>	.005	.074	.346	.009	.176	.263	.162	.162	.217
<i>Composite IA Practices of School Score (N=25)</i>	.191	.020	.064	.119	.117	-.194	-.152	.170	.050

N values for each correlation are reported due to the irregularities in responses to questions about IA teams.

Appendix O: Phi Coefficients (r_{ϕ}) Between Intervention Types

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	Instructional	Behavioral	Classroom Structure	Interdisc. Support	Info. Gathering	Materials	Communication	Emotional/Social Support	Compound
<i>Instructional</i>	1.000								
<i>Behavioral</i>	-.136	1.000							
<i>Classroom Structure</i>	.125	-.139	1.000						
<i>Interdisciplinary Support</i>	.139	.074	.139	1.000					
<i>Information Gathering</i>	.086	-.112	-.025	-.183	1.000				
<i>Materials</i>	-.125	.139	.261	-.139	-.159	1.000			
<i>Communication</i>	.036	.136	-.125	-.136	.247	.125	1.000		
<i>Emotional/Social Support</i>	.256	.139	.051	.197	.025	.159	.125	1.000	
<i>Compound</i>	-.313	.068	-.224	.213	.214	.048	.154	.048	1.000