Multi-Site Analyses of Special Education and General Education Student Teachers' Skill Ratings for Working with Students with Disabilities

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Historically in the United States, teacher education programs have prepared personnel for separate areas of teaching, such as general education or special education (Hardman, 2009; Pugach & Blanton, 2009). However, the increasing diversity in classrooms requires that all teachers, including general and special educators, acquire skills to teach students with a range of learning needs, including students with disabilities (Florian, 2009; McHatton & McCray, 2007; Sobel, Iceman-Sands, & Basile, 2007). Many professional organizations and accreditation entities, including the Interstate New Teacher Assessment and Support Consortium (INTASC) and National Council for Accreditation of Teacher Education (NCATE), call for beginning teacher candidates to demonstrate knowledge, skills, and dispositions to help *all* students learn (Shippen,

Crites, Houchins, Ramsey, & Simon, 2005). However, many general educators feel they lack the preparation to serve students with disabilities in general education settings (Laarhoven, Munk, Lynch, Bosma, & Rouse, 2007; Loreman, Earle, Sharma, & Forlin, 2007; Shippen et al.). Conversely, special educators may lack the content-area knowledge traditionally considered the expertise of the general educator. Some teacher preparation programs have been redesigned to prepare dual-certification educators, which can merge the critical knowledge and skill sets from general and special education (Sobel et al.).

Serving students in the general education setting is sometimes the least restrictive environment (LRE) for students with disabilities (i.e., the general education setting is not the LRE for all students with disabilities all of the time), and sometimes the practice of students with disabilities receiving education in general education settings is called "inclusion." The ability to successfully instruct students in any setting requires personnel to have not only knowledge and skills, but also to have high self-efficacy skills. Theorists and researchers alike note the importance of student teaching experiences as a critical opportunity to shape effective teaching skills, leading to a higher self-efficacy level (Bandura, 1997; Cook, 2007). Educators with high self-efficacy skills believe they have the ability to perform the action that will lead to an outcome. Related to instructing students with disabilities, educators who have high self-efficacy beliefs are educators who strongly believe their instructional actions in the general education setting leads to desired educational outcomes for the learning of students with disabilities.

Martinez (2003) identified three areas as being the core values underlying the philosophy of inclusion of students with disabilities in general education settings: (a) positive attitudes toward increased inclusion of students with disabilities; (b) high sense of teaching efficacy; and (c) willingness and ability to adapt one's teaching to meet the individual educational needs of students with disabilities. Furthermore, researchers have suggested several additional competencies become integral components of teacher preparation programs for both special and general educators including: (a) collaborative teaming and teaching skills; (b) skill in making curricular and instructional accommodations; (c) knowledge and skill in areas of assistive technologies; and (d) positive behavioral support (Laarhoven et al., 2007). While many teacher preparation programs are modifying their programs to better meet the needs of these inclusive environments, there is little empirical evidence to support specifically which knowledge, skills and attitudes pre-service programs need to enhance (Loreman et al., 2007).

Another issue impacting teacher preparation programs is the quantity of highly-qualified and fully-certified special educators. The ongoing critical shortage of special educators has led to less traditional pathways to teacher certification so that students with disabilities are more likely to be taught by fully-certified special educators. These less traditional paths, frequently called alternative certification paths, are typically designed so that as preservice special educators are acquiring

their full certification, they are also teaching full-time as special educators. Consequently, they are completing on-the-job experiences, both when taking courses and when completing their student teaching experiences. Similarly, general education teachers are also completing alternative, or on-the-job, requirements to become fully certified. Consequently, preservice special and general educators who acquire full certification while working full-time as teachers reach their student teaching experiences with different skill sets than preservice educators who complete traditional teacher preparation programs. In traditional teacher preparation programs, coursework may include some field experiences, but preservice educators are not immersed in school settings until their student teaching experiences.

Although much is known about the knowledge and skills necessary for beginning educators (Council for Exceptional Children, 2003; Lotan, 2006), there are now competing pressures to prepare as quickly as possible an even greater quantity of beginning teachers. Whether fast-paced or alternative teacher preparation paths can maintain or approximate the quality of traditional teacher preparation programs is an issue that has only recently been acquiring a more robust research base (Darling-Hammond, Chung, & Frelow, 2002; Helfedt, Capraro, Capraro, Foster, & Carter, 2009; Nougaret, Scruggs, & Mastropieri, 2005; Rosenberg, Boyer, Sindelar, & Misra, 2007). Moreover, some policy makers and researchers note there is still meager evidence that specifically targets the short- and long-term impact that graduates of alternative certification programs can have on student learning (Boyd, Goldhaber, Lankford, & Wyckoff, 2007; Sindelar & Rosenberg, 2000).

Because more students with disabilities are receiving instruction in general education settings, it is important that general educators are acquiring some knowledge specific to special education instruction during courses and demonstrating some skills in teaching students with disabilities during student teaching experiences. Moreover, the extent to which general education student teachers are prepared via their preservice coursework for teaching students with disabilities also bears examination (Ford, Pugach, & Otis-Wilborn, 2001; Spooner, Baker, Harris, Ahlgrim-Delzell, & Browder, 2007). For example, in an examination of instructional strategies used by preservice teachers, Raine, Szabo, Linek, Jones, and Sampson (2007) found that although the preservice teachers identified 40 instructional strategies they had learned in courses, most student teachers used 9 of those strategies most frequently. What is unknown is when the other 31 strategies might be either applicable to be used, or useful when the student teacher becomes the classroom teacher. Consequently, the extent to which general educators feel prepared—as beginning educators—to teach students with disabilities can impact the quality and quantity of instruction that students with disabilities are likely to receive (Lotan, 2006).

Laudably, some general education teacher preparation programs have begun to build more special education content into courses and provide a more specific focus on special education in the program. For example, Van Laarhoven, Munk, Lynch, Bosma, and Rouse (2007) developed and evaluated a restructured teacher preparation

model that prepared teachers for service and leadership in inclusive schools. Because the traditional model continued as the restructured model began, the researchers were able to compare attitudinal and knowledge-level data (i.e., written responses of "what to do" when provided a description featuring classroom scenarios) at multiple points during the preservice teachers' programs. Preservice general educators who participated in the restructured program demonstrated the most substantive and significant growth across time for all measures. These data are indeed encouraging, yet the researchers noted a limitation of their study was acquiring skill-level information to document the extent to which positive attitudinal and knowledge-level data translated to actions when instructing students with and without disabilities.

Data from student teachers provide programmatic information at a critical juncture in the teacher preparation program, immediately before graduation and eligibility for teacher certification (Cakmak, 2008). For example, Capraro, Capraro, and Helfedt (2010) compared self-ratings of teacher candidates (i.e., preservice teachers) prepared using an inquiry approach, professional development school immersion, and a traditional (used as control group) approach in general education. Teacher candidates self-rated statements from a teacher preparation accreditation organization, the INTASC standards. Teacher candidates prepared using an inquiry approach self-rated higher, and in some areas significantly higher, than their peers completing field experiences in traditional and professional development settings. Teacher candidates in professional development settings self-rated higher than their peers who had experienced more traditional preparation. Capraro et al. noted that the two teacher candidate groups who self-rated higher than the control group also experienced more time in the schools throughout their teacher preparation program. Based on these results, they also note that teacher education research must more closely examine the types of field experiences that yield improved results for teacher candidates, which in turn may yield more effective teachers for students with and without disabilities.

To that end, in the current study, the researchers examined self-ratings from special and general education teacher candidates engaged in their culminating instructional activity prior to graduation: student teaching. Acquiring data at the end of the student teaching experience was targeted because student teaching is when teacher candidates apply the knowledge and use the skills they learned in courses. Moreover, student teaching can be the time when student teachers' self-efficacy beliefs evolve, especially pertaining to teaching students with disabilities. This timing of data collection provides teacher preparation programs a unique lens from which to more methodically assess programmatic strengths and areas to improve. Three research questions guided this examination:

Research Question 1: Are there differences between skill self-ratings of student teachers in general education and special education programs?

Research Question 2: Are there differences between skill self-ratings of

student teachers in traditional general education and traditional special education programs?

Research Question 3: Are there differences between skill self-ratings of student teachers in special education completing traditional certification and alternative certification teacher preparation programs?

Method

In this section, inclusionary criteria for participants and the instrument's development are described. Procedures for acquiring responses from participants are also explained.

Participants

Five teacher preparation programs from four colleges (undergraduate degree programs) and universities (undergraduate, graduate, and doctoral degree programs) in the eastern states participated in the research. Some teacher preparation programs required more than one student teaching experience in the same area, such as special education student teachers who completed their first student teaching experience midway through coursework, then completed their second (final) student teaching experience after all coursework had been completed. When there was more than one student teaching experience in the same area, only the data from the latter experience were analyzed in this research.

Some student teachers were part of an alternative certification program, while others were part of a traditional teacher preparation program. The type of special education service delivery methods across all student teaching experiences varied, such as self-contained special or general education classroom, resource room setting, or co-teaching settings. All student teachers had:

- A school-based supervising teacher who was fully-certified in special or general education and considered highly-effective by their school system;
- A university/college supervisor, employed by the university/college, to observe and evaluate throughout the student teaching experience;
- Completed some content in a course or courses or program about teaching students with disabilities; and
- Completed some type/s of student teaching assignments.

Instrument

The *Student Teacher Skill Survey for Student Teachers Working with Students with Disabilities* was developed by one of the authors as a rating instrument. The *Student Teacher Skill Survey* contained statements derived from the Council for Exceptional Children's (CEC) Skills for Preparing Beginning Special Educators. In

developing the *Student Teacher Skill Survey,* each statements' face validity was established by experienced supervisors of student teachers who had expertise across semesters of working with student teachers. The supervisors ranked the CEC skill statements to determine which skills could be demonstrated and observed during each student teacher's experience. The supervisors prioritized 55 skills on the *Student Teacher Skill Survey* as both very important and conducive to all student teachers demonstrating during the student teaching experience. For example, writing lesson plans, implementing lesson plans, and assessing the progress of learners with disabilities were skill statements rated as both very important and skills that could be demonstrated by every student teacher. Cronbach's alpha was used to determine the internal consistency of the 55 survey items, and the reliability coefficient obtained was .974.

Fifty-five (55) skill statements were clustered in *6 domains:* Instructional Strategies, Learning Environment, Behavior, Instructional Practice, Assessment, and Professional Practice. An average was calculated for each student teacher for each domain, and then a master average for all domains was calculated.

Statements from all six domains were assembled into a web-based (on-line) survey. Each participant responded to statements and questions relative to his or her self-perception of skill level demonstrated by the end of the student teaching experience. The following sentence starter preceded each set of domain statements: *"After completing this student teaching experience, I'd rate my skill level as.... "* A Likert-type scale was used, with 1 as a low rating and 5 as a high rating. To operationalize the ratings, phrases and self-statements were used. Throughout the survey, the Likert scale was repeated to remind participants about interpretations:

- "1" indicated "not very good performance," meaning *"As a student teacher, I really need to work very hard on doing a lot better in this area. This has been very hard for me to do. Sometimes I'm not sure I can do it.*"
- "2" indicated "somewhat good performance," meaning *"As a student teacher, I need to work on this area. I can do it, but I know this is something I really need to work on improving.*"
- "3" indicated "good performance," meaning *"As a student teacher, I'm good at this. I have room to grow, but I'd say my performance is 'just right' for a student teacher.*"
- "4" indicated "very good performance," meaning *"As a student teacher, I'm pretty good! I'm very satisfied with how well I did in this area. For a student teacher, I think I'm doing very well in this area.*"
- "5" indicated "excellent performance," meaning *"As a student teacher, I couldn't get any* better *at this! I think I'm one of the best student teachers at doing this!"*

There was also emphasis in the directions, at the beginning of the survey, noting that a "3" rating was "good," and was intended to counter people's interpretation that a higher score of "4" or "5" was the desirable score. In other words, a student teacher who self-rated with a "3" was informed that this rating was a good rating, not a low rating. In the event the participants did not have opportunities to teach a specific skill (e.g., reading) during the student teaching experience, participants could choose "not observed," which was considered a neutral response.

Procedure

Three prompts were developed inviting respondents to participate in this survey. All prompts were sent via email to student teachers. All data collected were via the online survey. Timing for sending each prompt was approximately one week before the end of the student teaching experience, and one week thereafter for the next two weeks. The first prompt provided an overview of the research, an invitation to participate, and the online survey. The second prompt was a reminder, and the final prompt noted a date by which respondents needed to complete the online survey if they wished to participate in this research. As motivation to respond, at the end of the survey, participants could enter their name to be eligible for a raffle for an iPod, which was provided for each of the multiple sites.

Results

The purpose of this study was to compare student teachers' perceptions of their skills for teaching students with disabilities. Student teachers' self-ratings were compared across skill domains. Data were disaggregated based on certification area (special education or general education) and type of student teaching (traditional or alternative) for further comparison within skill domains. Data from the study were analyzed to compare ratings between and among groups using SPSS Independent Samples *t*-tests. To answer research question 1 regarding differences between self-ratings of student teachers in general education and special education programs, the means of student teachers' self-ratings were compared using SPSS Independent Samples *t*-tests. For research question 2, comparing traditional special education and general education student teachers' self-ratings, the means of student teachers in traditional special education programs were compared to those of student teachers in traditional general education programs using SPSS Independent Samples *t*-tests. Research question 3 required comparing the means of student teachers in traditional special education certification programs and alternative certification special education programs. An SPSS Independent Samples *t*-test was used to compare means across all domains and the master average. Results are reported for characteristics of participants and statistical analyses for each research question.

Student Teacher Demographics

A total of 124 student teachers responded to the survey. Twenty-six surveys were eliminated due to incomplete data or because student teachers were not instructing students with disabilities. A total of 98 student teacher respondents remained that could be used for data analyses.

From the total respondents, whether completing a general education or special education student teaching experience, most were females (74%), with six males (6%) and 19 participants)16%) choosing not to identify their gender. The majority of respondents were between the ages of 21 to 30 (60%), 1% between the ages of 31 to 39, 11% between the ages of 40 to 49, 2% between the ages of 50 to 59, and 16% of the respondents choosing not to answer this question.

A further breakdown of participants is provided in Table 1, with characteristics identified for general education student teachers (GE) and special education student teachers (SE). Of the respondents, 65.3% *(n*=64) were in general education and 34.7% *(n*=34) were in special education. There were 40.8% *(n*=40) in elementary general education, 17.3% *(n*=17) were secondary general education, 12.2% *(n*=12) were special education elementary, 14.3% *(n*=14) were special education secondary and 15.3% *(n*=15) were dual special education/elementary education majors. There were 83.7% *(n*=82) of respondents identified as being part of a traditional teacher education program and 16.3% *(n*=16) were part of an alternative certification program. Refer to Table 1 for a summary of characteristics of the student teachers.

Comparison of General Education to Special Education Student Teachers

Table 2 presents the means of student teacher self-ratings by teaching area across all six domains and the master average of all domains. Results of a *t*-test for independent samples indicated significant *($p < .01$)* differences between groups for all comparisons. Results of a t-test for independent samples indicated a significant difference between groups for the master average, $t(92) = -5.84$, $p < .01$. The difference between means was 0.68 (CI_{95}: 0.91-0.45). This result indicated student teachers in special education programs self-rated their skills significantly higher in working with students with special needs compared with student teachers in general education programs.

On a 5-point scale, with "3" meaning "good—as a student teacher should be at this point," the range of general educators' self-ratings was 3.2 to 4.0. The range for special educators' self-ratings was 3.8 to 4.5 (rounded to the nearest tenth). Statistical significance at the .01 level also occurred for special education student teachers' for the Master Average, which summarized ratings from all six domains per-group. The Master Average for general educator student teachers' self-ratings was 3.5, and 4.2 for special educator student teachers' self-ratings.

Table 1
Characteristics of Student Teacher Participants

Variable		*N*	*%*
Gender			
	GE[1] Male	4	6.3
	GE Female	50	78.1
	GE No Response	10	15.6
	SE[2] Male	2	5.9
	SE Female	26	76.5
	SE No Response	6	17.6
Age			
	GE 21-30	44	68.8
	GE 31-39	4	6.3
	GE 40-49	6	9.4
	GE No Response	10	15.6
	SE 21-30	17	50.0
	SE 31-39	3	8.8
	SE 40-49	6	17.6
	SE 50-59	2	5.9
	SE No Response	6	17.6
Ethnicity			
	GE Caucasian	53	82.8
	GE Multiracial	1	1.6
	GE No Response	10	15.6
	SE Caucasian	25	73.5
	SE Asian/Pacific Islander	1	2.9
	SE Hispanic	1	2.9
	SE Multiracial	1	2.9
	SE No Response	6	17.6
Teaching Area			
	General Ed (GE)	64	63.3
	Special Ed (SE)	34	34.7
Student Teaching Program			
	Elementary Gen Ed (GE)	40	40.8
	Secondary Gen Ed (GE)	17	17.3
	Special Ed (SE) Elementary	12	12.2
	Special Ed (SE) Secondary	14	14.3
	Dual Certification (Elem/SE)	15	15.3
Type of Program			
	Traditional (GE and SE)	82	83.7
	Alternative (SE only)	16	16.3

[1] GE is General Education Student Teachers

[2] SE is Special Education Student Teachers

Table 2
All Student Teacher Self-Ratings Central Tendency Statistics by General or Special Education Certification Areas for Each Domain and Master Average

Domain	Student Teachers' Certification Area	*N*	*M*	*SD*	*t*-Test Value
Instructional Strategies	All Gen Ed[1]	64	3.25	0.85	
	All Sp Ed[2]	34	3.98	0.85	4.04 *
Learning Environment	All Gen Ed[1]	64	3.58	1.00	
	All Sp Ed[2]	34	4.31	0.48	4.85 *
Behavior	All Gen Ed[1]	62	3.31	0.92	
	All Sp Ed[2]	34	3.84	1.14	2.46 *
Instructional Practice	All Gen Ed[1]	64	3.33	0.88	
	All Sp Ed[2]	34	4.11	0.51	5.59 *
Assessment	All Gen Ed[1]	63	3.37	0.81	
	All Sp Ed[2]	33	4.10	0.49	5.50 *
Professional Practice	All Gen Ed[1]	64	4.04	0.76	
	All Sp Ed[2]	34	4.47	0.54	2.89 *
Master Average	All Gen Ed[1]	64	3.51	0.69	
	All Sp Ed[2]	34	4.18	0.45	5.84 *

[1] Gen Ed is General Educator Student Teachers
[2] Sp Ed is Special Education Student Teachers
* $p<.01$

Comparison of Special and General Educators Completing Traditional Student Teaching Experiences

Table 3 presents the means of student teachers' self-ratings for students in traditional teacher preparation programs by teaching area across all domains and the master average. A visual depiction comparing the means is presented in Figure 1. Results of t-tests for independent samples indicated significant ($p<.01$) difference between the means of self-ratings for student teachers in traditional special education programs and student teachers in general education programs across all domains with the exception of Behavior. Results of a t-test for independent samples indicated a significant difference between groups for the master average, $t(52.41)=5.89$, $p<.01$. The difference between means was 0.72 (CI_{95}:0.972 to 0.48).

This result indicated student teachers in traditional special education programs self-rated their skills in working with students with special needs significantly higher than student teachers in traditional general education programs. The range of self-ratings for traditional general education student teachers for all domains was 3.2

to 4.0, and their Master Average was 3.5. The range of self-ratings for traditional special education student teachers for all domains was 3.6 to 4.6, and their Master Average was 4.2. Statistical significance at the .01 level occurred for all domains with the exception of Behavior.

Both groups rated their skill in the domain of Behavior similarly. For traditional general education student teachers, the average for Behavior was 3.3. For traditional special education student teachers, the average for Behavior was 3.6.

Comparison of Special Educators Completing Traditional or Alternative Student Teaching Experiences

Table 4 presents the means and standard deviations for each group, and Figure 2 provides a visual comparison of the means. Results of t-tests for independent samples revealed no significant differences between the means of self-ratings for student teachers in special education programs. This suggests that student teachers completing traditional and alternative student teaching experiences rated their skills for working with students with disabilities similarly across all domains.

Table 3
Traditional General Education Teacher Preparation Program and Traditional Special Education Student Teachers ' Self-Ratings Central Tendency Statistics for Each Domain and Master Average

Domain	Certification Area	*N*	*M*	*SD*	*t*-Test value
Instructional Strategies	Trad Gen Ed[1]	64	3.25	0.85	
	Trad Sp Ed[2]	18	3.90	1.07	2.72 *
Learning Environment	Trad Gen Ed[1]	64	3.58	1.00	
	Trad Sp Ed[2]	18	4.33	0.41	4.71 *
Behavior	Trad Gen Ed[1]	62	3.31	0.92	
	Trad Sp Ed[2]	18	3.62	1.40	1.11
Instructional Practice	Trad Gen Ed[1]	64	3.33	0.88	
	Trad Sp Ed[2]	18	4.19	0.36	6.22 *
Assessment	Trad Gen Ed[1]	63	3.37	0.81	
	Trad Sp Ed[2]	17	4.11	0.42	5.16 *
Professional Practice	Trad Gen Ed[1]	64	4.04	0.76	
	Trad Sp Ed[2]	18	4.59	0.43	2.90 *
Master Average	Trad Gen Ed[1]	64	3.51	0.69	
	Trad Sp Ed[2]	18	4.24	0.37	5.89 *

[1] Trad Gen Ed is Traditional General Education
[2] Trad Sp Ed is Traditional Special Education
*$p < .01$

Discussion

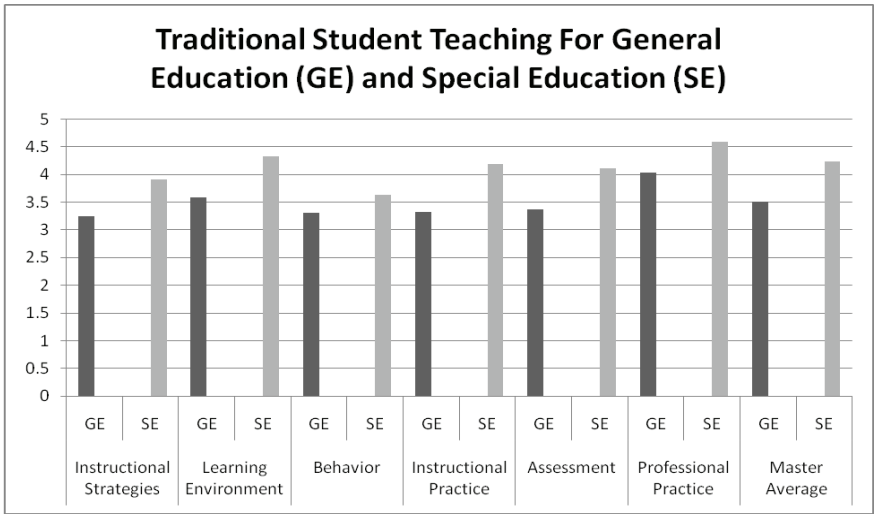
Three topics are described in this section. First, discussion relative to the three research questions focused on the student teachers' ratings is provided. Second, limitations of the study are identified. Finally, the educational importance of the research, with implications for future research, is described.

Student Teachers' Self-Ratings

For research question 1, all special education student teachers' self-ratings were compared to all general education student teachers' self-ratings. In all six domains of Instructional Strategies, Learning Environment, Behavior, Instructional Practice, Assessment, and Professional Practice, statistical significance at the .01 level indicated that special education student teachers' self-rated higher than general education student teachers' self-ratings. Even with statistically significant differences at the.01 level favoring the special education student teachers, the averages for all student teachers are "good," with a self-rating of 3 or higher. There would be cause for greater concern if averaged ratings were at the "1" or "2" rating level for general education or special education student teachers. That the statistical significance favored special education student teachers may be as expected, since special education teacher preparation programs are more focused on special education coursework than are general education teacher preparation programs.

For research question 2, traditional general educator student teachers' self-rat-

Figure 1
Means Per Domain and Master Average for Traditional General Education and Special Education Student Teachers (Research Question 2)



ings were compared to traditional special educator student teachers' self-ratings. Traditional student teaching experiences, whether general education or special education, occur when preservice teachers complete coursework when they are not also working in the schools full-time as the teacher-of-record. Although traditional preservice teachers may have field experiences concurrent with coursework, their immersion in classrooms with students occurs during the student teaching experiences after coursework has been completed. Because self-ratings of "3" are considered "good," the averaged self-ratings for both groups, even when there are no statistically significant results, are considered "good." Again, one might expect that special educators' self-ratings would be higher than general educators' self-ratings, given that special educators' coursework is far more focused on special education. For all domains except Behavior, there was significance favoring traditional special education student teachers.

Regarding the non-significant results for Behavior, one possible explanation is that traditional student teachers, whether general or special education, are having their first sustained encounters with students with disabilities. Students with

Table 4
Traditional and Alternative Certification Special Education Teacher Preparation Program Student Teachers ' Self-Ratings Central Tendency Statistics for Each Domain and Master Average

Domain	Trad or Alt Spec Ed Program	*N*	*M*	*SD*	*t*-Test Value
Instructional Strategies	Trad Spec Ed[1]	18	3.90	1.07	
	Alt Cert Spec Ed[2]	16	4.06	0.55	0.53
Learning Environment	Trad Spec Ed[1]	18	4.33	0.41	
	Alt Cert Spec Ed[2]	16	4.29	0.56	0.25
Behavior	Trad Spec Ed[1]	18	3.62	1.40	
	Alt Cert Spec Ed[2]	16	4.08	0.70	1.18
Instructional Practice	Trad Spec Ed[1]	18	4.19	0.36	
	Alt Cert Spec Ed[2]	16	4.02	0.63	0.96
Assessment	Trad Spec Ed[1]	17	4.11	0.42	
	Alt Cert Spec Ed[2]	16	4.09	0.57	0.14
Professional Practice	Trad Spec Ed[1]	18	4.59	0.43	
	Alt Cert Spec Ed[2]	16	4.33	0.63	1.40
Master Average	Trad Spec Ed[1]	18	4.24	0.37	
	Alt Cert Spec Ed[2]	16	4.13	0.53	0.67

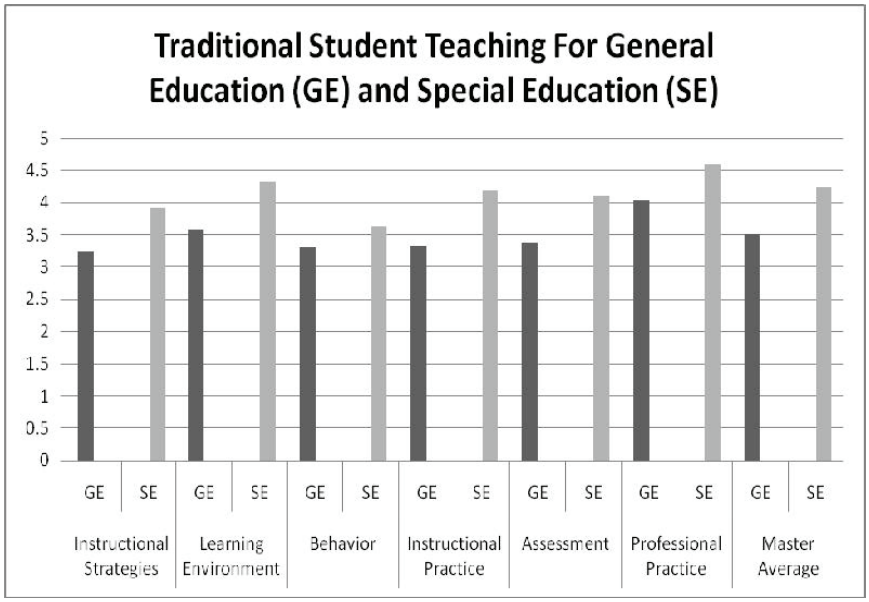
[1] Trad Sp Ed is Traditional Special Education

[2] Alt Cert Spec Ed is Alternative Certification Special Education

disabilities can have behavior issues, which may or may not be connected with their disability. Also, Cook (2007), in her research on special education student teachers, noted that behavior management was an area in which student teachers were more likely to access content from their coursework. Conversely, Cook also found that special education student teachers were significantly more likely to use the behavior management techniques that were being used by their school-based supervising teacher. One explanation for the non-significant results in this research may be that when behavior management systems were already in place in student teaching settings, the student teachers were more likely to use those systems versus designing and developing another behavior management system.

Another explanation is that these student teachers may have been experiencing their first knowledge-to-skill experiences in applying behavior management skills, which are most effective when consistent and systematic actions occur, with learners with disabilities. Positive, consistent, and systematic behavior management skills may not be intuitive actions for student teachers. For example, if one student is behaving inappropriately and others are behaving appropriately, an intuitive reaction is to give corrective attention to the student behaving inappropriately. Conversely, a less intrusive and more positive reaction is to comment on or give points to students who are behavior appropriately. Although reinforcing appropriate behaviors

Figure 2
Means per Domain and Master Average for Traditional Special Education and Alternative Special Education Student Teachers (Research Question 3)



may seem simplistic and direct to do, providing positive reinforcement instead of negative reinforcement at that moment, in a teaching situation, when faced with students who are and are not behaving appropriately, is harder to do. That is, the student teachers' focus on positive proactive behavior management techniques, delivered consistently and systematically, can be a skill acquired over time. That these student teachers considered themselves at a "good" level can be indicative that they have begun to acquire such skills.

Finally, for research question 3, self-ratings for traditional special education student teachers were compared to self-ratings for alternative certification special education student teachers. That there were no statistically significant results in this comparison may indicate that regardless of traditional or alternative certification program structure, these special education student teachers self-rated as having similar skill levels for all five domains and the Master Average. Traditional special education student teachers' self-ratings ranged from 3.6 to 4.6, and alternative special education student teachers' self-ratings ranged from 4.0 to 4.3. What is of interest here is the range, in that there is a one-point wider range with traditional special education student teachers, whereas alternative special education student teachers' range was .3 point. This may be indicative of a more stable skill level for alternative special education student teachers; conversely, the one-point range for traditional special education student teachers shows a slightly higher upper rating, nearly a 5, which is the highest possible rating.

Another interpretation, which may be true for all of these ratings from alternative special education student teachers (for all research questions), is that those student teachers' self-ratings were based on more experiences, and so may be more informed self-ratings. However, this way of thinking can also be interpreted in other ways, such as alternative special education student teachers, consciously or otherwise, did not perceive themselves as student teachers and so rated themselves as beginning or more experienced teachers. Although survey directions emphasized that regardless of the type of teacher preparation program they were in, all respondents were to focus and self-rate as student teachers, that may have been more difficult for alternative certification special education student teachers to do. Regardless, that there were no statistically significant results favoring either type of student teaching experience for traditional or alternative certification special education student teachers, and that all averages were above the "3" as "good for a student teacher" rating, can be interpreted as positive that self-ratings were comparable. The self-ratings for the Master Average (all domains) were more similar (i.e., less of a range): traditional special education student teachers' Master Average was 4.2, and alternative certification student teachers' Master Average was 4.1.

Limitations

Survey research is limited by nature of ratings, whether of self or others, in that researchers are reliant on participants' honesty and perceptions in providing

the ratings, as well as participants' interpretation of survey content. Consequently, one limitation of this research is reliance on self-evaluative ratings provided per a survey instrument.

Another limitation is the quantity of respondents for student teachers. It is unknown whether non-respondents for this research may or may not have had similar responses as those participants who chose to respond. Although multiple sites were invited to participate in the research, participation is voluntary. Moreover, the timing of when participants were asked to complete the *Skill Survey for Student Teachers* coincided with several milestones (e.g., graduation, transition) that may have resulted in fewer responses.

Among the multiple sites participating in this research, each teacher preparation program is designed and delivered differently. Even within the same teacher preparation program, there can be variances (e.g., courses taught by different instructors, level of supervision during student teaching experiences). Consequently, there is caution in generalizing these results to other teacher preparation programs, both from a programmatic and geographic perspective.

Educational Importance and Implications for Future Research

The educational importance of this research for teacher preparation programs focuses primarily on three levels. First, self-ratings from the student teachers indicate their perceptions of self-performance based on knowledge and skills acquired from the teacher preparation program. Because each teacher preparation program from this multi-site study acquires individualized data from the *Student Teacher Skill Survey,* those data can be used as formative assessment for student teaching experiences. Second, the ending point for skills demonstrated during student teaching evolves to the starting point for skills to build on as beginning teachers. Consequently, information acquired at the conclusion of student teaching can lead to teacher preparation program refinements that better prepare beginning teachers to work with students with disabilities, or the data may be used as another source to affirm accomplishment of programmatic missions. Third, even beginning special educators whose program is designed to focus on teaching students with disabilities, rely on coursework and student teaching experiences that best prepares them for their first year of teaching, with some degree of confidence (i.e., self-efficacy) and skills, for teaching students with disabilities. Even so, student teachers are soon beginning educators, and content from the survey may help them realize pedagogical and content areas to target for their beginning teacher professional development plan (sometimes required by school districts). This information can also guide beginning teachers' focus if they are working with mentoring teachers during their first year of teaching.

For future research, one suggestion is to either expand this *Skill Survey for Student Teachers* with content that includes subject-specific skill statements (i.e., Science, Algebra), orto develop companion surveys that elicit responses for subject-specific skills. Just as general education student teachers should be prepared to teach

students with disabilities, special educators, particularly to acquire highly-qualified status in their state, also need to be prepared to teach subjects. Per No Child Left Behind requirements, special education teacher preparation programs are obliged to graduate preservice teachers who are both fully-certified in special education and highly-qualified to teach in one or more content areas.

Similar obligations, however, are not required for preservice general education programs to acquire some level of high qualifications for instructing students with disabilities in general education classes (King-Sears, 2005; McHatton & McCray, 2007). Nonetheless, some general education teacher preparation programs have become quite intentional in building such skills into field experiences and courses (Van Laarhoven et al., 2007). Consequently, an educational implication could be for school systems to provide professional development for beginning general educators who may have received minimal exposure to special education in their teacher preparation program.

Another suggestion for future research is to include an observational component with the survey, and/or to use observation as the focus in the research. As noted earlier, survey research is based on self-reports, so observational research, whether quantitative or qualitative or mixed methods, could deepen the objectivity and interpretation of research focusing on student teachers working with students with disabilities. For example, Goodnough, Osmond, Dibbon, Glassman, and Stevens (2009) paired student teachers with general educators to form co-teaching teams, and research measures included semi-structured interviews, electronic journal entries, and observations. Although students with disabilities were not specifically mentioned in their research, the researchers' use of other types of instruments provides examples of varied measures that can be used throughout the student teaching experience.

The importance of student teaching experiences as a valued and valuable time for preservice teachers to work directly with students who and do not have disabilities seems undisputed by researchers and teacher preparation personnel, as well as policy makers and federal and state education agencies (Boyd et al., 2007; Ford et al., 2001; Laarhoven et al., 2007). As the critical teaching shortage in special education continues and as more students with disabilities receive access to general education curriculum in general education classes, it seems even more essential to ensure that the student teaching experiences that occur are high quality (Darling-Hammond et al., 2002; Hardman, 2009; Prater & Sileo, 2004). Moreover, it is imperative to monitor how well alternative certification programs are faring in relationship to traditional teacher preparation programs (Nougaret et al., 2005; Rosenberg et al., 2007). One way to investigate these issues is to query the student teachers themselves about their self-efficacy in relation to teaching students with disabilities. Data acquired in this study adds to the growing research base examining the impact of alternative and traditional teacher certification programs in general and special education. With *something* to use for data in hand, teacher preparation

personnel can determine the impact their courses, and ultimately their programs, have on the development of fully-certified general and special educators who are well-equipped to teach students with disabilities.

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