Teachers' Perceptions of Preparedness to Teach Students with Disabilities

Tara Kaczorowski
Sonia M. Kline
Illinois State University

Providing a meaningful education to all learners, including those with disabilities, is the responsibility of all educators. This study utilized a multi-method survey design to examine and compare general and special education teachers' perceived preparedness to teach students with disabilities as well as the experiences each group believes contributed to that preparedness. Special education teachers' rated themselves as more prepared for both instruction and social inclusion of students with disabilities than general education teachers, both after completing their undergraduate programs and after gaining teaching experience. While teachers across both groups valued similar experiences during their undergraduate programs, such as clinical placements and the ability to interact with students with disabilities during their program, the nature and frequency of those experiences across programs differed. Reported post-undergraduate experiences contributing to preparedness also differed between the groups. Across both teaching groups, few post-undergraduate professional learning opportunities (e.g., graduate school, professional development workshops) to teach students with disabilities were identified. Implications and recommendations for teacher education programs are described.

Keywords: Teacher Preparation; Students with Disabilities; Inclusion; Program Evaluation

Introduction

Growing momentum worldwide calls for children with disabilities to access free, quality, inclusive education (Watkins & Donnelly, 2014), as inclusive education breaks down barriers, challenges stereotypes, and provides the best environment for learners (Byrnes et al., 2007). In the United States (US), the research context of this study, the Individuals with Disabilities Act (IDEA; 2004) promotes the practice of inclusion in schools through federal law requiring children with disabilities receive education in their Least Restrictive Environment. That is, they are educated with their peers who are not disabled to the maximum extent appropriate (IDEA, 2004). In the US, similar to other countries, more children with disabilities than ever before are educated in general education classroom settings (McLeskey et al., 2012).

While principles of inclusion are widely accepted, and policies mandating inclusion are widespread, there are still many tensions surrounding the practical and philosophical issues of inclusion. For example, Dudley-Marling & Burns (2014), identify two diametric perspectives of disability - a deficit stance and a social constructivist perspective - that led to contrasting views of inclusion and how inclusion might be achieved. Hornby (2015) highlights how inclusive education and special education are based on different philosophies that led to opposing

approaches to the education of children with disabilities. Similarly, Nilholm and Göransson (2017), in their review of articles on inclusion, demonstrate that position articles tend to provide a complex view of inclusion whereas empirical articles tend to define inclusion simply as the placement of students with disabilities within mainstream classrooms. They argue that this conceptual confusion is problematic for the field. These different philosophies on inclusive education noted within each of these studies are likely to impact the way teacher preparation programs prepare educators to teach students with disabilities, particularly if there is limited collaboration within and between programs.

In the US, general education and special education preparation programs have traditionally existed separately. Blanton and Pugach (2011) classify programs into three models that relate to different levels of collaboration between special and general education and different underlying assumptions. *Discrete* program models have entirely separate preparation for general and special education teachers aside from occasional cross-program courses (e.g. general education majors' requirement to take a special education course or special education majors' requirement to take a reading course). *Integrated* models involve some collaborative redesign of special and general education programs so there is intentional curricular overlap along with some specialized and separate coursework. The most collaborative model is the *merged* model, which aims for complete integration, involving all future teachers engaging in the same program and experiences. The majority of US states currently utilize separate programs (i.e., a *discrete* model) for general and special education (Blanton et al., 2017), which may contribute to differences in perceptions of preparedness among general and special education teachers.

As the move towards inclusive education has progressed, the imperative for collaboration between general and special education has increased. Also, of great concern and contention, is debate over which should take priority: social inclusion or academic outcomes. There is some evidence suggesting general education teachers more frequently take an approach prioritizing social inclusion (Cameron & Cook, 2013; Solis et al., 2012). *Social inclusion*, the promotion of interpersonal relationships and community participation (Simplican et al., 2015), contributes to individuals with disabilities feeling more valued and part of the community (Overmars-Marx et al., 2014). Social inclusion alone, however, does not offer students with disabilities the meaningful education promised by federal law; and some question the focus on inclusion. For example, Kauffman and Bader (2014, p. 13) argue, "a focus on anything other than instruction undercuts the legal and moral rights of students with disabilities to an appropriate education and fails to produce substantive social justice." These are additional examples of philosophical differences that may impact preparation programs and the extent to which general and special education teachers are prepared to work together to teach students with disabilities.

In the midst of these tensions, teachers are charged with interpreting and implementing inclusion and providing meaningful education for all students. For this to happen, there must be widespread consensus around one point: high quality teachers are essential, and therefore, high quality teacher education programs are vital. While the contexts of teacher preparation programs across the world may differ, the challenges they face as they work for equity and inclusion are shared concerns (Florian & Rouse, 2009). Many teacher preparation programs have struggled to keep pace with societal changes, leaving teachers unprepared to face the dual demands of an

increasingly diverse learner population and increasing pressure to show academic performance for all learners (Florian, 2012).

The purpose of this study is to examine differences between special education and general education teachers' perceptions of preparedness for instruction and social inclusion of students with disabilities, as well as experiences that contributed to their preparedness. Through a survey, educators who had completed general and special education programs at a mid-Western university, were asked to reflect on their preparedness and experiences both after completing their undergraduate program and after gaining some teaching experience. This research is relevant to those engaged in the challenge of preparing teachers to meet the needs of all students - particularly those with separate general and special education departments. Before presenting the study, a review of literature on teachers' perceptions of preparedness for teaching students with disabilities is provided.

Teachers' Perceptions of Preparedness for Teaching Students with Disabilities

Extant studies have focused on pre-service general education teachers' perceptions before and after a single university course (Ajuwon et al., 2012; Forlin & Chambers, 2011) and on in-service special education and general education teachers' perceptions (Conderman & Johnston-Rodriguez, 2009; Frizzell, 2018; Zagona et al., 2017). These studies provide some important insights into teachers' views, in particular, related to experiences with specialized courses, experiences with people with disabilities, and experiences with collaboration.

Forlin and Chambers (2011) found that after taking an elective course involving applied experiences with people with disabilities, pre-service general education teachers were marginally more positive about including all students with different needs and more confident in their ability to teach students with special learning needs. Their increased confidence was more evident for students with mild support needs than those with more extensive needs. On several measures, however, pre-service teachers were more concerned about including students with disabilities after the course. For example, they had increased concerns about their stress-level and about adequate resources or supports available for inclusion. Ajuwon et al. (2012) also found increased positive attitudes after pre-service general educators at three different universities took a course on disabilities. This effect was significantly larger for teachers who reported prior interactions with people with disabilities and was also more pronounced at one of the three universities. The researchers conjectured that this was possibly because the university included more field-based experiences and infused their instruction with guest speakers, including those with disabilities. These findings provide some indication that even one course may positively influence future general education teachers' attitudes towards inclusion.

In studies of both special education and general education teachers, special education teachers typically perceive higher levels of preparation for inclusion than general education teachers. Conderman and Johnston-Rodriguez (2009) found all teachers felt best prepared in the category of valuing and working with students and families from diverse cultures; however, general education teachers felt less well-prepared for skills related to curriculum and assessment, such as providing students access to the general education curriculum, making accommodations and modifications, and using progress monitoring and individualized assessments. In terms of their

teacher preparation programs, teachers identified field experiences, especially working with veteran teachers, as particularly important. More recently, Zagona and colleagues (2017) found a significant relationship between the type of teacher (special or general educator) and their preparation to demonstrate practices associated with inclusion. In general, they found special education teachers were more likely to report practices like individualizing instruction, pacing instruction, and adapting content standards. They were also more likely to report skills associated with collaboration, including, participating in Individualized Education Program teams, sharing responsibility for decision-making in instruction, and working with other professionals to plan for implementation of individual students' goals and objectives. Similarly, Frizzell (2018) reported significantly higher levels of preparedness for special education teachers and a positive correlation between teachers' perceptions of preparedness and attitudes towards inclusion. In addition, her findings indicate a positive correlation between preparedness and self-efficacy and between administrative support and self-efficacy. In reflecting on these findings, it is not surprising that special education teachers feel more prepared. It is, however, concerning that general education teachers do not typically feel prepared, especially for skills related to collaborating, because inclusion clearly needs to involve a team process.

The study we present here also investigates teachers' perceptions of preparedness to teach students with disabilities; however, our study extends this work in several ways. We link specific experiences with perceptions of preparedness for both instruction and social inclusion. We believe this distinction is important given the evidence that general education teachers typically focus on social inclusion (Cameron & Cook, 2013; Solis et al., 2012). We also consider two time periods: undergraduate experiences and post-undergraduate experiences. This difference is useful because it provides insights into both how teachers are prepared to work with students with disabilities at the undergraduate level and what additional experiences are likely to contribute to their preparedness for working with students with disabilities when they are practicing teachers. In addition, unlike previous perception studies of practicing special and general education teachers (Conderman & Johnston-Rodriguez, 2009; Zagona et al., 2017), our study focuses on teachers who graduated from programs at the same university where general and special educators are prepared separately within a discrete program model (Blanton & Pugach, 2011). This allows us to consider findings of potential differences in perceptions of preparedness among general and special educators in relation to our programs and how we might improve these programs. The implications of these findings may also be useful for the majority of other teacher preparation programs that utilize discrete models like ours.

To better understand teachers' perspectives on their preparedness to socially include and provide quality instruction to students with disabilities, we conducted a multi-strand and mixed methods survey study. Specifically, we addressed the following research questions:

> 1.[QUAN] (a) How do teachers rate their preparedness for instruction and social inclusion of students with disabilities after completing their undergraduate program and after gaining post-undergraduate teaching experience? (b) How do these perceptions differ among general and special education undergraduate majors?
>
> 2. [MIXED] (a) What experiences do teachers perceive contributed to their preparedness to teach students with disabilities during and since their undergraduate programs? (b)

How do these experiences differ among general and special education undergraduate majors?

Methods

Participants and Setting

This study takes place within the context of a university where teacher preparation programs are discrete in nature. General education majors take an introductory course in special education and special education majors take two introductory courses in reading and language arts. Aside from these requirements, all other courses taken are separate and distinct, and to date, minimal collaboration has occurred across departments.

After obtaining IRB approval, participants for this study were recruited from the pool of recent graduates (2011-2017) from early childhood, elementary, middle level, and special education programs at the authors' institution (approximately 1,700 former students). This institution, in the Midwestern United States, has separate licensure routes for general and special education with no formal dual licensure option currently available. We utilized alumni listservs to send a recruitment email with a link to the survey and received consent to participate from 166 teachers (74 general education, 92 special education) who responded to survey questions to varying degrees (see Table 1 for participant demographics). The relatively low response rate and disproportionate representation of the general education and special education groups are two limitations of our sample (we were relying on self-reported personal emails that may or may not still be in use). Within the sample, however, there is representation from every graduation year on the list, and the demographics of our participants within each group (i.e., race/ethnicity, gender, program majors) are proportionally similar to the population demographics within each of the general education/special education groups.

Research Design

This multi-strand and mixed methods study was designed pragmatically (Feilzer, 2010), utilizing methods that aligned with research questions and available data sources (i.e., an existing alumni survey; see Figure 1 for our research design diagram). Through a survey, quantitative and qualitative data (i.e., four quantitative ratings of preparedness and two open answer questions about their experiences – described in the next paragraph) were collected simultaneously.

Instrument

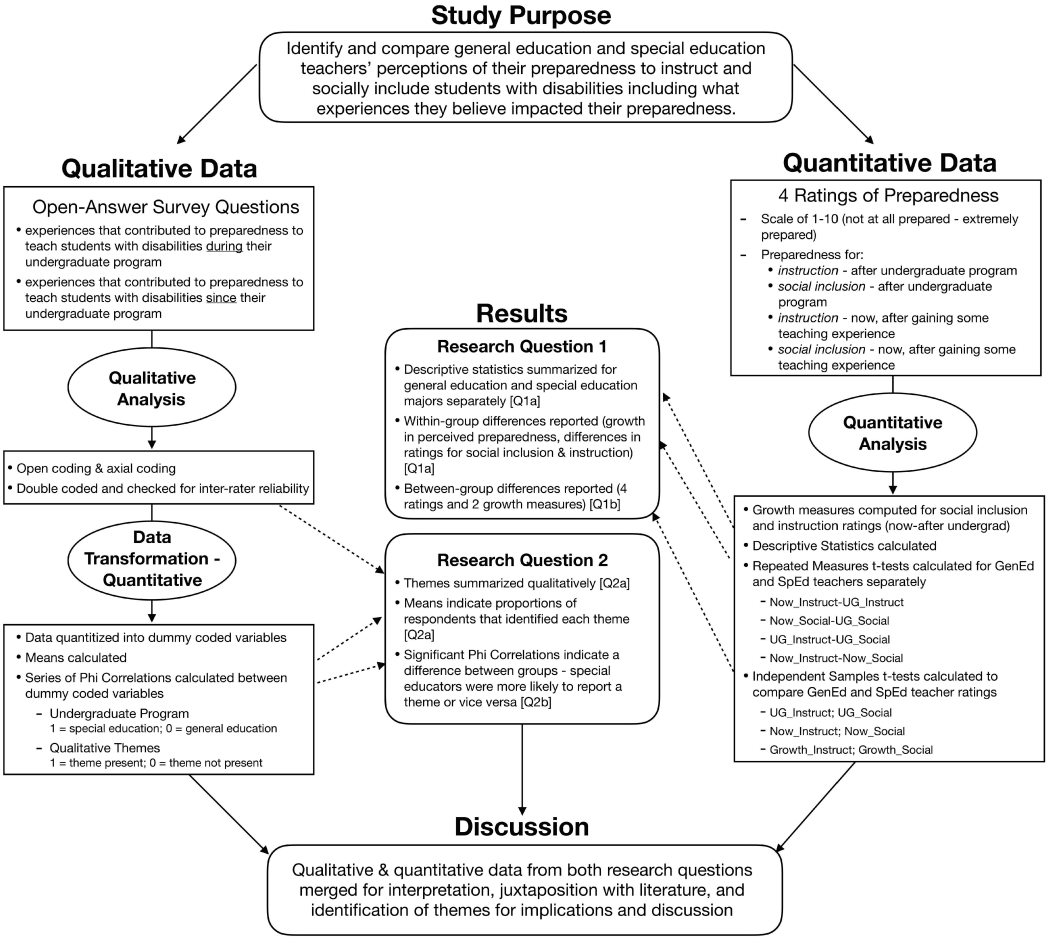
Survey questions were developed by an interdepartmental work group. This analysis for this study utilized demographic responses as well as responses for four quantitative ratings and two open-ended questions from this survey. For the quantitative ratings, current teachers were asked to rate their perceptions of preparedness in terms of "social inclusion" and "instruction" of students with disabilities on a scale of 1-10 (1 = not at all prepared; 10 = extremely well prepared). Given the aforementioned differences in the literature related to emphasis of special education – social inclusion vs. specialized instruction (Kauffman & Badar, 2014) – we asked participants to rate themselves for each area separately. For each of those areas, they provided

ratings for two periods of time – post-undergraduate and current perception (after gaining teaching experience) – to document any growth in perceived preparedness after teaching for one or more years. Thus, each participant was asked to report four ratings of preparedness. Asking participants to provide all ratings at once was intentional as we were able to detect whether they believe they showed growth in preparedness after gaining teaching experience. The alternative approach – asking them for ratings at different time periods – may have resulted in a shift in their interpretation of numerical ratings, so we would not have been able to examine their perceived growth. The open answer questions prompted teachers to describe experiences that contributed to their preparedness at those two periods of time – "during" and "since" their undergraduate program: "Describe any experiences that you had during/since your undergraduate program that helped prepare you to teach students with disabilities in your classroom and/or address issues of disability with your students."

Table 1
Participant Demographics

Demographic	Category	*n*
General Education Program	Early Childhood (EC) Major	13
	Elementary Education (ELE) Major	49
	Middle Level (ML) Major	12
Special Education Program	Learning & Behavior Specialist (LBS) Major	79
	Deaf & Hard of Hearing (DHH) Major	7
	Low Vision & Blindness (LVB) Major	5
	LBS and DHH Majors	1
Gender	Male	6
	Female	158
	Not reported	2
Race	White	143
	Non-White	12
	Not Reported	11
Graduation Year	2011	8
	2012	13
	2013	29
	2014	32
	2015	31
	2016	25
	2017	28
Years of Teaching Experience	0	3
	1	26
	2	22
	3	29
	4	30
	5	25
	6	7
	Not Reported	24

Figure 1
Diagram of Research Methods Showing Mixing of Qualitative and Quantitative Data



Data Analysis Procedures

Our first research question about teacher perceptions utilized only quantitative analysis. We ran descriptive statistics for the four preparedness scores. To examine statistical differences in teacher preparedness scores (undergraduate, post-undergraduate, and calculated growth) between general and special education majors, we conducted independent sample *t*-tests. It is important to note; some participants did not respond to all four rating questions. For each time period analysis (*during* and *since* undergraduate programs), we removed cases listwise for respondents who did not provide both instruction and social inclusion ratings. After testing and confirming any remaining missing data (<10% missing) were missing completely at random (MCAR), we utilized a multiple imputation technique (Rubin, 1987) before running our analyses.

For our second research question, we utilized both qualitative coding and data transformation for our mixed methods integration (Fetters et al., 2013). Specifically, qualitative codes were quantitized into dichotomous variables so we could statistically analyze any differences in reported experiences between the general education and special education groups. First, we

examined the two open-answer survey questions asking teachers to report any experiences during and since their undergraduate program they believe contributed to their preparedness. The authors separately employed open coding to look for initial themes in responses before coming together to develop and define a code hierarchy. Using the agreed-upon coding system, the authors separately coded each response for the two open-answer questions for the presence of each code. After coding separately, the authors compared coding and reconciled any differences by returning to the participants' language, redefining codes as needed. We calculated Cohen's Kappa for initial inter-rater agreement prior to reconciliation. For experiences during and since their undergraduate programs, we had "substantial" rater agreement (Kappa = 0.85, 0.86 respectively; Landis & Koch, 1977).

To examine trends in identified experiences, each code for experiences was entered as a dummy coded variable for each participant (1 = the response included that experience; 0 = the response did not include that experience). Calculated means revealed the proportion of general and special education majors who identified each of the experiences. Additionally, we conducted Phi correlations to examine any association between undergraduate program (general or special education) and identification of specific experiences, both of which were dummy-coded variables. We report statistical significance as one way of identifying the strongest relationships, though any differences also have practical significance. Therefore, utilizing integration through narrative, we included qualitative language from the teachers' responses as supporting evidence for context and interpretation of these statistics within our results. In our discussion, we utilized a weaving approach (Fetters et al., 2013) to identify themes from both qualitative and quantitative data sources.

Results

Perceptions of Preparedness

Ranges, means, and standard deviations for preparedness scores for social inclusion and instruction of students with disabilities are presented in Table 2. All means fall above 5, meaning on average, teachers feel more prepared than not. It is important to note, the scores expand the full potential range for post-undergraduate ratings and nearly the full range for current ratings, so this indicates some teachers still do not feel prepared in either area. The average perceived preparedness to instruct students with disabilities post-undergraduate program is slightly higher (M = 7.38) than perceived preparedness for social inclusion at that time (M = 6.73). The difference between instruction and social inclusion preparedness is less pronounced in teachers' post-undergraduate perception ratings (M = 8.07 and M = 7.98 respectively).

Differences in Perception Scores Among General Education and Special Education Majors

We ran independent sample t-tests to examine differences between special education and general education majors in their perceived preparedness to instruct and socially include students with disabilities at the two periods of time. On average, once finishing their undergraduate program, special education majors perceived their preparedness significantly higher than general

Table 2
Descriptive Statistics for Perceived Preparedness Ratings by Major

Dependent Variable	Group	*n*	Min	Max	*M*	*SD*
Undergrad Instruct	General Ed Major	59	0	10	5.58	2.47
	Special Ed Major	77	5	10	8.73	1.32
Undergrad Social	General Ed Major	59	0	10	5.22	2.36
	Special Ed Major	77	2	10	7.88	1.78
Now Instruct	General Ed Major	53	1	10	6.92	2.10
	Special Ed Major	72	5	10	8.92	1.16
Now Social	General Ed Major	53	3	10	7.25	1.82
	Special Ed Major	72	1	10	8.51	1.68
Growth Instruct	General Ed Major	53	-3	+8	1.26	2.57
	Special Ed Major	72	-5	+4	0.14	1.30
Growth Social	General Ed Major	53	-2	+7	1.98	2.24
	Special Ed Major	72	-3	+4	0.58	1.53

education majors for both instruction, $t(134) = -8.89$, $p < .001$, and social inclusion, $t(134) = -7.23$, $p < .001$, of students with disabilities with large effect sizes ($d = 1.59$; $d = 1.27$ respectively). After gaining some teaching experience, general education majors perceived more growth in preparedness for instruction, $t(123) = 2.93$, $p = .003$, and social inclusion, $t(123) = 3.92$, $p < .001$, than special education majors with large effect sizes ($d = 1.27$ for both). Despite not showing as much growth as their general education counterparts, at the present time, special education majors still perceive greater preparedness for instruction, $t(123) = -6.11$, $p < .001$ and social inclusion, $t(123) = -4.05$, $p < .001$ of students with disabilities with large effect sizes ($d = 1.17$; $d = 1.27$). To explore this further, we looked at the ranges for preparedness growth ratings and noticed the minimum growth for special education teachers was -5 for instruction preparedness and -3 for social inclusion preparedness. This indicates some special education teachers perceived a decrease in their preparedness once entering the field. Negative growth was reported for general education majors as well, however, the minimums were not as low (-3 and -2 respectively) and the maximum growth scores were higher (8 and 7 for general education teachers vs. 4 and 4 for special education teachers).

Identified Experiences Contributing to Preparedness

Two open-answer questions on the survey asked teachers to describe what experiences contributed to their preparedness to teach students with disabilities. The first question asked them to reflect on experiences during their undergraduate program and the second on experiences since completing their undergraduate program. Based on our qualitative analysis, Table 3 displays the identified undergraduate experiences as well as the percentage and frequency of responding teachers who identified those experiences. Teachers could identify more than one experience within their responses; therefore, the percentages in the table do not add up to 100%.

The undergraduate experiences that teachers identified were almost exclusively university related. General program experiences (16%) were those that referred to the program in its entirety. Course experiences (34%) were those that related to a particular course or aspect of a

course or courses, such as a project, a case study, or class discussions. Particular professors were also identified as part of course experiences. Clinical placements (64%) included student teaching as well as other field-based school experiences. Both general education and special education majors referred to the "hands-on" and "real-life" nature of these experiences; sometimes contrasting them with learning from a book or college course. Across all undergraduate programs, only two teachers mentioned having clinical experiences in classrooms co-taught by general and special education teachers. Lastly, extra-curricular activities (8%) included Registered Student Organizations (RSOs), clubs, and other university events. Outside university experiences, which included volunteering in the community and relationships with family members with disabilities, were rarely mentioned (<.01%). It is important to note, 14% of students described their undergraduate university experiences as negative or limited in contributing to their preparation. We explore this further in the next section when we examine differences between general education and special education majors.

Table 3
Teacher Identified Undergraduate Experiences That Contributed to Their Preparedness

Category	Experience	% (n) of Teachers	
University Experiences	General Program	18% (8)	gen ed
		15% (8)	special ed
	Courses	44% (20)	gen ed
		26% (14)	special ed
	Clinical Placements	49% (22)	gen ed
		76% (41)	special ed
	Extra-Curricular Activities	11% (5)	gen ed
		6% (3)	special ed
Outside University Experiences	Community Experiences	2% (1)	gen ed
		0% (0)	special ed
	Personal Experiences	0% (0)	gen ed
		0% (0)	special ed
Negative/Limited	N/A	29% (13)	gen ed
		2% (1)	special ed

We noted similar themes within teacher responses for experiences that contributed to their preparedness post-undergraduate program along with some additional themes (see Table 4). The university experiences were less commonly reported as contributing to preparedness post-undergraduate; only about 8% of teachers mentioned graduate programs and about 8% mentioned graduate coursework. No teachers described any graduate clinical or extra-curricular experiences. A few teachers described community experiences (6%) and personal experiences (2%) that contributed to their preparedness. The new category of experiences that emerged was *K-12* "school experiences"; the highest percentage of teachers' identified experiences fell within this category. These experiences included general classroom experiences (30%), working with students (27%), professional development (19%), and working with other professionals (21%). Roughly 6% of teachers reported negative or limited post-undergraduate experiences contributing to their preparedness.

Table 4
Teacher Identified Post-Undergraduate Experiences That Contributed to Their Preparedness

Category	Experience	% (n) of Teachers	
University Experiences	General Program	5% (2)	gen ed
		10% (5)	special ed
	Courses	5% (2)	gen ed
		10% (5)	special ed
	Clinical Placements	0% (0)	gen ed
		0% (0)	special ed
	Extra-Curricular Activities	0% (0)	gen ed
		0% (0)	special ed
Outside University Experiences	Community Experiences	7% (3)	gen ed
		6% (3)	special ed
	Personal Experiences	5% (2)	gen ed
		0% (0)	special ed
K-12 School Experiences	General Classroom	24% (10)	gen ed
		35% (18)	special ed
	Working with Students	40% (17)	gen ed
		17% (9)	special ed
	Professional Development	14% (6)	gen ed
		23% (12)	special ed
	Working with Other Professionals	32% (13)	gen ed
		13% (7)	special ed
Negative/Limited	N/A	12% (5)	gen ed
		2% (1)	special ed

Differences in Experiences Among General Education and Special Education Majors

Results indicated differences in experiences among general education and special education majors, including differences in the number of responses related to particular kind of experiences and the nature of response comments about those experiences. Below we first consider differences in undergraduate experiences and then differences in post-undergraduate experiences.

Differences in Undergraduate Experiences

We calculated Phi correlations (Table 5) to examine any trends/differences in general and special education majors' identification of experiences that contributed to preparedness both during and after their undergraduate programs. For undergraduate experiences, two Phi correlations were significant: special education majors were more likely to identify clinical experiences as contributing to their preparedness ($r_\phi = .280$, $p = .005$) and general education majors were more likely to identify negative/limited experiences ($r_\phi = -.386$ $p < .001$).

In terms of undergraduate experiences, 16% of teachers provided responses related to their general program which typically differed depending on the program. Teachers in special education programs all provided responses that indicated they felt well-prepared by their

Table 5
Phi Correlations Between Presence of Identified Experiences and Special Education Major

Undergraduate Experiences	r_ϕ	Post-Undergraduate Experiences	r_ϕ
General Program	-.040	General Program	.095
Courses	-.194	Courses	.364
Clinical	.280**	Community Experiences	-.026
Extra-Curricular Activities	-.101	Personal Experiences	-.163
Community Experiences	-.111	General Classroom	.259
Personal Experiences	-	Working with Students	-.258*
Negative/Limited Experiences	-.386**	Professional Development	.111
-	-	Working with Other Professionals	-.220*
-	-	Negative/Limited Experiences	-.201

*p < .05; **p < .01; ***p < .001

program. For example, "My entire major was based around students with disabilities, therefore most experiences helped prepare me for this." The program responses from general education teachers were mixed in nature. A few teachers provided responses that indicated that they felt well-prepared by their program to teach students with disabilities, however, a larger number of responses from general education teachers indicated that they did not feel well-prepared by their program: "I don't remember doing much to address students with disabilities."

Special education majors identified clinical experiences more frequently than general education majors (76% v. 49%). For special education teachers it was the extensive amount of time and the variety of clinical experiences that were regarded as most valuable. For example, special education teachers wrote: "Spending so much time in real classrooms prepared me for my own students." In their comments, special education majors often indicated that they considered the clinical components their favorite or most valued part of their program. Though less common, general education teachers' responses also indicated that they found clinical placements important in helping to prepare them to work with students with disabilities: "During student teaching, I had the opportunity to work with kids with autism that were part of the mainstream classroom." No general education teachers mentioned that they had extensive clinical experience working with students with disabilities and for many general education teachers, clinical experiences were the *only* experiences they mentioned as helping to prepare them to work with students with disabilities. One teacher directly identified an issue that we saw emerging in our data set, that is, general education teachers regarded clinical experiences with students with disabilities as important, but these experiences were often limited by their placement: "Where I learned the most was student teaching, however, I didn't have very many SPED students in my placement."

Although not as frequently reported as clinical experiences, both general and special education majors mentioned their courses when identifying experiences that contributed to their preparation to teach students with disabilities. A higher percentage of general education majors (44%) than special education majors (26%) mentioned course experiences, though the nature of these comments differed between the two groups. Special education majors only described their courses as helpful – they either mentioned them in a positive way or did not mention them at all. Some referred to their courses or professors in general, for example, "As a special education

major, the majority of my courses focused on preparing me to teach students with disabilities in both special education and general education settings." Other comments about courses identified particular experiences, particular professors, or professors in general, as helpful: "PROFESSORS were a huge part of my experience that has carried on. Their support and guidance was significant to learning and the hands-on experiences. The in-class work was very helpful in preparing for teaching, too, because it gave me applicable times and the ability to observe others already in the field."

Few general education teachers provided responses that indicated they felt their courses prepared them well for working with students with disabilities. Of the 20 general education teacher responses that mentioned coursework, only 2 (10%) mentioned coursework within their general education preparation program. Rather, 14 (70%) described the single special education course they took (SED 101). One teacher mentioned a particular course and one mentioned a particular project. Half of those 20 students who identified courses used words that noted the limited number of these courses or experiences within courses. The word "only" was commonly used in these responses, for example: "The only class that addressed students with disabilities in the classroom was SPED 101." While most general education teachers indicated they only took one course, three early childhood teachers did mention taking more courses for the special education letter of approval (a pathway to extending early childhood licensure to include special education licensure for early childhood years only). These teachers, perhaps depending on the setting where they teach, appear to have different feelings about the value of these courses. Some found them helpful: "I took the extra courses required for the special education letter of approval and found that helpful" while others apparently did not: "We were required to take different classes. It did not seem to help. I am teaching a life skills program and I do not feel like I was exposed to a lot of this."

Extra-curricular university experiences, which were mentioned by 8% of teachers, were identified by both general and special education majors. However, while special education teachers mentioned extra-curricular activities in addition to other university experiences, typically for general education teachers these were the only experiences identified, as illustrated by this response: "I feel that I was only given opportunities to work with children with disabilities outside of my program requirements through RSOs and other events." Only one teacher, an elementary education major, mentioned an outside of university community experience that helped her to feel more prepared to work with students with disabilities. She volunteered at a local theater group "to support a cast of individuals of differing needs." This teacher, who also indicated that she had a sibling with differing needs, stated, "as a student, I sought out opportunities to support inclusion in the classroom." This self-seeking behavior is only mentioned by one teacher as part of their undergraduate program.

Differences in Post-Undergraduate Experiences

Table 4 highlights the percentage of general and special education teachers that identified particular post-undergraduate experiences that contributed to their preparedness to teach students with disabilities. Examining the Phi correlations for post-undergraduate experiences (Table 5), two correlations were significant. General education majors were more likely than special education majors to identify "working with students" (r_ϕ = -.258, p = .013) and "working with

other professionals" (r_ϕ = -.220, p = .033) as experiences that contributed to their preparation in teaching students with disabilities.

Both general and special education majors identified the experiences of working with students with disabilities as contributing to their preparedness to teach students with disabilities, but their comments about students tended to differ. Typical comments from general education teachers, for example, included, "I think just working with the students who have disabilities is a lesson in itself." For many general education teachers, however, the experience of working with students was the only experience they identified since their undergraduate education as helping to prepare them to work with students with disabilities. One early childhood teacher wrote, "I teach a classroom with 47% students with special needs. I had experience in college however any experience after has been in the classroom I teach in."

When writing about experiences with students, special education teachers were more likely to refer to specific disabilities or the wide range of students they are prepared to teach (37% vs. 9% of responders). Special education teachers were also very specific in their responses. For example, "Once I began teaching a preschool classroom of kids with moderate/severe disabilities, I had to begin to advocate for better inclusive opportunities." Some special education teachers also commented about the ways in which they regularly talked with their students about disabilities, for example, "Every single day I have discussions with students about varying ability levels, and how we all have different abilities we can use to improve the world around us." These kinds of specific comments were not provided by any general education teachers. Comments by special education teachers about students were almost exclusively positive or neutral, however, one special education teacher did provide a deficit-based view of their students: "My students are very low level and do not have the high level thinking required to understand their disabilities."

When identifying post-undergraduate experiences that contributed to preparedness to teach students with disabilities, only 19% of teachers mentioned formal professional development opportunities. This suggests a large number of teachers have received no professional development related to working with students with disabilities since their undergraduate programs, or they did not see this professional development as contributing to their preparedness. A slightly larger percentage of teachers (21%) identified working with other professionals as contributing to their preparedness. While professional development experiences were mentioned by more special education majors (23%) than by general education majors (14%), working with other individuals were mentioned by more general education majors (32%) than by special education majors (13%). Several general education teachers identified their experiences of co-teaching with special education teachers as contributing to their preparedness, for example: "I taught in a collaborative teaching classroom with a special education co-teacher my first two years of teaching and learned a lot throughout the experience." Special education majors did not mention co-teaching, but did identify experiences involving collaborating with other teachers as important. Most of these responses suggested that collaborative experiences were positive for teachers; however, one special education teacher did comment: "I wish I had more opportunities

to learn how to work with Gen.Ed. teachers. I have had to learn over time that often times (at least in my experience) they are the ones who are limiting "inclusive" practices."

In addition to collaborative experiences, a few general education majors also identified experiences where they "asked experts," worked with "specialists," or learned from "a great resource teacher that teaches next to me." One general education teacher, specifically mentioned seeking out advice and resources: "I also have asked questions and sought out resources and feedback from other teachers and administration to best support the individuals in my classroom who have exceptionalities." Several special education majors also identified others they regarded as veterans or experts as contributing to their preparedness: "Having a veteran teacher within my field inside my program and stationed in the building with me allowed for the growth and maturity I needed as an educator to address issues as they raised with my students." Unfortunately, as with professional development experiences, the opportunities for collaborating with others and learning from experts do not appear to be widespread for all teachers.

Of all the teachers who responded to the post-undergraduate questions on the survey (N = 94), only 4 elementary education majors and 10 special education majors (15%) identified university experiences as contributing to their preparedness to teach students with disabilities. It is unclear if more teachers had taken graduate classes but did not see them as contributing to their preparedness or if only this small percentage of respondents had taken graduate classes. The low report rate for graduate coursework, mentorship/collaboration, and professional development suggest these are unreliable sources of preparation in their current form.

Discussion

In the section that follows we discuss results of note from both quantitative (ratings) and qualitative (reported experiences) data sources. We also include ways these results might be interpreted, how they relate to previous scholarship, and implications for teacher preparation programs.

Perceived Growth in Preparedness

Analysis indicated significant growth reported in preparedness ratings for only general education majors. However, it is important to note the preparedness ratings for general educators after gaining experiences were still considerably lower than special education ratings at this time, which is similar to results of previous perceptions studies (e.g., Conderman & Johnston-Rodriguez, 2009; Zagona et al., 2017). One possible interpretation is that while post-undergraduate K-12 teaching experiences contribute to teachers' preparedness to teach students with disabilities (as indicated by the perceived growth reported), these experiences may not impact perceived preparation as much as an undergraduate preparation program. The data show the average perceived preparedness scores for special education teachers after completing their undergraduate programs were higher than the perceived preparedness scores for general education teachers after they gained teaching experience.

While we would not expect general education teachers to rate their preparedness as high as special educators, the perceived impact of undergraduate preparation is evident in the data. One

potential reason for minimal growth for special education majors after gaining teaching experiences is a ceiling effect – if special education majors felt well prepared from their undergraduate programs, there was likely less room for growth. After examining the range in growth scores, however, some negative growth scores were evident. That is, some teachers reported less preparedness after gaining teaching experience. Though negative growth was reported from both general and special education teachers, this was more common and more extreme for special education teachers. For these educators teaching experiences may have revealed gaps in preparedness they did not realize earlier as they encountered new barriers to instruction and inclusion of students with disabilities. This is similar to Forlin and Chambers' (2011) finding that increased cognizance of the practical implications of teaching students with disabilities can increase teachers' anxiety related to instructing and including students with disabilities. To address this, it is essential to provide continued professional learning opportunities for educators, as it is inevitable that as they gain teaching experience they will encounter new challenges.

Interactions with Persons with Disabilities

Undergraduate coursework and clinical experiences were mentioned as experiences that contributed to preparedness by both general education and special education teachers. When special education teachers mentioned coursework and clinical placements, they used mostly positive descriptions. When general education teachers mentioned coursework and clinical placements, they tended to highlight the limited nature of these experiences. Only a few teachers mentioned extra-curricular experiences with students with disabilities. Having experience interacting with people with disabilities influences teachers' attitudes toward inclusion (Ajuwon et al., 2012; Forlin & Chambers, 2011). For many general education teachers in this study, the only coursework they received about students with disabilities was an introductory course early in their programs and their clinical experiences rarely included interaction with students with disabilities. Given the fact that 98% of the surveyed teachers reported currently teaching students with disabilities, the extent of undergraduate experience with exceptional learners for general education teachers is something teacher preparation programs must address.

Experience with learners with disabilities can come in multiple forms. Incorporating more clinical opportunities into coursework is one obvious way to increase interaction with learners with disabilities. In courses that do not require formal clinical experiences, instructors could require reflective observations or interviews with practicing teachers who teach students with disabilities. Hardly any teachers mentioned community or personal experiences as contributing to their preparedness. Simplican and colleagues (2015) emphasize interpersonal relationships and community participation as essential components of social inclusion. The minimal presence of personal or community experiences may relate to why teachers rated their preparedness for social inclusion lower than preparedness for instruction. To address this, in addition to requiring observations and clinical experiences, teacher preparation programs could encourage teacher

candidates to volunteer with organizations that support persons with disabilities within the community.

Differing Language and Views on Instruction and Inclusion

Data showed that teachers reported higher preparedness for instruction than for social inclusion, particularly after their undergraduate programs. A possible explanation for this, as mentioned in the previous section, is that teacher candidates had minimal personal and community-based experiences with individuals with disabilities. Another factor that may influence differences in ratings is coursework. The difference was most pronounced for special education majors after completing their undergraduate programs, which suggests the special education undergraduate program may emphasize "instruction" as a central issue in special education, aligning with the views of Kaufmann and Badar (2014) who argue for a focus on instruction as a central issue of social justice for students with disabilities.

Upon conclusion of their undergraduate program, general education teachers reported similar rates of preparedness for social inclusion as they did for instruction. However, given the historically different perspectives between general education and special education about instruction of students with disabilities (Anastasiou & Kaufmann, 2011), it is possible that general education teachers do not fully realize the distinction between social inclusion and instruction. Within their program of study, special education teacher candidates take some courses in general education departments, and vice versa. One concern is that within a discrete program model (Blanton & Pugach, 2011), there is little to no discourse between instructors from different departments. It is possible that programs use different lenses and terminology that may be confusing for students, who are left to navigate this on their own if connections are not made explicit across programs. Findings suggest a need for faculty across departments to collaborate and identify common goals and language to embed in coursework, as well as to highlight to teacher candidates when language is used differently within particular contexts.

Collaboration Between General and Special Education

Only two teachers reported observing a co-teaching or "inclusion" environment during one of their clinical placements and none of these teachers mentioned having the opportunity to practice collaborating with a general/special education counterpart during this time. Though not uncommon (e.g., Harvey et al., 2010), this limited modeling of effective collaboration and negotiation of multiple perspectives on teaching in learning is problematic. Though the literature base is still fairly limited, Nevin and colleagues (2009) note the potential benefits of co-teaching between general and special education instructors to include learning from one another, building collegiality, modeling multiple perspectives and teaching styles for students, and uniting toward a common goal. Zagona and colleagues (2017) also highlight the importance of practicing collaborative skills as part of teacher preparation programs. In improving teacher preparation programs, designing mentored opportunities for professional collaboration, both during coursework and during clinical placements, should be a high priority.

In addition to making adjustments within separate programs, programs might aim to revise the structure from a discrete to an integrated or merged model (Blanton & Pugach, 2011). Shifting to

an integrated model would require collaboration between departments to build shared goals and understandings. Within an integrated or merged program, it might also be beneficial to include courses and clinical placements that are co-taught by general and special education faculty, a practice rarely utilized in teacher preparation programs (Harvey et al., 2010). If teachers are to collaborate more fully in schools, it makes sense that they see collaboration modelled in colleges of education.

Promoting Self-Directed Learning and Advocacy

Data also showed a lack of comments concerning self-directed learning. After completing their undergraduate programs, both general and special education teachers reported some coursework, mentorship opportunities, and professional development that supported their preparedness to teach students with disabilities. These experiences, however, were not widespread. For many general education teachers, learning through direct experience working with students with disabilities and/or learning from special education colleagues was the only experience they listed that contributed to their preparedness after their undergraduate programs. Teacher preparation programs cannot dictate the professional development experiences that school districts provide, but they can work to foster self-directed learning throughout undergraduate preparation programs (e.g. starting a book club, seeking out unofficial mentors and collaborators, going to conferences, doing research online, participating in professional organizations, reading journal articles, etc.) so that educators continue to learn beyond the classroom after leaving their preparation programs.

Also evident was the near absence of described experiences that related to advocacy and agency, such as those identified by Peters and Reid (2009). This is concerning because advocacy and agency are central principles for inclusive education. In seeking to improve teacher preparation, these principles should be integrated throughout courses and clinical experiences. In particular, teacher candidates need ongoing opportunities to build strong identities as change agents, who disrupt deficit perspectives about disability and empower their future students.

Limitations and Future Research

Our findings offer some insight into differences in general and special education teacher preparedness for instruction and social inclusion of students with disabilities as well as the experiences that contribute to their preparedness. One limitation of this study is that we relied on teacher perceptions of their preparedness. A benefit of examining perceptions, however, is we were able to examine how teacher beliefs about their preparedness may have changed since completing their undergraduate program. We agree with Nevins and colleagues (2009) that future research must also aim to measure the impact of teacher preparation programs on the actual preparedness of in-service teachers to teach students with disabilities such as through direct observation or examination of student assessment data. We therefore plan to keep program evaluation at the forefront of any potential revisions in our own programs.

We also want to acknowledge that the language in our instrument (e.g., "students with disabilities") represents terminology frequently used in special education programs, but perhaps not in general education programs that may use a more social constructivist approach to

disability (Anastasiou & Kauffman, 2011). We have considered how general education majors may not recognize when their instructors are discussing issues pertaining to disability depending on the language used in class. For example, if an instructor referred to "diverse learning and support needs," some teacher candidates may not recognize that the description could refer to students with and without disabilities. In the future, researchers may want to explore differences in teacher responses depending on the language and phrasing of survey or interview questions.

Additionally, we note some methodological limitations. We did not utilize a previously validated survey; the rating scales on our survey are simple ordinal scales designed to capture perceptions of preparedness for this group rather than measuring a specific construct. Additionally, we had a relatively small response rate for our survey. We relied on a list of self-reported personal emails for recruiting participants, and there is no way of us knowing what percentage of these emails are still in use by our graduates. As we noted in the methods section, despite the low response rate, the sample demographics are a strong match to our population demographics in terms of gender, major, and race. We were also able to gather responses from teachers from each graduation year on our list. Though we triangulated our data analysis, there was no member checking because responses were anonymous. A final limitation related to our population is in the generalizability of our results. Though our target population was recent graduates of only our institution, structuring our investigation like a case study, allowed us to highlight the presence or absence of impactful program experiences that could be adjusted. The themes we uncovered align with previous research in this area and may be generalizable to other teacher preparation programs with similar components in a discrete program model.

Conclusion

Given our findings and discussion, we reiterate four important goals for our own teacher education programs, which may also be relevant to other teacher education programs: (a) increase teacher candidates' opportunities to interact with students with disabilities under the mentorship of experienced teachers and faculty; (b) build collaboration and shared language across special and general education programs; (c) expand opportunities within our programs to promote issues of advocacy and agency for all educators and students; and (d) explore paths to transition from a discrete preparation model to integrated and/or merged preparation models.

We are seeing in our data a reflection of the historical tensions between general education and special education fields (e.g. Anastasiou & Kauffman, 2011), or more specifically, the tension between perspectives on disability itself. We acknowledge these tensions – they are important and can be productive. As researchers from different fields, we had to navigate our differing theoretical and practical viewpoints throughout the research process. We found our discourse to be invaluable as it gave us the opportunity to understand and value multiple perspectives. If we, as two *willing* professionals were challenged by navigating differing views, we are preparing for the increasing challenges we face as we extend our work to include additional faculty, who may be more resistant to finding shared identities. It is incumbent on faculty to negotiate and help to bridge these practical and theoretical tensions, rather than expect teacher candidates to navigate competing discourses on their own. Although we are unlikely to fully resolve these tensions, we

hope this discourse will serve as a step toward building a more inclusive and collaborative program that prepares all educators to teach students with disabilities.

Author Note

Tara Kaczorowski is an assistant professor in the Learning and Behavior Specialist (LBS) program in the Department of Special Education at Illinois State University in Normal, Illinois.

Sonia M. Kline is an assistant professor in Elementary Education and Literacy in the School of Teaching and Learning at Illinois State University in Normal, Illinois.

Correspondence concerning this article should be addressed to Tara Kaczorowski at tlkaczo@ilstu.edu

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