A Program Evaluation of an Inclusive Model for Training Pre-Service General Education Teachers to Work with Students with Special Needs

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Abstract

The purpose of this study was to evaluate a program using an inclusive model (e.g., course work in special education and special education liaison support) on the beliefs, practices, and skills of pre-service middle and secondary general education teachers (n=26) regarding their preparedness to work with students with special needs. A pre- and post-survey, adapted from the General Education Teachers' Beliefs and Attitudes toward Planning for Mainstreamed Students (G-TBAP; Schumm, Vaughn, Gordon, & Rothlein, 1994) survey, was administered to participants in an urban research university in the Southeast. The graduate students were resurveyed while they were completing their practicum experiences. Statistically significant results were found in the post-survey indicating the inclusive model was effective for this program. Multiple dependent t-test analyses indicated that the overall beliefs, practices, and skills were improved for participants, $t(25) = -4.156$, $p = .000$. Limitations and future directions are discussed.

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With the push for inclusion of students with disabilities initiated by current federal legislation (NCLB, 2002; IDEA, 2004), students with special needs are included in the general education classroom at higher rates than ever before. According to the U.S. Department of Education (2008) over 75% of students with disabilities receive at least one segment of instruction daily from a general education teacher. Several studies have reported that general education teachers may not be comfortable serving populations of students with special needs (Bradley & Monda-Amaya, 2005; Fisher, Frey, & Thousand, 2003; Otis-Wilborn, Winn, Griffon, & Kilgore, 2005; Pavri, 2004); however, the federal mandate requiring students be served in the least restrictive environment (LRE; IDEA, 2004) implies teachers must be prepared to work with diverse populations of students with disabilities (Arthaud, Aram, Breck, Doelling, & Bushrow, 2007; Lombardi & Hunka, 2001). In response to current federal legislation and inclusion rates of students with disabilities, pathways to state certification and the training to address working with students with disabilities are changing the way that teachers become prepared to enter the

classroom. This may contribute to general education teachers' perceptions of preparedness to work with students with special education eligibilities (Kezar, 2005; Richards, Hunley, Weaver, & Landers, 2003; Welch & Brownell, 2002).

Training pre-service general education teachers to work with students with special needs requires a focus on the elements necessary for serving students across the continuum of academic achievement in the classroom. Teachers need more than content knowledge, they need exposure to pedagogy for developing instructional and curricular practices that accommodate student diversity (Laprairie, Johnson, Rice, Adams, & Higgins, 2010; Thompson & Smith, 2005). General education teachers must feel confident in making accommodations and modifications, understand all disability categories, and fluently implement strategies for inclusion (Coombs-Richardson & Mead, 2001; Laprairie et al., 2010). The projection of teacher shortages and the growth in teacher attrition in the southeastern U.S. has added to an expanding knowledge that teachers must have more support and assistance in order to retain teachers and to keep them effective (Feiman-Nemser, Schwille, Carver, & Yusko, 1999).

Numerous models exist at colleges and universities to address the effective incorporation of these strategies into the teacher preparation curriculum. Some models simply require educators to take one course in special education content. Other models include coursework as well as infusion of special education topics into the general pre-service education course content by a special education department liaison. Unfortunately, some models do not require student teachers to work with individuals with special needs in practicum and student teaching experiences (Coombs-Richardson & Mead, 2001), even though the reality is that students with disabilities are in general education classrooms.

To evaluate general education teachers' preparedness to work with mainstreamed students with learning disabilities, Schumm, Vaughn, Gordon, and Rothlein (1994) analyzed the self-perceptions of 60 teachers through 10 categories of statements on three parameters: beliefs, practices, and skills. "Beliefs" were defined as the teachers' agreement with belief statements about the inclusion of students with learning disabilities. "Practices" included the teachers' ratings of the importance of specific practices associated with the beliefs. "Skills" included the teachers' ratings of their own skill level in implementing a practice. These authors used the Teachers' Beliefs and Attitudes towards Planning for Mainstreamed Students (TBAP) instrument to survey teachers.

The survey was developed through a series of studies (Schumm & Vaughn, 1991; Schumm & Vaughn, 1992; McIntosh, Vaughn, Schumm, Haager, & Lee, 1993; Schumm, Vaughn, Haager, McDowell, Rothlein, & Saumell, 1995). Two studies focused on developing the survey instrument (Schumm & Vaughn, 1991; 1992) and two on intensive classroom observations to assess for reliability and validity of the instrument (McIntosh et al., 1993; Schumm et al., 1995). The survey was deemed both reliable and valid (Schumm et al., 2004).

The 10 categories of statements examined by Schumm et al. (1994) were: 1) information sources; 2) long-range planning; 3) short-range planning; 4) group composition; 5) course content; 6) time and pace; 7) tests; 8); checks with students; 9) individualized instruction; and 10) individualized grading. These categories were developed from a survey of teacher's planning

practices (Schumm & Vaughn, 1992) and focus groups with teachers on key components of teacher planning and adaptations. These categories were cross-referenced with beliefs, skills, and practices to produce the 30 question survey.

Cameron and Cook (2007) examined the beliefs, practices, and skills of pre-service teachers regarding work with mainstreamed students with mental retardation using a modified version of the TBAP known as the Pre-service Teachers' Beliefs and Attitudes towards Planning for Mainstreamed Students (P-TBAP) that specifically addressed working with students with mental retardation in mainstream settings. Cameron and Cook used two comparison groups consisting of general (n=34) and special education (n=23) pre-service participants enrolled in an undergraduate infusion teacher-training program. This teacher preparation model infused inclusion content into coursework rather than having students complete separate coursework on the topic. Results indicated that although the pre-service general and special education teachers believed in and would practice adaptations for students with mental retardation in their classroom, they did not believe they possessed the skills to do so.

The current study further replicated the survey portion of the Schumm, et al. (1994), and Cameron and Cook (2007) studies, expanding the questions to all categories of special education eligibility and restricting the participants to middle and high school general education pre-service teachers. This replication survey examined teacher preparedness to work with mainstreamed students with any type of disability. This two-year study was designed to evaluate the effectiveness of a program using an inclusive model in preparing pre-service educators to work with students with exceptionalities that was employed at an urban public university in the southeast.

The following research questions were addressed: What are pre-service general education teachers' beliefs, practices, and skills in planning and making adaptations for students who have special needs in the general education classroom? Do these beliefs, practices, and skills differ after exposure to an inclusive model for training pre-service teachers to work with students with special needs?

Method

Participants

Twenty six participants (9 males, 17 females) participated in the pre and post surveys regarding beliefs, practices, and skills for working with mainstreamed students with disabilities. The first year of the study consisted of administering a pre-survey to pre-service general education teachers. At the beginning of the semester the researcher (the first author) provided information to students attending a required introduction to special education course in the college of education at an urban university in the southeast. The researcher explained the purpose of the study (i.e., to examine how well the college of education was preparing educators to work with students with exceptionalities in the general education classroom), requested their consented participation; and explained that they would complete a brief short answer section identifying their name and major area of study so that the pre and post surveys could be matched at the completion of the survey. The students were assured that participation in the study would not influence their grade and that their professor would not be made aware of whether or not they

had completed the survey. Consent forms to participate in the study were then distributed to the students, along with the survey. This procedure was followed across three consecutive semesters (fall, spring, and summer).

During the second year of the study, the following fall semester, the post-survey was conducted with the same procedures as the pre-survey during middle and secondary general education practicum courses. The researcher then sorted the surveys and eliminated those that were not from middle and secondary pre-service general education teachers. Twenty-six post surveys were matched with pre surveys and all 26 were used for analysis. Characteristics of participant demographics are presented in Table 1.

Table 1

Characteristics of Participant Demographics

	N=26
Gender	
Male	9
Female	17
Age	
20-25	13
26-34	9
35-44	4
45-54	1
Major	
Reading	2
English	5
Social Studies	13
Science	6
Self-Rating	
Pre-Survey	
1 - No Experience	17
2	6
3	2
4	1
5 - Highly Experienced	0
Post-Survey	
1 – No Experience	10
2	11
3	3
4	1
5 – Highly Experienced	1

Materials

A survey consisting of 30, 5-point Likert scale questions was used for both pre and post assessment. The survey was a modified version of the Teachers' Beliefs and Attitudes toward

Panning for Mainstreamed Students (TBAP; Schumm et al., 1994) titled General Education Teachers' Beliefs and Attitudes toward Panning for Mainstreamed Students (G-TBAP). This survey consisted of three pages that assessed participant demographic information and 30 statements that measured pre-service teacher attitudes in three attitudinal categories (beliefs, intended practices, and skills) replicating the ten statements of teacher planning practices established by Schumm, et al. (1994). Examples of each statement are presented in the G-TBAP survey in Figure 1. This G-TBAP version was modified in two ways. First, it examined pre-service teacher's intended rather than current practices, a modification also exercised by Cameron and Cook (2007). Second, each item was changed to read, "included students with special needs" rather than learning disabilities or mental retardation. This change was necessary since students in the teacher preparation program at this university were trained on the characteristics of and interventions for students with all special education eligibilities. Participants rated their level of agreement with each statement based on a 5-point, Likert-type scale. The survey took approximately 15 minutes to complete. Participants were read scripted directions and a general description of the study prior to administration.

Model

The components of the inclusive model included: 1) the completion of an introduction to special education course, and 2) multiple components of guest lectures during the middle and secondary general education pre-service teacher practicum courses from a special education liaison. The role of this individual included infusing special education topics into the graduate curriculum for these general education pre-service teachers. The liaison, also the first author, determined the content to teach based on feedback from students, professors, and administrators during the previous two academic years. The feedback received mainly focused on the disconnect between the mandatory use of co-teaching required by the county school systems, and the lack of training and education regarding co-teaching taking place in local school systems and in teacher preparation programs.

The liaison portion of the model addressed the following components 1) co-teaching defined; 2) research based practices; 3) prerequisite skills for co-teaching; 4) proactive planning for co-teaching; 5) Power of 2 DVD (Friend, 2005); 6) co-planning; and 7) an inclusion strategies packet (Gore, 2004). A detailed description of both portions of the model and the components of each follows.

Special Education Course. The participants in the study were first required to complete a semester long course in special education titled, *Characteristics and Instructional Strategies for Students with Disabilities*. Students were encouraged to take this course prior to their practicum experience, and the pre-survey was conducted at the beginning of this course. The description in the course catalog states, "This course is designed to provide the student with an overview of the identification, classification, eligibility, and the unique characteristics of individuals with disabilities who require accommodations and adaptations throughout their life cycle. The course will focus on basic instructional strategies used to teach these individuals. The course includes an analysis of individuals across classification categories as well as an in-depth review of all areas of exceptionalities. (Institution, 2010)"

Guest Lecture Components. The researcher taught co-teaching and collaboration methodologies to the participants in the study by conducting guest lectures during the practicum coursework.

The co-teaching information reviewed was based on a variety of sources (Arthaud et al., 2007; Cook & Friend, 1995; Dieker, 2007; Friend & Cook, 2006) about co-teaching and collaboration and a portion of the Power of 2 DVD (Friend, 2005). These sources were chosen because of their evidence-base; the DVD was chosen as a supplement because the portion shown to the participants consisted of real-world examples of each of the six co-teaching models implemented in a classroom setting, thus giving the students an example of theory in practice.

Co-teaching Defined. The guest lecture portion of the model began with a discussion of how teachers are involved in the co-teaching process. Many of the participants experienced co-teaching models in their practicum teaching or during classroom observations but did not have a basic understanding of how and why the decisions were made as to whether or not co-teaching existed in certain classrooms. The federal guidelines and procedures for how Individualized Education Plan (IEP) teams and/or administrators determined whether a co-teaching environment would be a teaching model were reviewed. The participants were reminded that all educators including general educators, special educators, paraprofessionals, speech/language pathologists, and school counselors can be involved in the co-teaching process, in all subject areas, and at all grade levels (Friend & Cook, 2006). One rationale for why some school systems are implementing more co-teaching than ever before was discussed. This included the fact that the federal No Child Left Behind Act (NCLB; 2002) requires students to pass standardized state mandated testing in order for schools to make Annual Yearly Progress (AYP). Research has shown that both general and special education students increase academic achievement in an inclusive environment (Rea, McLaughlin, & Walther-Thomas, 2002; Waldron & McLeskey, 1998); therefore some school districts have increased implementation of the co-teaching model. A more in-depth look at these research findings were emphasized so participants could understand the background behind the practice of inclusion.

Research Basis. The following research findings were presented to the participants to show how research influences practice. Rea et al. (2002) compared the differences between students with learning disabilities (LD) served in a pull-out model versus an inclusion model. Results indicated students exposed to the inclusion model earned higher grades, had comparable scores on standardized tests, and attended more days of school. Similarly, Waldron and McLeskey (1998) found significantly more progress in reading in the inclusion environment and comparable progress in math achievement scores for students with LD. Positive social benefits were also found for the students in the inclusion setting.

A study by Tapasak & Walther-Thomas (1999) on student self-perception of cognitive competence and teacher perception of improved social skills was also presented so that participants could see some research from the student and teacher perspective. According to these researchers, students in inclusive settings communicated more cognitive competence, and teachers of inclusive settings communicated improved social skills of their students. Finally, the Cole, Waldron, and Majd (2004) study was reviewed because it is one of the strongest supports for why general education administrators may want to consider inclusion as a viable school improvement tool. The findings indicate significant improvement in reading and math scores for students without disabilities exposed to inclusion settings. This indicates that inclusion is beneficial not only to students with special needs, but also to general education students. Many general education teachers, administrators, and parents of students without disabilities

communicate concerns that inclusive settings will inhibit the progress of students without special needs, and this can be a deterrent to inclusion. This research was presented to proactively influence the mindset of the pre-service general education teachers and to encourage buy-in for inclusion from the general education teachers prior to training the teachers in inclusive practices.

Prerequisite Skills. Friend and Cook (2006) state that personal skills, pedagogical skills, and discipline specific skills are necessary before an effective co-teaching relationship can be established. Individual personal skills such as communication and flexibility and how teachers might go about discussing these skills with a fellow co-teacher in their current classroom setting were discussed. Then, a variety of pedagogical skills such as instructional techniques and strategies for making accommodations and modifications for students with IEPs were reviewed, so that the participants could begin to think about their strengths and weaknesses in this category. Finally, discipline specific skills, such as knowledge of the curriculum and accommodations and modifications, were discussed so that the participants could begin to comprehend what each teacher in the co-teaching environment brings to the relationship to make it beneficial for the students in the classroom.

Proactive Topics for Discussion. Several proactive topics for discussion that are necessary for a collaborative relationship to be successful were reviewed (Friend & Cook, 2006; Villa, Thousand, & Nevin, 2008). Co-teaching is often referred to as a "marriage" and this was the analogy used during the lecture so that participants could relate co-teaching to their own lives and relationships. Instructional routines, behavior management, and equality issues were among the topics posed for participant consideration. Participants were encouraged to compile a list of topics to address with their co-teacher and to schedule a time to discuss this list as partners prior to beginning co-teaching (e.g., lunch during preplanning). This activity was presented to facilitate a proactive approach to the "partnership" co-teachers enter.

Power of 2 DVD. The discussion included showing the participants a portion of the Power of 2 DVD (Friend, 2005). The 'classroom practices' section of the DVD was shown, consisting of 23 minutes of video that showed examples of the six models of co-teaching. Marilyn Friend narrates these videos by listing the definition of each model, the context in which each model could most effectively be used, and the pros and cons of each model. In addition, descriptions of each model of co-teaching were provided in a handout to the participants for future reference.

Co-Planning. A discussion and review of an agenda for co-planning was a vital piece of the discussion. First, the researcher showed a video representing an analogy of how futile it would be to walk into a classroom and try to co-teach with someone when you have completed no prior planning of the lesson. Second, an agenda for co-planning and a simulation of how participants could use this during planning time with other teachers to collaborate on how to teach a lesson and delegate responsibilities were provided. The steps in the co-planning agenda are utilized to maximize the short amount of planning time general and special education teachers have during the school day.

Inclusion Strategies Packet. Students received a packet of instructional strategies adapted from those developed by Gore (2004). This packet contained descriptions of research-based inclusion strategies for increasing the academic skills of general education students and students with

disabilities. Visuals and a description of each strategy were provided and categorized (e.g., vocabulary, taking notes from lectures) for easy accessibility. Many of the inclusion strategies discussed in the instructional strategies packet were visual and graphic organizers for middle and secondary students across curriculum areas and were therefore appropriate for the participants' widely diverse experiences.

Results

Data Analysis

A dependent *t*-test was conducted to compare the overall pre-survey responses of the G-TBAP and the overall post-survey responses of the G-TBAP with alpha set at .05. There was a statistically significant difference between the responses on the pre-survey and the post-survey, $p = .000$. The results are presented in Table 2.

Table 2

Dependent t-test Results for Pre and Post G-TBAP Overall

Overall Responses	*M*	*N*	*SD*
Pre-Survey	98.615	26	3.431
Post-Survey	112.115	26	2.717
	t	Df	Sig (2-tailed)
Pre-Survey-Post-Survey	-4.156	25	.000

A dependent *t*-test was conducted to compare the 10 questions regarding beliefs on the pre-survey responses and the post-survey responses of the G-TBAP with alpha set at .05. There was a statistically significant difference between the pre-survey and the post-survey, $p = .021$. A dependent *t*-test was conducted to compare the 10 questions regarding practices on the pre-survey responses and the post-survey responses of the G-TBAP with alpha set at .05. There was a statistically significant difference between the pre-survey and the post-survey, $p = .006$. Another dependent *t*-test was conducted to compare the 10 questions regarding skills on the pre-survey responses and the post-survey responses of the G-TBAP with alpha set at .05. There was a statistically significant difference between the pre-survey and the post-survey, $p = .003$. The results of these analyses are presented in Table 3.

Table 3

Dependent t-test Results for Pre and Post G-TBAP Beliefs, Skills, and Practices

	M (SD) ($n = 26$)	*M (SD)* ($n = 26$)

	Pre-Survey	Post-Survey
Beliefs	39.423 (5.804)	44.846 (12.379)
Practices	38.923 (7.104)	42.923 (4.542)
Skills	21.461 (8.533)	26.307 (8.961)

	t	df	Sig (2-tailed)
Pre-Survey-Post-Survey			
Beliefs	-2.466	25	.021
Practices	-2.999	25	.006
Skills	-3.310	25	.003

Analyses were conducted on the 10 statements of teacher planning practices, within the three categories of beliefs, practices, and skills on the G-TBAP. Each of the 10 effective teaching practices were matched to three questions; one on beliefs, one on practices, and one on skills. A dependent *t*-test was conducted on each set of three questions and there were statistically significant differences for information sources between the pre-survey and the post-survey, p = .004; for short range planning between the pre-survey and the post-survey, p = .003; for group comparison between the pre-survey and the post-survey, p = .004; for course content between the pre-survey and the post-survey, p = .001; for time and space between the pre-survey and the post-survey, p = .001; and for tests between the pre-survey and the post-survey, p = .006. The results are presented in Table 4.

Results did not indicate statistically significant differences for long range planning between the pre-survey and the post-survey, p = .091; for checks with students between the pre-survey and the post-survey, p = .099; for individualized instruction between the pre-survey and the post-survey, p = .079; and for individualized grading between the pre-survey and the post-survey, p = .066. The results are presented in Table 4.

Table 4

Dependent t-test Results for Pre and Post G-TBAP on the Ten Effective Teaching Practices

	M (SD) (n = 26)	*M (SD)* (n = 26)	*t* df (25)	Sig (2-tailed)
	Pre-Survey	Post-Survey		
Information Sources	10.769 (2.065)	12.000 (1.854)	-3.192	.004
Long Range Planning	10.538 (1.448)	11.192 (1.697)	-1.758	.091
Short Range Planning	10.653 (1.671)	11.846 (1.286)	-3.240	.003
Group Comparison	10.230 (2.214)	11.615 (1.235)	-3.143	.004
Course Content	8.769 (2.502)	10.538 (2.453)	-3.859	.001
Time and Pace	9.115 (1.986)	10.807 (1.855)	-3.882	.001
Tests	9.423 (1.901)	10.653 (1.787)	-3.011	.006
Checks with Students	10.769 (1.839)	11.653 (1.521)	-2.849	.099
Individualized Instruction	10.846 (1.781)	11.423 (1.527)	-1.834	.079
Individualized Grading	8.692 (2.694)	12.346 (10.766)	-1.924	.066

Discussion

This survey study assisted a special education department at an urban research university in examining, evaluating, and improving the teacher preparation program model that was in place for the middle and secondary general education pre-service teachers regarding working with students with disabilities. The statistically significant responses of the overall survey analysis indicate that according to their own reflections pre-service teachers improved their beliefs, practices, and skills through this program model. This was indicated by the overall analysis and supported by further analyzing the sections of beliefs, practices, and skills. Schumm, et al. (1994) reported that pre-service teachers' perceptions of their skills did not match their practice, although that was not the case in the current program evaluation. The statistically significant improvement in all three areas indicates the breadth and depth of the teacher preparation program model used in this evaluation may be appropriate and effective.

The ten statements regarding teachers' planning practices on the G-TBAP did not indicate statistical significance in each area. Long-range planning, checks with students, individualized instruction, and individualized grading did not make statistically significant changes from pre to post-survey. These areas are of particular importance when teachers are working with students with special needs in the general education classroom because long-range planning is associated with effective collaboration between special and general education teachers (Friend & Cook 2006). Individualized instruction is also critical when differentiating instruction for all students in the general education classroom, especially those students with IEPs who have accommodations and modifications that must be implemented.

Limitations and Future Directions

One limitation of the current program evaluation included sample size. The ability to track the participants to ensure pre to post participation resulted in a sample size of only 26 participants. Future evaluation should include more effective ways for ensuring participants complete both pre and post surveys. In addition, this evaluation addressed participants in middle and secondary preparation programs pursuing initial certification in general education. Future research should include participants in various programs including early childhood and elementary preparation programs as well as multiple certification tracks.

The lack of qualitative data was another limitation. Interviews with the participants to gain additional information about how well they felt the program model prepared them would have assisted researchers by providing evidence to make decisions about future directions of the model. Future research would benefit from interviews with participants in addition to the survey responses. Additionally, observation of the pre-service teachers during their practicum experiences could be compared to their perceptions of their skills and practices.

Another limitation is that there were multiple components to the model. Considering the special education coursework as well as the liaison support were implemented concurrently and prior to post-survey, it is not possible to determine if one component of the model was more effective than the other or if the components together led to the positive program evaluation. Future

research should assess for changes in the beliefs, practices, and skills of the teachers between the components. Further investigation into how the program model can be improved for training pre-service teachers in long range planning, checking with students, individualized instruction and grading may be beneficial since these were the only areas that did not see marked improvement after the participants were exposed to the inclusive model. Through this evaluation the instructional package of coursework and special education liaison appear to be effective and should continue to be evaluated on a yearly basis and adjusted according to policy and research trends in effective classroom-based interventions.

This study investigated the effectiveness of a model that included specialized coursework and in-class supports for future general education teachers. Results indicated that this level of support was instrumental in helping pre-service teachers develop positive beliefs, skills and interventions for working with students with disabilities. Further research and program evaluation is needed to ensure that pre-service programs for general education teachers are effectively preparing them to work with students with diverse special needs.

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