The Development and Validation of a Teacher Efficacy for Inclusion Scale

by

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Abstract

TEACHER EFFICACY FOR INCLUSION

by

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Since the 1970's there has been a movement in the United States aimed at increasing the integration of students with disabilities among non-disabled peers in general education classes. The practice of inclusion—full integration of students regardless of the severity of disability—is not uniformly accepted. While many agree with the ideals and intent behind the practice, there is an almost unanimous belief among teachers that they are not sufficiently prepared to instruct and manage students in inclusion classes. There is research indicating that inclusion classes require additional instructional and managerial competencies of teachers' as well as their efficacy beliefs about those competencies. Despite the success of general teacher efficacy measures in assessing important areas of teacher functioning in regular classrooms, their role in inclusion classes have been left unaddressed to date.

In the current study, I developed a new teacher efficacy scale—Teacher Efficacy for Inclusion (TEI). The items that comprised this scale were evaluated and modified initially for their *face validity* by an expert panel of inclusion teachers. The resulting teacher efficacy scale displayed a high level of alpha reliability (.94). Items that showed lower correlations with other items were deleted from the scale. In terms of the factorial structure of the TEI, an exploratory principal components analysis revealed the unitary factor structure of the instrument.

The *construct validity* of the scale was demonstrated by its high correlation (r = .83) with a general measure of teacher efficacy. In terms of the *concurrent validity* of the TEI, there was significant evidence indicating that this scale predicted the On-Task Behavior of students with educational disabilities. The TEI also predicted teachers' requests for Emergency Support. These two effects of teacher efficacy for inclusion were demonstrated using regression analyses that controlled for the following background variables: Teacher Experience, gender, class size, and level of Push-In Support. These results suggest that the TEI has the potential for reliably and validly measuring teacher's feelings of competence in inclusion classes, and being used to provide teachers with feedback to improve the quality of their instructional practices.

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Chapter One

Introduction

Throughout schools across the United States, there is a movement to educate students with disabilities in general education settings. Inequities in the quality of instruction, emphasis on standards-based instruction, and social injustice have been cited as some of the reasons for supporting inclusive practices (e.g., Achilles, McLaughlin, & Croninger,2007; Jackson & Neel, 2006). As a result, general education teachers are challenged to adapt and modify their instructional and management practices to accommodate children with diverse special education needs (Beninghof, 2007).

Although teachers tend to agree with the general principles of inclusion (Romi & Leyser, 2006), research shows that they often lack confidence in their skills for teaching children with special needs in an inclusion environment. As a result, poorly planned or rapid pushes to mainstream students are often received negatively by teachers (Avrimidis & Norwich, 2002; Hefflin & Bullock, 1999; Romi & Leyser, 2006; Wagner, Friend, Bursuck, Kutash, Duchnowski, Sumi, & Epstein 2006). In 2002, Avrimidis and Norwich reviewed both quantitative and qualitative research on teacher attitudes towards inclusive practices world-wide. These researchers concluded that teachers felt as though they were being "dumped on" when students with disabilities were placed in their class, and they feared that both they and their students with special education needs would be left to "fend for themselves" (p. 141). In addition to having to plan and adapt tasks to enable adequate participation of students with disabilities, teachers will likely have to contend with increased problematic behavior. Research has documented heightened levels of disruptive or defiant behavior among students with particular educational disabilities

(Wagner et al., 2006). Management and instructional methods that work for non-disabled peers may not be effective for this population; standard strategies may need to be implemented with greater frequency or intensity, or adapted.

Without directly acknowledging these significant changes in teaching demands and need for professional development, teachers may be left working under highly stressful conditions. When teachers perceive they lack the skills to handle students with disabilities, they may suffer from various forms of anxiety, such as fears relating to the impact on class behavior and performance, worry about conflict with parents and administrators, depersonalization (loss of personal investment in one's students), and other factors that impair one's ability to cope effectively with the challenge of teaching an inclusion class (Skaalvik & Skaalvik, 2007).

A measure of teacher efficacy for inclusion is therefore needed in order to assess teacher preparedness, to gauge effectiveness of inservice or preservice training, and to set baselines for charting teacher growth. Self-efficacy beliefs are defined as one's judgments about capabilities to produce given attainments (Bandura, 2006). Self efficacy is a "future oriented belief about the level of competence a person expects he or she will display in a given situation…[It] is the individual's conviction that he or she can orchestrate the necessary actions to perform a given task" (Tschannen-Moran & Hoy, 2001). Self efficacy is important to measure because ratings reflect an individual's own perceived abilities. Emphasis is placed on perceived behavioral competencies rather than feelings or attitudes. Further, the Social Cognitive theory of self efficacy also acknowledges that one's ability to perform a particular task is influenced, and often limited by, contextual and environmental demands. Self efficacy instruments are

therefore careful to specify the precise context in which the task must be executed. It is for these reasons that self-efficacy scales are highly predictive of actual behavior and performance. Although contemporary teacher efficacy measures have shown to be important predictors of teacher behaviors, these instruments do not adequately measure the unique task demands imposed by inclusion.

The goal of the current study was the development of a teacher self efficacy scale that is tailored to the demands of instructing students with disabilities in general education classes, with a particular emphasis on students with learning or emotional/behavioral disorders. The procedures involved expert review and revision of items that were written by the investigator based upon descriptions in the research literature of challenges imposed by inclusion. It was hypothesized that factor analysis would reveal a unitary construct, reflecting abilities specific to the inclusion context. Relationships between scores on the self-efficacy scale and a variety of student and teacher outcomes were used to assess the validity of the instrument.

Critics argue that students with disabilities are ethically and politically disenfranchised when placed in separate special education classes (Danforth & Morris, 2006), and that they have reduced access to standards-based instruction (Jackson & Neel, 2006). In turn, a variety of practices have been promoted as a means to increase exposure to general education instruction and increase opportunity for social and instructional interaction between students with disabilities and their non-handicapped peers. However, these practices, which include mainstreaming, integration, and inclusion—terms which are defined and distinguished in the subsequent section—impose new demands and require specialized teacher skills.

Chapter Two

Literature Review

Inclusion: History and Rationale

Prior to the 1960's, students with disabilities were educated in separate special education classes. It was argued that this allowed for "low teacher-pupil ratios, specially trained teachers, greater individualization of instruction in homogeneous classrooms, and an increased curricular emphasis on social and vocational goals" (Kavale & Forness, 2000; p. 280). However, at a time when civil rights and desegregation were at the forefront of American consciousness, people began to question the appropriateness of separate classes for individuals with disabilities. In both society at large, and within the schools, the government began to clarify its stance on individuals with disabilities (Jacob & Hartshorne, 2003). In the language of the Education for All Handicapped Children Act of 1975 (EHA), "Removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily." This statement, which is taken from the Least Restrictive Environment (LRE) clause of the Individuals with Disabilities Education Act (the reauthorization of EHA), has created a great amount of debate in the field of education.

Many educators and theorists disagree about the degree to which students with disabilities can or should be integrated into general education classes. Inclusion is a term that has been used to denote the full integration of all students into general education classes and among their non-disabled peers, regardless of the type or severity of disability (Avramidis, 2002). However, during the decade following the passage of EHA, educators

provided integrated services differently. Students with disabilities attended special classes part-time. Some students with disabilities were integrated to the extent that they could assimilate into a relatively unadapted general education environment (Avramidis & Norwich, 2002; Slavin, 1997)—a practice known as mainstreaming. Similarly, the resource model entailed removing students from general education part of the day in order to receive instruction in basic skills from a special education teacher or a related service provider (e.g., speech/language therapist, counselor, vision teacher). Ultimately, special educators assumed responsibility for overseeing the delivery of services, and the general education teacher had very little "ownership" over integrated students. This system came to be known as the "dual system," as general and special education were separate entities, funded by different sources with different polices (Wang, Reynolds, & Walberg, 1986).

However, during the 1980's educators began to find flaws with the dual system model. There were calls for increased integration and systemic change. This movement became known as the Regular Education Initiative (REI), and it was around this time that the practice of inclusion emerged.

According to proponents of REI, the dual system had several shortcomings. Many argued that a flawed or inaccurate assessment and identification process excluded a great number of students in need of instructional support, and inaccurately labeled students as having disabilities when delays could instead be attributed to second language acquisition, cultural differences, or socioeconomic disadvantage (e.g., Wang et al., 1986). Gartner and Lipsky (1987) questioned both the validity and relevance of disability categories for several reasons. It was argued that the identification of disabilities was

often reliant upon insufficiently rigorous and subjective measures of social and psychological functioning. Prior studies had concluded that psychological assessments were no more accurate than chance at determining whether or not individuals had actual disabilities (Ysseldyke, 1983), and there was great variability in the prevalence of disabilities across different geographic regions (Binkard, 1986). The relevance of classifying students was further challenged by the considerable similarities of instruction used for both disabled and non-disabled students alike (Wang et al., 1986). By relying on evidence-based instructional methods—for instance, providing frequent, systematic evaluation of progress and feedback—Wang et al. (1986) argued that teachers can get all students to master subject matter, acquire a variety of learning skills, develop positive attitudes toward learning, and develop positive self-perceptions while attending a general education class.

Another major issue was special education's focus on remediation rather than prevention. Madeline Will (1986), then Assistant U.S. Secretary of Education, argued that the dual system worked against the development of coherent strategies that would help a greater number of students in general education. Services and support were being denied until academic delays were significant enough to warrant classification. By providing additional instructional and intervention services early on without being contingent on diagnostic criteria, Will argued, schools could prevent students with learning problems from reaching the point of academic failure. To circumvent the diverting of money to remediate learning delays, and instead focus on prevention, Wang et al. (1986) and Will (1986) encouraged policy makers to experiment with guidelines that would allow for special educators to provide their services in the general education

setting, to disabled and non-disabled students alike, to strengthen the overall education system and meet the educational needs of all students. It was against this backdrop that the practice of inclusion developed—the integration of all students, regardless of the severity of the disability.

Empirical Evidence

Individualization is recognized as the defining feature of special education, and researchers have therefore sought to evaluate the implementation of inclusion programs based upon the degree to which instruction and intervention are actually tailored to students' unique needs and difficulties.

Baker and Zigmond (1995) examined commonalities and differences in the implementation of inclusion at five different sites across the United States. The programs targeted elementary students (grades K-6) who were found to have learning disabilities. Through direct observation and teacher interviews the authors found that all sites successfully enabled students with learning disabilities to participate in general education experiences along with non-disabled peers. Teachers at all sites were found to modify and adapt lessons. However, the nature of the adaptations tended to be guided more by teacher intuition than progress monitoring and the results of targeted, individualized intervention. Interventions and curricular modifications were implemented when teachers believed they would better meet the needs of the entire class, or at least small groups of students, and not necessarily individuals. Ultimately, the authors found that activities were simplified to ensure that everyone could participate. Further, Baker and Zigmond found that inclusion teachers did not succeed at targeting skill deficiencies of the students with disabilities. In nearly all cases, students continued to be provided with remedial,

small group reading instruction—either outside of regular school hours, or during periods when classmates attended enrichment classes. Peers and paraprofessionals were relied upon heavily for providing instruction and support throughout the day.

Espin, Deno, and Albayrak-Kaymak (1998) measured the level of individualization in inclusion classes by examining and comparing the Individual Education Plans of students receiving either inclusion or resource room services. In addition to describing the nature of a student's disability and the way it impacts educational functioning and learning, an Individual Education Plan (IEP) explicitly lists recommended supports and interventions, and yearly goals. The authors measured individualization by comparing the number and types of sources of information that were used or referenced when creating student goals and descriptions of functioning. For instance, student functioning might have been described with respect to specific subskills that either have or have not developed (e.g., alphabet skills, word attack, comprehension), or in more general or normative terms that would broadly indicate that a student has difficulties in reading, or that he or she is functioning below most classmates. They also categorized statements on the IEP to indicate whether or not they were based on findings from informal assessments. They compared the number of minutes that students were allocated to receive direct support from a specialist—according to the practice of inclusion, this would take the form of a special education teacher assisting in the general education classroom alongside the regular classroom teacher. A highly individualized IEP might reference multiple sources of information, including results of broad achievement estimates, observations of specific subskill strengths and weaknesses as

informed by both formal testing and teacher reports of progress in the curriculum/relative standing in the class.

Through their analyses they found IEPs written for resource room and inclusion students relied equally on results from formal assessments; though IEPs written for students in resource room programs included more long term goals, their short term goals were formulated based on a greater number of sources, and goals were more content or skill specific. For instance, short term goals for the resource room were more likely to focus on precise reading skills than general progress in the curriculum. Espin et al. (1998) also found that students were allocated a greater number direct service minutes when they attended a resource room. Ultimately these findings suggest that inclusion teachers have not been very successful at individualizing instruction and expectations, and direct training may be needed.

Empirical studies have also been conducted to measure the effectiveness of inclusion programs for improving student learning. Manset and Semmel (1997) examined objective measures of academic outcomes for eight different models of inclusion. Common across all models was the systematic provision of direct and intensive basic skills instruction, and adjustment of the curriculum based on findings from periodic assessment of student functioning, though programs varied in the particular innovations for curriculum and staff organization, and the frequency of assessments. The models reviewed included Success for All (SFA; Madden, Slavin, Karweit, Dolan, & Wasik,1993), Adaptive Learning Environments Model (ALEM; Wang, & Birch, 1984), Mainstream Experiences for the Learning Disabled (MELD; Zigmond & Baker, 1990), Integrated Classroom Model (ICM; Affleck, Madge, Adams, & Lowenbraun, 1988),

Team Approach to Mastery (TAM; Bear, & Proctor, 1990), a consultation model created by Schulte, Osborne, and McKinney (1990), and two related inclusion programs created by Jenkins (Jenkins, Jewell, Leicester, Jenkins, & Troutner, 1991; Jenkins, Jewell, Leicester, O'Connor, Jenkins, & Troutner, 1994). Ultimately, the authors were unable to draw firm conclusions about the superiority of inclusive programs. While several programs were associated with increased scores on achievement tests, improvements were often comparable to those obtained by students in control conditions. In certain cases, gains were not evaluated for statistical significance, and in one case, a control condition was not included.

Some of the more encouraging findings were from studies on the SFA program. Researchers measured the effectiveness of this model by comparing the performance of students attending SFA programs with that of students attending matched schools that rely on the traditional resource, or "pull-out" model of special education services. After controlling for pre-intervention differences, Slavin, Madden, Karweit, Livermon, and Dolan (1990) found that SFA students outperformed their peers on several measures of reading achievement (word attack, oral reading, and comprehension). Results of a similar study conducted by Madden et al. (1993) suggest that second and third graders developed stronger letter-word and word attack skills after attending the SFA program. This intervention study also resulted in a relatively lower number of students reading below grade level. At the conclusion of the study, only fifteen percent of the school population was scoring below grade-level, while thirty eight percent of the students were scoring below grade level in control schools. However, these studies focused only on the progress

of the lowest achieving students, and it is not clear as to whether or not the program is as effective for students with disabilities.

Wang and Birch (1984) demonstrated the effectiveness of the ALEM model by comparing achievement gains of targeted students with those of students in surrounding school districts that rely on traditional resource room services or full-time special class placements for students with disabilities. Though they found that students in the ALEM program exhibited greater mean score gains on reading and math tests after controlling for pre-intervention differences, they did not report whether or not differences were statistically significant. A second study (Wang, Peverly, & Randolph; 1984) reported that ALEM students made approximately one year of progress in the areas of reading and math, though they failed to include controls or a comparison group.

Although the ICM program enabled fifty-eight to eighty percent of the students with learning disabilities to make gains in reading, language, and math, the same gains were seen among control students (Affleck et al., 1988). Similar findings were obtained from evaluations of the TAM model, the Schulte model, and the Jenkins models. Bear and Proctor (1990) found that TAM enabled students with mild disabilities to make one year gains on the Comprehensive Tests of Basic Skills total score, though these gains were also seen among control students on reading and language subtests. Students with learning disabilities attending the Schulte et al. (1990) program improved on measures of achievement, though these gains were similar to those obtained by students attending one hour of traditional resource room daily. The Jenkins (1991, 1994) model also failed to demonstrate a superior effect for students with mild disabilities.

Analysis

Although these findings do not show inclusion programs to produce superior academic outcomes, they do suggest that similar achievement gains can be made while simultaneously allowing for greater levels of integration. In order to reach this outcome, however, general education classrooms took on many features of the traditional resource programs that they were designed to replace (Affleck et al., 1988; Baker & Zigmond, 1995; Madden et al., 1993; Wang & Birch, 1984). Students were often placed in multi-age, similar ability groupings where they were provided with intensive basic skills instruction that did not align with curriculum. General education teachers assumed the characteristics of the specialists in the dual system, and in two studies, the regular classroom teacher was actually dually certified as a special and general education teacher (ICM; Affleck et al., 1988). However, those who weren't already special education teachers needed to learn new skills and take on additional responsibilities. They needed to learn to implement prescribed instruction, conduct periodic formative assessments and use this data to adapt and individualize instruction for students of different ability levels (Schulte et al. 1990), run cooperative learning activities and coordinate tutoring and support services with paraprofessionals, teachers, or student-tutors (Affleck et al., 1988; Jenkins et al. 1991, 1994; Madden et al., 1993; Wang & Birch, 1984) and learn new positive reinforcement techniques (Affleck et al., 1988). Inclusion teachers are assigned the primary responsibility for ensuring that students with disabilities are progressing academically, and developing socially and emotionally (Jenkins, 1990). Though specialists will sometimes be involved to either consult or provide direct service, it is the general education teacher who is responsible for overseeing, monitoring, and

coordinating these services to benefit their own effectiveness as teachers, and initiating adaptations when they are not working.

Given these demands, it is not surprising that Baker and Zigmond (1995) found the success of inclusion programs to depend on teacher commitment and interest in the program. In those programs that worked, teachers voluntarily chose to teach in an inclusion program, and their effort was found to influence program effectiveness. Had the teachers of model inclusion programs been mandated to participate, and had they not have already developed necessary competencies of special education teachers, results might not have been as positive. Ultimately, inclusion entails a transfer of expertise from the resource room to the general education classroom, and in the process, general education teachers must develop new competencies. Whether it is done on an individual or a staff-wide basis, it is important that these competencies be assessed to ensure that students' needs can be met if schools are to rise to the challenge of inclusive education.

Teacher Self-Efficacy Measures, History, and Evolution

Measures of teacher efficacy have been developed as a way to assess particular dimensions of skill and teacher preparedness. Self-efficacy beliefs are defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986). A central feature of self efficacy measures is their focus on action rather than general feelings or attitudes. This perceived behavioral competencies property makes them valuable predictors of actual behavior and motivation. Furthermore, a social cognitive view of self efficacy acknowledges that one's ability to perform a particular task is influenced, and often

limited by, contextual and environmental demands. Self efficacy instruments are therefore careful to specify the precise context in which the task must be executed.

Tschannen-Moran and Hoy (2001) summarized the history of the Teacher Efficacy construct, and traced two lines of research. One strand originated with the theory of Locus of Control (Rotter, 1966). The two-item Rand measure stemmed from this theoretical background, and it set the framework for the two-factor conceptualization of teacher efficacy. The instrument assessed "the extent to which a teacher believed that the consequences of teaching—student motivation and learning—were in the hands of the teacher. That is, these academic consequences are "internally controlled" as opposed to being controlled by external factors, such as home environment or value placed on education at home (Tschannen-Moran & Woolfolk-Hoy, 2001; p. 2). Raters reported their agreement with two broad statements that globally summarized their beliefs regarding (1) whether or not teachers in general can have an impact on student outcomes (General Teaching Efficacy, GTE), and (2) whether or not they could personally have an impact on their students (Personal Teaching Efficacy, PTE).

Over time, researchers adapted this scale to increase reliability and validity—increasing the number of items, rewording them to prevent response bias, and enhancing content validity by improving the alignment of items with common teaching tasks. Some of these instruments include the Responsibility for Student Achievement scale (RSA; Guskey, 1981), the Teacher Locus of Control scale (TLC; Rose, & Medway, 1981), and the Webb scale (Ashton et al., 1982). Studies showed these instruments predicted a variety of creative and important outcome and validation measures, such as teacher

ingenuity for obtaining and maintaining federal funding for educational programs (Berman, 1977).

The second line of research on Teacher Efficacy stems from a social cognitive theory of human motivation. This research makes a clearer distinction between outcome expectancies, which are beliefs about the ultimate outcomes of actions if performed as desired, and teacher self efficacy, which reflects projected levels of confidence a teacher can expect to bring to a particular teaching context (Tschannen-Moran & Hoy, 2001; p.5). While self-efficacy corresponds to beliefs about one's ability to "organize and execute a course of action," outcome expectations reflect one's notion of the "contingency between a response and an outcome" (Pintrich, & Schunk, 2002). For theoretical and empirical reasons, it is argued that outcome expectancies add little predictive value to measures of self-efficacy—by controlling for how well people judge they can perform, one accounts for much of the variance in the kinds of outcomes they expect (Pintrich, & Schunk, 2002). Yet some early instruments stemming from this line of research continued to include both self efficacy beliefs and outcome expectancies in their teacher efficacy scales, treating them as two subcomponents or factors, consistent with the two-factor conceptualization (General Teaching Efficacy and Personal Teaching Efficacy).

One such instrument, which served as a major foundation for future scale development, was the Teacher Efficacy Scale (TES; Gibson, & Dembo, 1984). Drawing from teacher interviews and prior research on teacher self efficacy, Gibson and Dembo created fifty three items to assess teacher efficacy. The items were first piloted on 90 teachers, and after subjecting the instrument to factor analysis, and eliminating outlier

items or revising them, the authors narrowed the instrument down to a sixteen-item scale. In a series of subsequent studies they reexamined the factor structure. Statistical procedures revealed a two-factor structure. As a result of their analysis, they concluded that one factor could be attributed to self-efficacy beliefs, the other attributable to outcome expectancies. These authors chose to include both sets of items in their total teacher efficacy scale. This decision appears to have been motivated by their view that teachers will be less likely to exhibit and persist with desired teaching behaviors when external factors are perceived as insurmountable (e.g., family background, socioeconomic status). As mentioned above, contemporary instruments omit items measuring outcome expectancies.

Within the TES, Gibson and Dembo did not differentiate among efficacy beliefs for different teaching tasks. Validity evidence for the instrument was obtained by differentiating it from teacher verbal ability, and fluid reasoning or problem solving skill. Furthermore, direct observation of a subsample of teachers demonstrated that high efficacy teachers (1) spent more of their time planning, and monitoring and checking student seatwork, (2) they did not criticize students after they made mistakes (though some low efficacy teachers did), and (3) they were more likely to persist with struggling students by guiding them to the correct answer through continuous questioning, instead of allowing other students to call out or answer the question him or herself.

Saklofske, Michayluk, and Randhawa (1988) sought to demonstrate a link between teacher efficacy as measured by the TES and a broad array of teacher behaviors. The study was conducted on 65 student teacher interns enrolled in a college practicum. Participants were rated by their supervisors along a 4-point continuum (Above Average,

Average, Below Average, Failure) in eight different categories of behavior. The eight major areas of teacher functioning included Professional Attributes, Lesson Planning, Unit Planning, Structuring Behaviors, Questioning Behaviors, Reacting Behaviors, Classroom Management Behaviors, and Lesson Presenting Behaviors. Though there were only small positive correlations between Personal Teaching Efficacy and several important behavioral outcomes (Lesson Presenting Behaviors, Classroom Management Behaviors, and Questioning Behaviors; r = .26, .23, and .22 respectively), correlations might have been low due to methodological factors. There was limited variance in the ratings of the student teachers' behaviors, as they all tended to perform well and at the higher end of the 4-point scales. All participants completed the practicum, and many were nominated for awards.

Like the Rand measure, the Gibson and Dembo TES has been adapted over time in order to increase its reliability and validity. For instance, Ashton et al. (1984) adapted the instrument by embedding items within elaborated scenarios, or vignettes. The instrument, entitled the Ashton Vignettes (Ashton et al., 1984), required teachers to rate their perceived abilities for managing specific situations that were presented within contextualized scenarios. Other researchers independently developed teacher self-efficacy scales that were specialized for functioning in particular contexts, such as elementary science instruction (Riggs & Enochs, 1990), or for measuring particular teacher skills. Emmer and Hickman (1991) generated a teacher self-efficacy scale specific to classroom management.

In the Emmer and Hickman (1991) study, teachers were given scenarios and asked how they would deal with the challenging situations. When validating the

instrument, it was found that high efficacy teachers were more likely to prefer positive instead of reductive strategies in order to deal with academic or behavioral difficulties. Positive strategies focused on establishing or increasing desirable behavior, for instance, through giving the student extra attention, encouraging more effort, and having the student develop a plan for change. In contrast, the reductive strategies of low efficacy teachers typically consisted of efforts to discourage the problematic behavior, for instance, through desists—requests for the student to stop the inappropriate behavior—time out, warnings, and consequences.

Researchers continue to demonstrate the relevance of teacher self-efficacy to teacher functioning and contemporary challenges. Recently, Cantrell and Callaway (2008) used a measure of teacher efficacy to predict success with implementing challenging new instructional practices. The authors examined the degree to which teachers were successful at integrating literacy instruction into content area classes (e.g., Social Studies, Science). This is a difficult task for which teachers are not well prepared, and the associated practices often run counter to traditional teaching practices in middle and high school. Teacher efficacy was assessed using semi-structured interviews, and high or low efficacy was determined by categorization of open-ended teacher responses. Their findings show that high implementers, or teachers who were more successful at integrating content literacy instruction, were more likely to espouse views consistent with higher Personal Teaching Efficacy. They were more likely to persist and work through barriers, and obtain success with the new instructional methods.

Two of the most current and comprehensive teacher self-efficacy measures include the Ohio State Teacher Efficacy Scale (OSTES; Tschannen-Moran & Woolfolk-

Hoy, 2001), and the Norwegian Teacher Self Efficacy Scale (NTSES; Skaalvik & Skaalvik, 2007). The OSTES was generated from a thirty item, multidimensional teacher efficacy scale created by Albert Bandura. Bandura (2006) argues that self-efficacy scales must account for different levels of task demands in light of a variety of impediments, and retain adequate specificity. In this light, Tschannen-Moran and Woolfolk-Hoy (2001) expanded the list of capabilities for their instrument over the course of three separate studies.

First, an expert panel of educators, with an average of 11.9 years of teaching experience, individually selected only those items that they viewed as representative of important tasks or elements of teaching. New items were written, focusing on areas underemphasized in pre-existing measures: focusing on assessment, adjusting lessons to individual students' needs, dealing with learning difficulties, repairing student misconceptions, and motivating student engagement and interest. Redundant items were reworded or eliminated during panel reviews. During the second study, the item pool was administered to a sample of experienced and preservice teachers. Data from the first administration revealed ten separate factors. However, after eliminating items with low total scale loadings (below .60) and administering the instrument to a second sample of teachers, a three-factor solution was obtained. The authors labeled these three factors efficacy for student engagement, efficacy for instructional strategies, and efficacy for classroom management. Items with low loadings on any of these factors were removed. Principal-axis factor analysis of data from these two administrations revealed evidence of one factor with item loadings ranging from .48 to .70—providing evidence that the instrument was measuring one underlying construct of efficacy. In a third study, in an

effort to address concerns about the weaknesses of their third subdimension—classroom management—the authors added more items with the support of 19 teachers, referencing a pre-existing measure of efficacy for classroom management, and writing items focusing on working with capable students using a variety of instructional techniques to promote student thinking. The resultant item pool was administered to a third set of 410 teachers varying in their level of teaching experience. Factor analysis and scree testing again revealed a three factor solution, and the test developers retained the labels of the initial teacher efficacy subdimensions. Retention of the highest loading items ($\geq$ .50) produced a twenty-four item scale (eight items per subscale). Item-total correlations ranged from .50 to .78. Although the authors suggested that subscores can be computed, there have been no studies demonstrating predictive validity for subscales.

The second contemporary measure of teacher efficacy, the NTSES (Skaalvik & Skaalvik, 2007), was developed to fit what the authors perceived to be local teacher role expectations. They generated five to six items for each of six roles—instruction, adapting education to individual students' needs, motivating students, keeping discipline, cooperating with colleagues and parents, and coping with changes and challenges. Though they do not describe in detail how they arrived at their six categories or how items were written, factor analyses did find support for each of the six dimensions and the presence of a second order factor—providing evidence in support of the unitary construct of teacher efficacy. Four items with the highest loadings were retained for each subscale. Acceptable levels of internal consistency were obtained for each dimension, with reliabilities ranging from .80 to .91, with the exception of cooperating with colleagues

and teachers (r = .74), which was also acceptable. Correlations of subskills with the composite measure ranged from .33 to .54.

Evidence of construct validity for the NTSES was obtained by demonstrating a non-significant correlation between teacher efficacy and external control scales. External control scales measured the degree to which teachers viewed student learning and performance controlled by factors outside of the teacher's realm of influence, such as innate student ability or home environment. The NTSES also exhibited divergent validity in relation to a measure of teacher burnout. This finding is consistent with the theoretical predictions of Bandura, which indicate that high efficacy teachers will persist harder to overcome barriers.

Current directions for research: Challenges introduced by inclusion, and inadequacy of current instruments

An important step in this line of research is to extend the Teacher Efficacy construct to the socially important context of the inclusion classroom. The current push for inclusion is reflected in the position statements of various educational organizations (e.g., Beninghof, 2007). For instance, the National Association of School Psychologists (NASP, 2008), "in its call for commitment to promote more effective educational programs for all students, advocates the development of inclusive programs for students with disabilities... in which students, regardless of the severity of their disability receive appropriate specialized instruction and related services within an age appropriate general education classroom in the school they would attend if they did not have a disability." It is believed that this practice would increase availability of role models, facilitate friendships between students with disabilities and peers in their community, and teach

students to value diversity. According to NASP, it would also help students with disabilities with "learning new academic and social skills within natural environments, facilitating generalization of skills" and lead to "general education classrooms that are better able to meet the needs of all students as a result of additional instructional resources, staff development for general and special educators, a more flexible curriculum, and adapted instructional delivery systems." These ideals will not come to fruition, and inclusion practices will not be implemented appropriately without first ensuring that teachers feel efficacious with inclusion students.

Despite the success of past teacher efficacy measures in assessing important areas of teacher functioning, a variety of the roles of inclusion teachers are left unaddressed in existing measures. Evidence suggests that inclusion introduces a set of demands that are distinct from those measured by existing efficacy instruments (e.g., Avrimidis & Norwich, 2002; Emmer & Stough, 2001; Soodak, 2003). Although the OSTES and the NTSES include items that superficially tap into teachers' beliefs about their ability to adapt tasks, they do not go into detail with respect to the degree of modification required to ensure that tasks can be completed at comparable rates by students with different abilities, and without usurping the teachers' individual attention. Instruments fail to asses their ability to ensure that students with disabilities obtain positive feedback on their work while classmates surpass them in quantity and quality of work produced. They also lack items assessing competence at anticipating the antecedents and understanding the consequences that maintain maladaptive behavior (Emmer & Stough, 2001), and skill for simultaneously implementing different individualized positive behavior support plans.

One of the most frequently cited concerns that teachers have about inclusion is their worry about the impact that it will have on classroom management practices. Classroom management is a central role of a teacher that is at times difficult to distinguish from instruction. Emmer and Stough (2001) reviewed several lines of research on classroom management, beginning with the work of Ecological Psychologists in the 1960's. Common across various theoretical viewpoints is the depiction of classroom management as "actions taken by the teacher to establish order, engage students, or elicit their cooperation" (p. 103). In particular, research findings show that teachers are better able to create and maintain a positive climate and student cooperation, and produce higher levels of achievement when they can do each of the following components of behavior management: (1) proactively teach desired behaviors, rules, routines and guidelines through clear and direct communication and instruction, (2) engage in careful and regular monitoring of student behaviors, while providing feedback to students that is aimed at helping them to learn the desirable behaviors within the context of specific academic tasks, (3) intervene early, before behavior problems escalate, (4) ensure that tasks are engaging and well paced with minimal time spent in transition between activities, (5) foster successful academic experiences, and (6) apply rules and consequences consistently. Reaching these goals may be more difficult when the class is composed of students who exhibit greater variability in their learning abilities and/or emotional functioning.

Within inclusion contexts, Emmer and Stough (2001) find that instruction of appropriate behaviors should be more direct and frequent. Applied behavior analysis may be more relevant in an inclusion setting. When particular students do not respond to

traditional group-based classroom management techniques, the teacher may have to resort to interventions that control antecedents and consequences of problematic behavior. These interventions have the advantage of targeting the function and the motivation for problematic behavior.

Soodak (2003) also finds that applied behavioral analysis and the related practice of Positive Behavior Support are important skill sets for inclusive classroom management. By proactively determining the cause of problem behaviors and altering them, Soodak argues that teachers and schools can eliminate punishment and suspension practices from schools entirely, and can prevent disruptive behavior from occurring.

Although researchers have done much to isolate teacher skills for teaching and managing diverse inclusion classes, there is evidence that teachers feel ill prepared to make the necessary changes to their management practices. In 2002, Avrimidis and Norwich reviewed research on teacher attitudes towards inclusive practices world-wide. They found that teachers often felt as though they were being "dumped on," and they feared that both they and their students with special education needs would be left to "fend for themselves" (p. 141). Unavailability of supports and inadequate training were cited as factors that influenced their views. In earlier research, Soodak and Podell (1993) found that many teachers viewed general education settings as inappropriate settings for students with combined learning and behavioral disorders. Romi and Leyser (2006) studied attitude toward inclusion in a sample of 1,155 pre-service teachers enrolled in either general or special education training programs. These participants varied in their level of program completion. This enabled the researchers to assess changes in attitudes or beliefs of teachers after having progressed through their training, and thereby

increasing their knowledge and experience. Attitude towards inclusion was measured using the Opinions Relative to Integration scale (ORI; Larrivee, 1982), which required participants to rate their agreement with statements about benefits of integration, classroom management challenges and competencies, perceived ability to teach students with disabilities, and appropriate educational placements for students with disabilities (i.e., best served in special versus general education classroom) . The results showed that participants did not view general education teachers as being adequately skilled or prepared for the challenges of inclusion, even though most participants thought it would be beneficial for the children if executed correctly. It was particularly revealing to find that this concern was even more pronounced among teachers with greater levels of experience and general teacher efficacy. Younger, less experienced teachers may naively overestimate their ability and preparedness for the challenges of inclusion. Perhaps it was for these reasons that experienced teachers preferred that students with disabilities be placed in segregated special education classes.

The instrument that Romi and Leyser used in their research, the Opinions Relative to Inclusion (ORI; Antonak, & Larrivee, 1995), provides further information regarding the practical challenges teachers will likely encounter as a result of inclusion. Teachers in Romi and Leyser's research believed that included children need more assistance to sustain their effort to complete assignments and that they require more attention and patience from the teacher. These teachers feared that included children would monopolize their attention, they would exhibit more behavior problems, and would require significant changes to classroom procedures.

Rationale and Hypotheses

The concerns raised in the aforementioned studies are indicative of the discontinuity that exists between general teaching responsibilities and those needed to teach an inclusion class. Although existing teacher efficacy scales have been effective in predicting teacher functioning in particular domains, the unique task demands of inclusion may not be adequately measured by existing instruments. Prior research suggests that teaching an inclusion class requires specialized skill for planning, adapting instruction and tasks to a greater number of ability levels, frequent comprehension monitoring, direct teaching of appropriate behaviors, increased awareness of factors that precipitate problem behavior, and ability to modify classroom procedures and practices to maintain appropriate behaviors.

In the current study, an instrument was developed to measure teacher ability for instructing inclusion classes. Items were written to reflect the challenges described above. The instrument, Teacher Efficacy for Inclusion (TEI), was refined using input from a panel of experienced teachers, and a set of statistical analyses, and it was evaluated by assessing its relationship to three outcome variables: *On-Task Behavior*, *Emergency Support*, and *Reevaluation Requests*. It was hypothesized that the TEI would improve the prediction of these outcome measures after accounting for variation in important background variables, which included teacher experience, class size, student gender, and the amount of time teachers received support from specialists or assistants in their classrooms.

Chapter Three

Method

Sample

Because the majority of research on inclusion has been conducted in elementary schools, the TEI was developed to reflect the challenges and demands of inclusive teaching in this setting. The TEI was initially refined for the face validity of the items using an expert panel of six teachers. These were special education teachers who had considerable experience working in an inclusion setting. Panelists were recruited from the same participating schools that the validation sample was drawn from. School demographics are included in Table 1. Volunteers for the expert panel were recruited during monthly staff meetings. Participation was open to any special education teacher with at least ten years of teaching experience. They were required to have had experience supporting general education teachers in an inclusion setting. Expert panelists exceeded the minimum criteria, and they reported an average of twenty-two years of teaching experience. Their contributions to instrument development are reported in the procedures section.

Table 1

School Demographics for the 2008-2009 School Year

School	Size	Eligible for free lunch	American Indian or Alaska Native	Black/African American	Hispanic	Asian, Native Hawaiian, other Pacific Islander	White
1	458	62	0	43	47	4	6
2	715	20	0	22	25	7	46
3	527	80	1	15	63	8	13
4	574	28	0	13	28	7	46
5	760	93	0	14	82	1	2
6	817	5	1	5	8	16	70
7	431	80	0	32	61	3	3
8	405	85	1	19	75	3	2

Note. Values reflect percentages of the school populations

The TEI was subsequently validated using data from a sample of sixty elementary school teachers and students, grades kindergarten through fifth grade. The study was conducted in an urban school district in the north eastern United States. Volunteers were recruited using the following procedure. Principals at each elementary school were contacted by email. After principal consent was obtained, teachers were sent a recruitment letter and presented with a description of the study during a monthly staff meeting. Approximately forty percent of the eligible teachers in these eight schools volunteered for the study. Teachers were only included in the study if parental consent was also obtained for one of the students in the class who had previously been identified as having an educational disability. Classroom teachers were given the responsibility of selecting this student from among the population of inclusion students in his or her class (a population of up to twelve students per class), though the student needed to fit the

selection criteria. Students were fit into one of four disability categories: Speech/Language Impaired, Learning Disability, Other Health Impairment, or Emotional Disturbance. Students were also reading below grade-level expectations. Due to incomplete data from many participants the proportion of students from each disability category could not be verified. There was an average of five inclusion students per classroom. Eleven of the sixty participants (18%) were from an inclusion program where student needs may have been relatively more severe, as students in these classes were mandated to receive full-time "push-in" support from a special education teacher.

The 60 teachers in the validation sample reported an average of seven years of teaching experience. Experience ranged from zero years (first year teachers) to thirty years. Sixty percent of the student participants were males. A total of eight schools participated in the study. School demographics are listed in Table 1. In half of the schools, at least eighty percent of the students qualified for free lunch. Teacher and student identities were coded to maintain the privacy of the individuals and schools involved. There were between seven and eleven teachers per grade (see Table 2).

Table 2

Number of Teachers by School and Grade Level Taught

School	K	1	2	3	4	5	Total
1	1	3	0	2	2	2	10
2	1	0	1	1	0	3	6
3	1	2	1	1	0	0	5
4	1	1	1	1	1	0	5
5	2	1	1	2	1	2	9
6	0	2	2	5	2	1	12
7	0	0	0	0	2	0	2
8	3	2	1	2	0	3	11
Total	9	11	7	14	8	11	60

Measures

Direct Observation. In previous teacher efficacy studies, few researchers included direct measures of efficacy in real-life behavioral contexts. The current study included a direct observation measure of *On-Task Behavior* to obtain this contextualized validity evidence. Time spent on-task, often referred to in the literature as *academic learning time*, is associated with task and teacher-related variables (Meyer, 1999), it is a strong determinant of academic achievement (Gettinger & Seibert, 2002), and it is often a greater problem for students with educational disabilities than for non-disabled peers (Erickson, Scott, & Nelson, 2006).

Before formal observations began, a measure of inter-observer agreement was obtained in order to ensure the reliability of the observation procedure and criteria. A

school staff member volunteered to participate in this reliability check. Cumulatively, over the course of three separate practice observations, there was 98% inter-rater agreement (kappa = .96). Given this high level of agreement, subsequent observations were conducted using the same observation procedures. *On-Task behavior* included instances during which the target student was attending to group instruction, as evidenced by the student visually focusing on the teacher, or by the student providing accurate responses when called on. *On-Task Behavior* also included instances when the target student was completing independent or group work. Student behavior was categorized as off-task when the target student was scanning (attention directed at something other than the instructional activity), engaging in social dialogue unrelated to the academic task, or disruptive (e.g., arguing with the teacher, tantrum). Observations were conducted for each of the sixty student-teacher pairs using the *On-Task Behavior* Observation Form included in Appendix D. These observations were conducted during English/Language Arts or Social Studies lessons in order to minimize variability of lesson content across teachers. These subject areas were also chosen to increase the likelihood that students were being observed during lessons where their reading delays impacted participation and required accommodation and modification. Momentary time sampling data reflects student behavior during the moment that each ten-second interval began (Hintze, Wolpe, & Shapiro, 2002). Observations lasted thirty minutes.

Emergency Support. A second institutional measure, Emergency Support, corresponds to the frequency with which teachers relied upon behavior management support from building staff or administrators. This measure reflected the number of instances during a two-week period that the teacher sent students to the principal's office,

and instances when staff or administrators are called to the classroom to resolve conflict or disruptive student behavior. Because recruitment and data collection continued over the course of the school year, this two-week period did not coincide for all teachers in the validation sample. For instance, some teachers reported *Emergency Support* data based on a two-week period in November. Other teachers reported data based on a two-week period in April.

Reevaluation Requests. This measure refers to the frequency of teachers referring students with disabilities for more restrictive, self-contained special education classes. This practice is commonplace, especially when students suffer from combined learning and emotional/behavior problems (Soodak, & Podell, 1993). Some requests may be appropriate, as certain children require intensive supports that are best delivered in specialized settings. However, given that segregated placements have been criticized for providing inferior instruction and for reasons of social injustice, it is important to examine whether or not teacher referral decisions are due to low efficacy rather than actual student need. The Reevaluation Requests measure was included to test this hypothesis. This institutional measure reflects the number of students the teacher formally recommended to be reevaluated during the current school year in order to consider a more restrictive placement (i.e., a special class or a special school).

Background Variables. Several background variables were included in this study because they have been cited by teachers as factors that impact their effectiveness at teaching inclusion classes. These include teacher experience, class size, student gender, and the level of push-in support teachers receive. It was hypothesized that the TEI would mediate the relationship between these background variables and outcomes. Teachers

reported the cumulative number of years they had been teaching general education classes, and the number of students in his or her class. Greater levels of experience were presumed to influence outcomes via the impact of experience on teacher efficacy for inclusion. A negative correlation was expected between class size and TEI scores, because it was believed that it would be harder for teachers to strengthen their self-efficacy beliefs in the face of greater instructional demands. Since greater levels of externalizing behavior is often seen among boys, they are more frequently subjected to exclusionary discipline strategies, and referred for special education classes (Heflin & Bullock, 1999). It was therefore hypothesized that teacher efficacy for inclusion would be lower when teachers were working with male inclusion students. Also, students with disabilities are often provided with scheduled in-class (push-in) support from professionals or classroom assistants. For example, this might take the form of a paraprofessional who would assist a student directly with an academic task or a special education teacher who might help the student apply individualized learning strategies to classroom learning tasks. It was expected that TEI scores would be positively correlated with the level of push-in support a teacher received. Teachers reported the cumulative number of hours per week that they were receiving "push-in" support from specialists and teaching assistants.

General Teacher Efficacy. Teachers completed a measure of teacher self-efficacy which was more general in nature, the Ohio State Teacher Efficacy Scale (OSTES; Tschannen-Moran & Woolfolk-Hoy, 2001). Self-efficacy beliefs may sometimes co-vary across different domains of functioning because "proficient performance is partly guided by higher-order self-regulatory skills" (Bandura, 2006; p. 308). Teachers who have

developed greater skill and efficacy for teaching non-handicapped students may possess the self-regulated learning skills needed to excel in the area of inclusive instruction. OSTES scores therefore provided a means for assessing convergent validity for the TEI. Meanwhile, due to the changed tasks demands in inclusion classes, it was expected that the TEI would capture distinct efficacy beliefs that are relevant to the specialized functioning of an inclusion teacher. It was hypothesized that greater correlations would be found between the TEI and the dependent variables than between the OSTES and the dependent variables.

Procedures

The Teacher Efficacy for Inclusion scale (TEI) was developed using the following procedures. Seventeen preliminary items were written by the investigator to reflect the challenges of inclusion that are highlighted in the literature (see Appendix C). Each item requires Likert-style responses, with ratings ranging from 1 to 5 and anchors at one (cannot do at all), three (moderately can do), and five (highly certain can do). They were developed to assess context specific, competence oriented, and prospective self-efficacy beliefs.

These preliminary items were distributed to the panel of six experienced teachers. Each panel member was asked to generate five new items that she or he believed represented important tasks or skills overlooked during the writing of the preliminary items. They were instructed to focus specifically on skills relevant to teaching in an inclusion classroom. All items were then pooled and reviewed by the researcher and panel members. Two of the original seventeen items were modified to incorporate input from the panel, and redundant items were eliminated. As a result of this process, sixteen

new items were added, which increased the TEI to a 33-item scale. There was unanimous agreement about the face validity of each of these 33 items as measures of teacher efficacy to instruct students in inclusion settings.

Subsequently, this 33-item scale was administered to the validation sample of sixty teachers. In addition to the TEI, teachers were given a survey to complete which recorded other variables. On this survey, teachers indicated the number of students in their classes (*Class Size*), the number of times during the past two weeks that staff or administrators visited their rooms to provide non-scheduled support (i.e., to help resolve student conflict or disruptive student behavior; *Emergency Support*), the number of students that the teacher requested be re-evaluated that year by the Committee on Special Education to consider a more supportive placement (i.e., a special education class, or a specialized school; *Reevaluation Requests*), and the number of years they had been teaching. The teacher rating scale and survey required approximately fifteen minutes to complete. Data was collected over the course of a single school year.

Chapter Four

Results

The Reliability and Factor Structure of the TEI

The first set of statistical analyses was conducted to examine internal consistency of the TEI (alpha = .94). A follow-up examination of the results for each of thirty-three items in this scale examined the item-total correlations. In developing a rating scale it is desirable to retain only those items with the strongest relation to the construct being assessed. An established practice involves the removal of items with item-total correlations below .20 (Crocker & Algina, 1986). A more stringent criteria was set in the current study, and items were only retained if they demonstrated an item-total correlation of .50 or greater. This resulted in the elimination of nine items. Incidentally, half of the remaining items derived from the original seventeen-item pool; the remaining twelve items had been written by members of the expert panel. Internal consistency was assessed again after removing the nine items (alpha = .94).

The second set of analyses was aimed at the factor structure of the TEI. An exploratory factor analysis was conducted to determine whether teacher efficacy for inclusion is a unitary construct. Teachers' responses to the twenty-four item scale were submitted to principal components analysis. Five factors emerged with eigen values greater than one, accounting for 66% of the variance in the respondents' scores, although a scree test suggested that a single factor could be extracted. The first factor had an eigenvalue of 10.17, and it accounted for 42% of the variance in the respondents' scores. The second factor had an eigenvalue of 1.81, and it accounted for only an additional 8% of the variance in respondents' scores. Given this major drop in the amount of variance

accounted for with the additional factors, findings support the single-factor hypothesis. All 24 items loaded highly on this single factor. Factor loadings ranged from .53 to .77 with an average loading of .65 (Table 3).

Table 3

Factor Loadings for the 24-item TEI

	1	2	3	4	5
item1	.693	-.313	.098	-.217	.045
item2	.701	-.330	-.267	-.027	-.222
item3	.766	-.287	-.173	.154	.083
item4	.714	-.164	-.317	-.131	-.257
item5	.678	-.206	-.153	.327	-.038
Item6	.591	.241	.139	.155	-.013
Item7	.654	-.263	-.405	.270	.005
Item8	.626	.135	.071	.328	.087
Item9	.650	-.162	-.066	.165	.115
Item10	.585	.168	.367	-.108	.217
Item11	.661	.027	-.173	-.318	-.142
Item12	.549	-.342	.316	.104	.249
item13	.715	-.461	.106	-.081	-.023
item14	.628	-.262	.251	-.302	.121
Item15	.641	-.170	.254	-.236	.041
Item16	.639	.270	.350	-.009	.304
Item17	.531	.271	.329	.400	-.482
Item18	.700	.206	.168	.144	-.351
Item19	.650	.200	.205	-.368	-.253
Item20	.600	.328	-.016	-.265	-.180
Item21	.642	.370	-.358	.011	.290
Item22	.608	.442	-.409	-.195	.018
Item23	.700	.359	-.360	.010	.300
Item24	.647	.163	.285	.237	.095

The Construct Validity of the TEI

Conceptually, the closest measure of teacher efficacy to the TEI is the OSTES, which is more general in scope. The correlation between these two scales was .83 ($p <$ .01), which indicates that the TEI measure shared 68% of the variance of the OSTES. Clearly these two scales measure a common underlying teacher-efficacy construct.

The Face Validity of the TEI

Face validity was maximized by the following procedures. The seventeen preliminary TEI items were written by the investigator to reflect the challenges described in the literature on inclusion. For instance, Romi and Leyser (2006) identified concerns relating to the coordination of different tasks within specified timeframes and providing sufficient support to students with disabilities without neglecting other teaching responsibilities. Items six and seven were written by the current investigator to correspond to this challenge (see Appendix F). Teaching and supporting appropriate classroom behaviors and routines are also frequently cited concerns (Emmer & Stough, 2001; Soodak, 2003), and they were incorporated into items seventeen and eighteen. All thirty-three items (both the preliminary items and those added by the panel) were unanimously judged by members of the expert panel to be important competencies relevant to instructing an inclusion class. Given panelists' experience with inclusion, and item writing procedures, TEI items are believed to correspond directly to the challenges experienced by inclusion teachers.

The Concurrent Validity of the TEI

I also examined concurrent validity of the TEI by testing its prediction of key outcome measures of teacher functioning, such as *On-Task Behavior*, *Emergency*

Support, and *Reevaluation Requests*. Included in these analyses were a set of background variables that have been thought to influence self-efficacy and outcomes in an inclusion setting. These include the number of years of experience for each teacher in the validation sample (*Teacher Experience*), *Class Size*, hours of push-in support provided weekly (*Push-In*), and student gender. Descriptive statistics for each of the variables is included in Table 4. Figure 1 provides a visual depiction of the potential causal pathways among the variables. This model organizes the variables into three classes: background variables, teacher efficacy measures, and outcomes.

Table 4

Descriptive Statistics

Variables	Mean	SD	Min	Max
Teacher Efficacy Variables				
TEI	90.25	14.47	62	120
OSTES	171.28	19.72	119	209
Background Variables				
Teacher Experience (years)	7.2	6.25	0	30
Push-In Support (hours/week)	10.65	13.30	0	35
Class Size	23	4	16	33
Outcome Variables				
On-Task Behavior (percent)	80.67	17.70	29	100
Emergency Support (frequency)	1	1.81	0	10
Reevaluation Requests	.82	.97	0	4

Note. n = 60

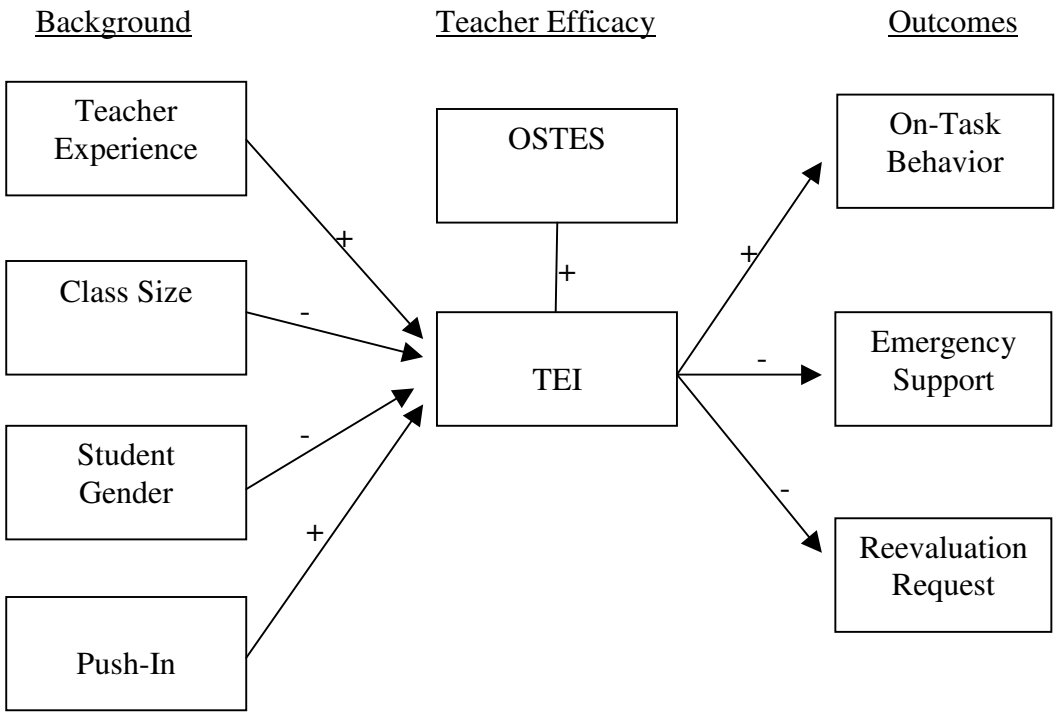

Figure 1. Hypothesized influences of background and teacher efficacy variables on outcomes.

To test this model, a series of statistical analyses were conducted. Stepwise multiple-regressions were computed to test the hypothesis that the TEI would improve the prediction of outcomes after first accounting for background variables. Correlation analyses were conducted to examine the relationship between variables in greater detail. The OSTES was included in the correlation analyses as a way to compare the TEI against a more generalized measure of teacher efficacy.

Regression Analyses. The regression equation failed to reach significance when predicting *On-Task Behavior* from background variables alone ($F = 1.394$; $p = .248$). Knowledge of *Teacher Experience*, *Class Size*, *Gender*, and level of support (*Push-In*) did not help to predict whether or not inclusion students were focused and participating

during the classroom observation (see Table 5). However, as expected, the TEI did reduce error in the prediction of *On-Task Behavior* ($F = 3.259$, $p = .012$). The TEI and *Push-In* were the only variables exhibiting significant regression coefficients. Positive beta values indicate that greater TEI scores (beta = .40, $p < .01$) and greater levels of *Push-In* support (beta = .28, $p < .03$) were associated with higher levels of *On-Task Behavior*.

Table 5

Multiple Regression Predicting On-Task Behavior from Background Variables and TEI

Model	R	R^2	Adjusted R^2	*F-test*	*P* <
1 Background variables: Teacher Experience, Class Size, Gender, Push-in	.30	.09	.03	1.39	.25
2 Background variables and TEI	.48	.23	.16	3.26	.02

Additional concurrent validity evidence was obtained from the second regression equation, which predicted *Emergency Support* from background variables and the TEI. The regression equation approached statistical significance when only background variables were included. This could be attributed to *Class Size*, which exhibited a statistically significant regression coefficient. The regression equation predicted *Emergency Support* with statistical significance once the TEI was included in the regression (see Table 6). Examination of the regression coefficients shows that *Emergency Support* was required more frequently when teachers were instructing larger

classes (beta = .39, p < .01), and when they scored lower on the TEI (beta = -.25, p < .10).

Table 6

Multiple Regression Predicting Emergency Support from Background Variables and TEI

Model	R	R^2	Adjusted R^2	*F-test*	*P* <
1 Background variables: Teacher Experience, Class Size, Gender, Push-in	.36	.13	.07	2.06	.10
2 Background variables and TEI	.43	.18	.11	2.43	.05

The third regression examined the importance of the TEI in predicting *Reevaluation Requests* after accounting for the background variables. Inclusion of the TEI did not improve the prediction equation (F = 1.678, *p* = n.s.). A significant regression coefficient was obtained for *Class Size* (see Table 7). *Reevaluation Requests* were more frequent when teachers instructed larger classes (beta = .26, p = .05). Given the narrow range in scores for this measure and the average teacher reporting only one *Reevaluation Request*, a second analysis was conducted using a non-parametric test. Results of a logistic regression were consistent with those reported above. *Reevaluation Requests* were not predicted by the background variables alone (chi-square = .852, p = n.s.), or by background variables in combination with teachers' TEI scores (chi-square = 8.236, p = n.s.).

Table 7

Multiple Regression Predicting Reevaluation Requests from Background Variables and TEI

Model	R	R^2	Adjusted R^2	*F-test*	*P* <
1 Background variables: Teacher Experience, Class Size, Gender, Push-in	.36	.13	.07	2.10	.10
2 Background variables and TEI	.37	.13	.05	1.68	.16

Correlation Analyses

Findings from the correlation analyses were used to develop a revised model which depicts the observed relationships between variables. These relationships are presented visually in Figure 2, and discussed in greater detail below.

On-Task Behavior. Theoretically, it is expected that highly efficacious teachers maintain greater levels of *On-Task Behavior* among students with disabilities. Results provide support for this hypothesis, as a significant correlation was found between TEI scores and *On-Task Behavior* ($r = .38$, $p < .01$; see Table 8). Students with disabilities were more likely to be focused and on-task in class if their teachers scored highly on the TEI. The OSTES scores also correlated with *On-Task Behavior* ($r = .44$, $p < .01$). A Fisher Z score was computed to compare these two correlations. The TEI was comparable to the OSTES in its ability to predict *On-Task Behavior* ($z = -0.37$, $p =$ ns.).

Emergency Support. On average, teachers relied on *Emergency Support* once during a two-week period, and this was uniform across all grade levels. *Emergency Support* did not correlate with either TEI scores or OSTES scores.

Reevaluation Requests. A negative correlation was expected between Reevaluation Requests and the TEI. However, this relationship was non-significant. The relationship between *Reevaluation Requests* and *Emergency Support* approached statistical significance ($r = .23$, $p = .07$).

Experience. Teachers in the validation sample averaged seven years of professional experience, with a range of zero to thirty years. Despite this large range in experience there was no significant correlation between *Experience* and TEI scores, or between *Experience* and OSTES scores. Teacher efficacy, whether specific to inclusion or of a more general nature, appears to develop independent of the number of years a teacher has spent in service. Teacher *Experience* was also found to be unrelated to any of the outcome variables.

Class Size. The average class size in the current study was twenty-three students, with classes ranging from sixteen to thirty-three students. Though there was a significant correlation between *Class Size* and OSTES scores ($r = .31$, $p < .05$), TEI scores did not correlate with *Class Size*. *Class size* was a significant predictor of *Emergency Support* ($r = .35$, $p < .01$) and *Reevaluation Requests* ($r = .30$, $p < .05$). Teachers were more likely to have relied upon *Emergency Support* to deal with classroom management issues if there were more students in their classes. They were also more likely to have requested that a child be moved from their class to a special education class if they were teaching larger classes.

Push-In Support. Because classroom support is often cited as a major factor limiting the effectiveness of inclusion practices (Avrimidis & Norwich, 2002), it was expected that there would be a positive relation between *On-Task Behavior* of inclusion

students and the amount of amount of time a teacher was provided with *Push-In* support. Likewise, it was expected that teachers would be less likely to need *Emergency Support* and be less likely to request reevaluations when they receive planned, and proactive *Push-In* support in the classroom. Therefore negative correlations were expected between *Push-In* and *Emergency Support*, and between the *Push-In* and *Reevaluation Requests*. In the current sample, teachers reported receiving an average of approximately ten hours of *Push-In* support weekly. The correlation between *Push-In* and *On-Task Behavior* did not reach statistical significance, though the pattern in the data was consistent with the interpretation presented above ($r = .21$, $p = .11$). There was no relation between *Push-In* and *Emergency Support* or between *Push-In* and *Reevaluation Requests*. Decisions to refer children for special education classes were not influenced by the amount of time a teacher received additional support in the classroom. There were no statistically significant correlations between *Push-In* and teacher efficacy.

Gender. Males comprised 60 percent of the student sample. It was expected that gender would be a weak but significant predictor of *On-Task Behavior*, with greater *On-Task Behavior* seen among females. However, the current findings reveal no significant correlation between student *Gender* and *On-Task Behavior*. There was no correlation between student gender and teacher efficacy. The relationships between *Gender* and *Emergency Support* and between *Gender* and *Reevaluation Requests* could not be assessed in the current study, as these dependent variables reflected teacher practices class-wide, not in relation to the student participant. Teachers reported only the number of students they referred for reevaluation, not their gender.

Table 8

Correlation Matrix

	TEI	OSTES	Exper.	Size	Push-In	Gender[1]	On-Task	Emerg.	Re-eval
TEI	1	.826 ** (.00)	.16 (.22)	.19 (.14)	-.16 (.23)	-.17 (.20)	.38 ** (.00)	-.13 (.33)	.11 (.39)
OSTES		1	.13 (.33)	.31* (.02)	-.19 (.15)	-.20 (.13)	.44** (.00)	.01 (.93)	.16 (.22)
Exper.			1	-.10 (.45)	-.19 (.16)	.05 (.71)	.00 (1.00)	-.01 (.92)	-.04 (.74)
Size				1	.12 (.38)	-.15 (.26)	.16 (.21)	.35** (.01)	.30* (.02)
Push-In					1	.14 (.30)	.21 (.11)	-.03 (.83)	.10 (.43)
Gender[1]						1	-.15 (.26)	-.13 (.31)	-.23 (.08)
On-Task							1	-.18 (.17)	.15 (.25)
Emerg.								1	.23 (.07)
Re-eval									1

Note. Significance values are presented in parentheses. [1]For Student Gender, 0 = female, 1 = male. This does not reflect the gender of students who required Emergency Support or students for whom Reevaluation Requests were made. Exper. = years of teaching experience; Size = Class Size; Emerg. = Emergency Support. *$p \leq .05$, **$p \leq .01$

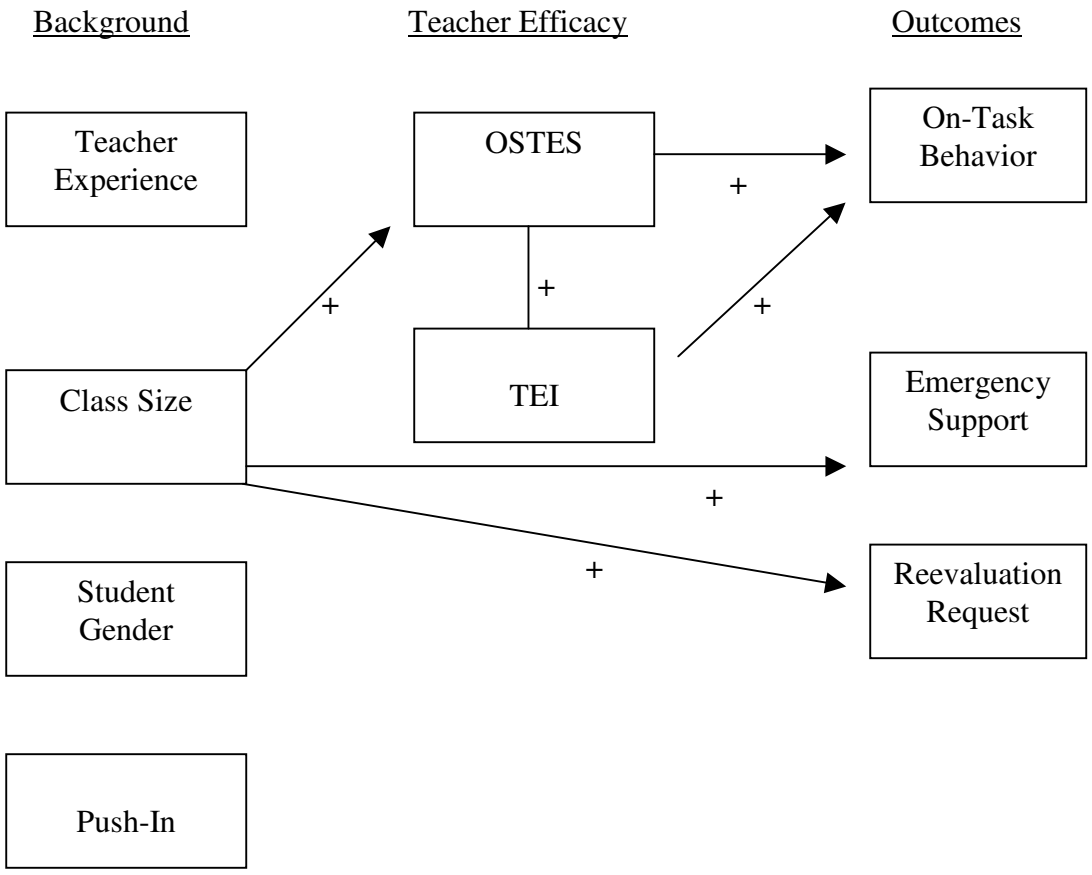

Figure 2. Obtained correlations between background and teacher efficacy variables, and outcomes

Chapter Five

Discussion

In response to the growing use of inclusion as a method of instruction for special education students, the current study sought to identify teacher efficacy beliefs associated with successful implementation of inclusion competencies in a classroom context. The goal was the development and validation of a TEI scale with a high level of internal consistency, and multiple forms of validity evidence.

Psychometric Properties of the TEI

Seventeen preliminary items were written by the investigator to reflect the concerns and challenges of inclusion which are highlighted in the literature. Subsequently, a panel of experienced special education teachers helped to align the rating scale with their own experiences, thereby increasing the face validity of the instrument. Input from the panel was generally consistent with prior descriptions of the challenges of inclusion. The competencies reflected in the items centered on problems in lesson planning, individualization and modification of instruction, and assessment. These competencies differed from those in an existing teacher efficacy scale in two ways. In some cases, qualitatively different competencies were identified. For instance, the first item "I am able to incorporate goals from IEPs of special education students into my teaching" assesses a competency that is unique to inclusion. In other cases, pre-existing competencies were modified by couching items within the specific context of an inclusion classroom, where students vary widely in knowledge and abilities.

The TEI was found to have high internal reliability, and the results of an exploratory factor analysis lend support to the conceptualization of Teacher Efficacy for

Inclusion as a unitary construct, with all items loading highly on a single factor. This suggests that the TEI cannot be viewed as measuring a variety of isolated competencies, but rather an underlying efficacy construct which governs teachers' inclusion instructional behavior and its effectiveness. Additional validity evidence was obtained by examining its relationship to an established measure of teacher efficacy, which is more general in scope. The OSTES was developed to capture teachers' general instructional competencies related to student engagement, classroom management, and instruction. The high correlation between the TEI and OSTES indicates that teachers' ability to manage inclusion students is associated closely with their ability to manage non-disabled students.

Relations between TEI and Background and Outcome Variables

A classroom observation measure of *On-Task Behavior* was included in the current study in order to assess the predictive validity of the TEI. *On-Task Behavior* was chosen due to its long-established connection to student learning (Gettinger & Seibert, 2002), and its relationship to task and teacher-related variables (Meyer, 1999). Furthermore, teacher perceptions of efficacy could be undermined when their student with a disability spends time gazing into space, socializing, or acting disruptively over an extended period of time. Results of the current study provide evidence in support of this hypothesis. Students with disabilities were more likely to be focused and on-task in class when teachers scored higher on the TEI. This positive correlation was not linked to teaching experience, student gender, class size, or the amount of time teachers received push-in support from specialists or paraprofessionals.

Unexpectedly, the *Emergency Support* measure did not correlate with either of the teacher efficacy measures. Although results show that many teachers receive this support from administrators and out-of-classroom staff on a regular basis, few teachers reported relying on *Emergency Support* more than once or twice (M = 1) during a two-week period. The restricted range for this measure may have obscured an actual relationship between the TEI and *Emergency Support*. A second concern is that the relationship between the TEI and *Emergency Support* was weakened because the *Emergency Support* measure did not distinguish between instances when support was required for students with disabilities versus non-disabled classmates. Teachers scoring highly on the TEI may have reported instances when they requested *Emergency Support* to help non-disabled students, and this may not reflect upon their abilities for instructing an inclusion class. Future research could address this limitation by creating user-friendly methods of recording *Emergency Support* over longer periods of time, and by including only those instances when an inclusion student is the target of *Emergency Support*.

The third outcome measure, *Reevaluation Requests*, was included to examine the hypothesis that referral decisions were guided in part by low teacher efficacy beliefs. It is important to know the degree to which efforts to place students in self-contained special education classrooms are guided by factors external to the child's abilities and needs. This possibility might suggest the need for greater scrutiny of teacher referrals, or in-service training rather than a change in a child's instructional setting. Data from the current study indicates that referral decisions are linked to a background variable. However, it was *Class Size*, not the TEI, which predicted referral decisions. It is possible that a relationship exists between the TEI and a teacher's decision to request a change in

student placement, though it may have been undetected due to the way in which *Reevaluation Requests* was measured. Due to a school policy relating to the release of educational records, this variable was assessed using retrospective teacher report, and teachers may have underreported their requests. It was found, however, that teachers were more likely to request that a child be moved from inclusion to a self-contained class when there were a greater number of students in their classes. It seems as though teachers recognize that they will be unable to provide the necessary modifications and accommodations once classes become too large. This finding is important because it shows that it is insufficient to target teacher-centered variables alone if schools are to embrace inclusive education. Greater efforts should be made to maintain smaller class sizes.

Comparing the TEI with the OSTES

The TEI was developed as a measure of teacher efficacy that deals with the challenging task of instructing in an inclusion class, and it is therefore more focused than an existing teacher efficacy measure. Both the OSTES and the TEI were significant predictors of *On-Task Behavior*, but the TEI is not linked to the size of teachers' classes. By contrast, the OSTES is correlated with *Class Size*. The *On-Task Behavior* observed in the current study is linked to two different factors—positive inclusion-related efficacy beliefs, which were measured by the TEI, and positive class-related efficacy beliefs, which were reflected by the OSTES. The high positive correlation between the two measures indicates that experience conducting larger classes may have helped teachers to develop strong inclusion classes. However, the TEI also measures efficacy beliefs that are distinct from those that are acquired as a result of experience teaching larger classes. In

order to further clarify this issue, future research should include outcome variables that are linked to specific inclusion instructional experiences, such as frequency of giving individual attention when an inclusion student needs it. Furthermore, a limitation of the *On-Task Behavior* measure is that it does not reflect the quality of instruction and learning. This more demanding outcome measure may show advantages for the TEI.

Limitations

There were certain limitations of this study which must be addressed in future research. First, as an exploratory study this research was conducted with a relatively small sample. More powerful analyses would be possible in a larger-scale study. Second, the TEI was generated to reflect inclusion practices in elementary schools. The demands of inclusion may be different for other levels of instruction, such as the middle school, where students are not with the same teacher throughout the school day, and teachers are often solely responsible for teaching in an isolated academic content area. Lastly, it is also important to explore the relationship between the TEI and outcome measures that will more directly reflect upon the quality of instruction and learning. For instance, the TEI may show greater strength than the OSTES in predicting the rate of progress in reading or math. It was initially intended that this study include a measure of reading growth, by assessing changes in reading fluency over the course of the school year. However, the ongoing recruitment of participants continued through until the spring, and as a result, there was insufficient time to observe growth.

Implications

Assessment of teacher efficacy for inclusion will allow for targeted training experiences for early career teachers. By assessing teachers' perceived competencies for

specific, contextualized skills, trainers will be able to help novice teachers build their skill sets. This will also be helpful for experienced teachers who are required to teach inclusion classes later in their careers, and therefore need to adapt their practices to accommodate a more diverse group of student needs. Furthermore, this instrument can be used for school-based screenings, to guide professional development activities. Direct assessment of the necessary skills is the first step towards building a community of educators who understand and embrace the challenges of inclusive education.

Summary

There is an extensive body of research that attests to the demanding nature of teaching an inclusion class. Yet teaching an inclusion class can be viewed as a skill like any other, in that it is guided by the principles of human learning and motivation. In the current study, the Social Cognitive construct of self-efficacy was applied to the role of an inclusion teacher, and a specialized measure was created to measure Teacher Efficacy for Inclusion (TEI).

In various domains of functioning, self-efficacy measures have been found to predict persistence and learning behaviors when one encounters obstacles and difficulties. The current study shows how these specialized self-beliefs also predict outcomes in the context of inclusion. The availability of human support (e.g., *Push-In Support*), class size, student gender, and teacher experience have all been described as factors that can influence outcomes for inclusion students. The current study shows that the TEI outperforms all of these predictors, and it bears the strongest relationship to the *On-Task Behavior* of inclusion students. Teacher Efficacy for Inclusion should therefore be considered when school districts and principals are considering inclusion as a method for

instructing students with disabilities. The TEI could be used to screen for those individuals who would be most qualified for an inclusion position. Furthermore, the Social Cognitive theory of learning and motivation provides insight into the ways in which teachers can improve both skill and self-efficacy beliefs—for instance, through goal setting, self-observation, and reflection (Schunk, 2001). In this regard, the TEI can be used on an individual consultation basis to help identify targets for inservice professional development, and to monitor teacher growth.

Appendix A

TEACHER CONSENT FORM

Dear Teacher,

My name is Ian Hollender and I am a student in the School Psychology Ph.D. program at the Graduate Center of the City University of New York (CUNY), and Principal Investigator of a project, entitled "Teacher Efficacy for Inclusion." I am seeking your voluntary participation in this study, which is geared towards the development of an instrument to assess challenges and skills required for teaching in an inclusive classroom. It is understood that many demands are placed on teachers when they are required to teach students who vary greatly in their underlying learning abilities and skills.

Your participation in this study will entail completing two brief surveys during the fall, which assess self-perceptions of ability for teaching in general and in an inclusive setting, and a short survey in the spring. You will also be observed for thirty minutes during a routine instructional activity. The risks from participating in this study are no more than encountered in everyday life. By volunteering for this study you will contribute to the understanding of the factors relevant to teaching an inclusion class. The resultant instrument (Teacher Efficacy for Inclusion, TEI) could be used to help make administrative decisions related to resource allocation and training. The TEI could also be used on an individual level to provide teachers with a firm basis for self evaluation and for monitoring growth—factors that are essential for the development of important motivational beliefs (self-efficacy beliefs).

A coding procedure will be used to ensure that teacher and student identities are kept separate from data collected. As your data will be unidentifiable and anonymous, findings will in no way have an impact on your professional standing. The master list indicating participant codes will be destroyed at the completion of data collection. There will be approximately forty teachers and students taking part in the study. As your participation would be voluntary, you can withdraw from the study at any time without penalty.

I may publish results of the study, but names of people, or any identifying characteristics, will not be used in any of the publications. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research, you can contact me at (718) 781-2228 or ihollender@gc.cuny.edu, or my advisor Dr. Zimmerman at (212) 817-8291 or bzimmerman@gc.cuny.edu. If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, (212) 817-7525, kpowell@gc.cuny.edu.

I consent to participation in this study (please circle one).

Yes No

_____	_____	_____	_____
Teacher's Signature	Date	Investigator's Signature	Date

Appendix B
Parent Recruitment Letter

Dear Parent,

My name is Ian Hollender and I am a school psychologist completing my doctoral studies at the Graduate Center of the City University of New York. As the Principal Investigator of a project, entitled "Teacher Efficacy for Inclusion" I am researching the experience of students and teachers participating in inclusion. Findings from this research will help educators understand the competencies and supports needed to effectively instruct students with disabilities in general education classes. Findings may also be used to guide administrative decisions related to budgetary spending and teacher training.

If your child receives inclusion services (Integrated Co-Teaching, Collaborative Team Teaching, Special Education Teacher Support Services, or Related Services), and you are interested in contributing to the field of educational research, please review the attached consent form and research description. To qualify for the study your child must fit the criteria for one of the disability categories listed below. If you agree to allow your child to participate, please detach and return the completed slip with your signed consent form.

Sincerely,

Ian Hollender, NCSP
Ph.D. Candidate, CUNY Graduate Center

Detach and return in envelope with signed consent

My child receives services for check all that apply):	My child's special education service (check all that apply):
____ADHD	_____Speech/Language Therapy
____Learning Disability	_____Special Education Teacher Support Services (SETSS)
____Speech/Language Impairment	_____Integrated Co-Teaching or Collaborative Team Teaching (CTT)
____Emotional Disturbance	
Your child's estimated reading level_____	

Parent Consent Letter

Dear Parent,

My name is Ian Hollender and I am a student in the School Psychology Ph.D. program at the Graduate Center of the City University of New York (CUNY). As the Principal Investigator of a project, entitled "Teacher Efficacy for Inclusion." I am researching inclusion and the experience of students with disabilities who attend general education classes.

As part of this study, your child will be given a three-minute reading fluency subtest—both at the start of the year, and later during the spring. These brief assessments will be scheduled carefully to ensure your child does not miss any instructional time. Your child will be observed for thirty minutes during routine instruction, and I may collect student test data to measure growth in reading skills over the course of the year.

Your child's performance will not impact his/her academic standing in any way. Decisions not to allow your child to participate will also have no impact on his/her standing in the school. A coding procedure will be used to make sure that student and teacher identities are kept separate from data, therefore leaving your child's data unidentifiable and anonymous. The master list with participant codes will be destroyed at the completion of data collection. As your child's participation would be voluntary, he or she can withdraw from the study at any time without penalty. Participation will also be dependent upon your child's willingness to participate.

The risks from participating in this study are no more than those encountered during an ordinary school day. By giving permission for your child to be in this study you will help us understand how to best serve students with disabilities in general education classes. The findings from this study may also be used to guide administrative decisions related to budgetary spending and teacher training.

I may publish results of the study, but names of people, or any identifying characteristics, will not be used in any of the publications. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research, you can contact me at (718) 781-2228 or ihollender@gc.cuny.edu, or my advisor Dr. Zimmerman at (212) 817-8291 or bzimmerman@gc.cuny.edu. If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, (212) 817-7525, kpowell@gc.cuny.edu.

I consent to my child's participation in this study (please circle one).

Yes No

_____	_____	_____	_____
Parent's signature	Date	Investigator's Signature	Date

Appendix C
Preliminary Scale Items

Instructions: Rate the degree, from 1 to 5, to which the following statements reflect your personal beliefs regarding the teaching of an inclusion class.

1 = cannot do at all 3 = moderately can do 5 = highly certain can do

1. Given a general education class that includes at least one student with a learning and/or behavioral disability, I can develop a system for assessment that is fair for **all** of my students.

2. Within an inclusion class, I can conduct careful and regular monitoring of whether or not students with learning disabilities comprehend what I have taught.

3. Given a situation in which a student with a disability in my general education class is confused, I can get him/her to understand by providing alternative explanations or examples.

4. I can craft appropriate learning questions for both my students with and without learning and/or behavioral disabilities.

5. I can implement alternative instructional strategies with both students with and without disabilities when teaching an inclusion class.

6. I can adjust lessons to the proper level for my students with learning disabilities.

7. I can create lessons/activities that students with learning disabilities can participate in without too much individual support.

8. I can plan/create tasks that students with learning disabilities can complete within fixed or allocated time frames.

9. I can redirect students with disabilities throughout activities without detracting from my other simultaneous teaching responsibilities.

10. Within an inclusion setting, I can ensure that students with disabilities have successful academic experiences and obtain positive feedback on their work/projects.

11. Within an inclusion setting, I can make expectations regarding student behavior clear to students with learning and/or emotional/behavioral disabilities.

12. Given students with emotional/behavioral disabilities in an inclusion setting, I can anticipate situations that set them off and lead to disruptive or problematic behavior.

13. I can establish classroom management systems for students with emotional/behavioral or learning disabilities that support and maintain desired behavior.

14. I can simultaneously implement alternative behavior management strategies in an inclusion class.

15. I am able to obtain family support when implementing interventions for students with disabilities.

16. I am able to remind myself of the ideals and benefits of inclusion when I become disillusioned (e.g., through reading, professional development, interpersonal support from others).

17. I am able to effectively partner and collaborate with teaching assistants and co-teachers or service providers in order to adapt lessons and assignments for students of varying abilities.

Appendix D

"On-Task" Observation Form

"*On-Task Behavior*" behavior

On-Task Behavior includes instances of attending to group instruction, and completion of independent or group work.

Off Task Behavior

Off Task behavior will include instances when the observed child is scanning (attention directed at something other than the instructional activity), engaging in social dialogue unrelated to the academic task, or disruptive (e.g., arguing with the teacher, tantrum).

Time	On Task	Off Task
0"		
10"		
20"		
30"		
40"		
50"		
60"		
1'10"		
1'20"		
1'30"		
1'40"		
1'50"		

Appendix E
Principal Participation Request Letter

Dear Principal,

My name is Ian Hollender and I am a Nationally Certified School Psychologist and a student in the School Psychology Ph.D. program at the Graduate Center of the City University of New York (CUNY). I am the Principal Investigator of a project entitled "Teacher Efficacy for Inclusion," and I am requesting permission to conduct research for this project in your school. I am interested in studying the skills of teachers who instruct students with disabilities in general education classes. Research shows that teachers worldwide embrace the ideals of inclusion, yet in reality they may lack confidence in their ability to meet the demands of effective practice. By agreeing to participate in this study you will permit the recruitment of teacher and student volunteers from your school. Teacher volunteers will be asked to complete two rating scales and a brief survey to describe classroom supports and practices. These rating scales will be completed at the teachers' own convenience, taking approximately twenty minutes. Student involvement, which will be dependent upon informed parental consent and student assent, entails completing a brief (three-minute) reading fluency measure on two occasions over the course of the school year. These students will also be observed in class for thirty minutes.

Information obtained will help us to better understand the competencies needed for effectively teaching inclusion classes. The resultant instrument (Teacher Efficacy for Inclusion, TEI) could be used to help make administrative decisions related to resource allocation and training. The TEI could also be used on an individual level to provide teachers with a firm basis for self evaluation and for monitoring growth—factors that are essential for the development of important motivational beliefs (self-efficacy beliefs).

During the study teachers will be revealing sensitive information relating to perceptions of competence and management strategies. This information will be essential in understanding the impact of specific teacher efficacy beliefs on the inclusion experience of students with disabilities and their learning. However, it is essential that data records are anonymous in order to protect volunteers from negative consequences. Data will be identified by participant number only. A code sheet will be stored in a locked file cabinet until data collection is complete, at which point it will be destroyed. Apart from the principal investigator, no other individuals will have access to identifiable data (e.g., parents, principals, or supervisors of teachers). Teacher participation is voluntary, and informed consent must also be obtained from parents. Participants can withdraw from the study without penalty at any time, and it will be made clear to them that their willingness or unwillingness to participate will in no way affect their professional or academic standing.

I may publish results of the study, but names of people, or any identifying characteristics, will not be used in any of the publications. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research, you can contact me at (718) 781-2228 or ihollender@gc.cuny.edu, or my advisor Dr. Zimmerman at (212) 817-8291 or bzimmerman@gc.cuny.edu. If you have questions about your rights as a participant in this study, you can contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York, (212) 817-7525, kpowell@gc.cuny.edu. This study has also been approved by the New York City Department of Education Division of Assessment and Accountability.

I agree to allow for the recruitment of participants from my school (please circle one).

Yes No

_____	_____	_____	_____	_____
Principal's signature	School	Date	Investigator's Signature	Date

Appendix F
Teacher Efficacy for Inclusion

Instructions: Rate the degree, from 1 to 5, to which the following statements reflect your personal beliefs regarding the teaching of an inclusion class, where as a general education teacher you are responsible for instructing students who have been identified as having a an educational disability, and have been provided with an Individualized Education Plan (IEP).

1 I am able to incorporate goals from IEPs of special education students into my teaching.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

2 I can adjust lessons to the proper level for my students with learning disabilities.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

3 I can craft appropriate learning questions for my students with disabilities when needed--for instance, by breaking them down into smaller components.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

4 I can implement alternative instructional strategies for both students with and without disabilities.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

5 I can get students with disabilities to understand when confused by providing alternative explanations or examples.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

6 I can create lessons/activities that students with disabilities can participate in without too much individual support.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

7 I can plan/create tasks that students with learning disabilities can complete within fixed or allocated time frames.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

8 I am able to prepare and provide for students with disabilities alternative homework assignments they can do independently at home with success.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

9 I can pair students for cooperative learning activities in a way that benefits both students with and without disabilities.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

10 I can recognize the way in which a child's disability impacts his/her emotional sensitivity to challenges in the classroom.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

11 I can ensure access to resources and reference materials (books, websites, newspapers) that are at an appropriate difficulty level for students with educational disabilities.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

12 I can conduct careful and ongoing monitoring of whether or not students with learning disabilities comprehend what I have taught.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

13 I am able to create assessments or modify assessments to meet the specifications of my students' IEPs.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

14 I know how to grade students who have been given modified grading and promotional criteria.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

15 I can educate children about their disabilities and the strategies they can use to cope with them.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

16 I can support the social integration of children with disabilities during unstructured activities (e.g., during recess).

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

17 I can establish classroom management systems for students with disabilities that support and maintain desired behavior.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

18 I can simultaneously implement alternative behavior management strategies for different students in an inclusion class.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

19 I can redirect students with disabilities throughout activities without detracting from my other simultaneous teaching responsibilities.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

20 I can establish routines or practices that help students to recover from personal or group issues (e.g., having an area where a student can go to calm down or reflect).

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

21 I can ensure that students with disabilities have successful academic experiences and obtain positive feedback in class.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

22 I can build activities on the strengths of students with learning disabilities.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

23 I can create activities where students with learning disabilities can lead.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

24 I am able to create a classroom environment in which all students are accepted.

1	2	3	4	5
cannot do at all		moderately can do		highly certain can do

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