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Passage of the Higher Education Opportunity Act (HEOA) in 2008 expanded access to postsecondary opportunities for individuals with I/DD by establishing Comprehensive Transition Programs (CTP) for which federal financial aid can be used. Postsecondary enrollment of individuals with intellectual and developmental disabilities (I/DD) has increased markedly in the last 20 years. Students with I/DD enrolled in CTP benefit from natural supports. One such support is peer mentoring with a typically developing peer, which can be done as part of service-learning courses. The current study was designed to investigate the impact of such a service-learning experience as part of a course requirement for pre-service special education and dual education teachers. Two research questions were addressed: (a) What impact did a service-learning experience with college students with I/DD have on pre-service teachers, and (b) How did service-learning impact pre-service teachers' perceptions of people with I/DD?

Qualitative content analysis was used to examine 74 student reflections, 50 artifacts, and support session data across three semesters. The results of this study are organized into five themes and seven subthemes that emerged from the data and were verified using artifacts and support session data. Themes related to: (a) course concepts, (b) conceptualizations of teaching, (c) adapting expectations, (d) perceptions of people with disabilities, and (e) perceptions of self. Results indicated that, overall, service-learning with college students with I/DD was a positive and valuable experience for pre-service teachers. Limitations of the study, as well as implications for research and practice, are discussed.

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PATHWAYS TO CHANGE: PRE-SERVICE TEACHERS' EXPERIENCES PROVIDING SUPPORT TO COLLEGE STUDENTS WITH INTELLECTUAL AND DEVELOPMENTAL DISABILITIES

by

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DEDICATION

To my loving husband, my Samwise, Patrick Jones, without whom this would not have happened.

APPROVAL PAGE

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CHAPTER I: INTRODUCTION

Intellectual and Developmental Disabilities

To be eligible for special education services under the Individuals with Disabilities Education Act (2004), individuals with intellectual disabilities must exhibit significant limitations to intellectual functioning and deficits in adaptive behavior that negatively impact a student's educational performance (34 C.F.R. §300.8(c)(6); American Association on Intellectual and Developmental Disabilities, 2023). Individuals with intellectual and developmental disabilities (I/DD) have long been isolated from society and mainstream educational experiences (Nielsen, 2013). While progress has been made toward including students with I/DD in general education classrooms (Williamson et al., 2020), students with I/DD remain one of the most segregated disability groups eligible for services under IDEA (Ryndak et al., 2014). Even though much work remains toward more inclusive K-12 experiences for students with I/DD, progress toward more inclusive educational settings has been made since the passage of the Education for All Handicapped Children Act in 1975 (Williamson et al., 2020). However, postsecondary opportunities for individuals with I/DD have only recently become accessible (Carter et al., 2019; Culnane et al., 2016).

Inclusive Postsecondary Education

In 2008, Congress passed the Higher Education Opportunity Act (HEOA), which marked a shift in accessible postsecondary opportunities for people with I/DD. HEOA provided two- and four- year colleges and universities with a process to establish a Comprehensive Transition Program (CTP) that extended federal financial aid to students with I/DD who might not obtain a college degree through an inclusive postsecondary education (IPSE) program (Carter & McCabe,2021; Farley et al., 2014; Scheef et al., 2020). IPSE programs, or programs within

institutions of higher education that offer postsecondary services to students with I/DD (PACER Center, 2023) have become increasingly more common since the passage of the HEOA. As a result, college enrollment for individuals with I/DD has increased from 0% in 2005 to 6.7% in 2011 (Newman et al., 2011; Wagner et al., 2006). In order for IPSE programs to be truly inclusive and provide maximum benefit to individuals with I/DD, proper supports must be put in place. Peer mentoring/peer support and service learning are examples of such supports.

Peer Mentorship/Peer Supports and Service-Learning

Service-learning opportunities that incorporate peer mentorship experiences have emerged as a common mode of support for individuals with I/DD (Carter et al., 2019; Carter & McCabe, 2021; Jones et al., 2021). Rather than traditional mentorship models in which an older, more experienced mentor provides support in some area of development to a younger, less experienced mentee, peer mentorship models for IPSEs are better thought of as reciprocal. Reciprocal peer mentorship models involve mentors and mentees who are roughly the same age and are navigating similar experiences; the relationship is mutually beneficial and both parties facilitate growth and development in the other (Jones et al., 2021; Wilt & Morningstar, 2020). Service-learning is a type of experiential education that combines course-based learning experiences with community-based practical experiences (Bloomquist, 2015). Service-learning is commonly employed in teacher education programs (e.g., internships; Salam et al., 2019).

There are many benefits to service-learning based peer mentorship as a mode of support for students with I/DD. For example, mentors gain experience, develop friendships, and cultivate interpersonal/communication skills (Farley et al., 2014). Additionally, mentors without disabilities experience increased positive attitudes toward individuals with I/DD, and fewer feelings of sadness or pity about I/DD (Harrison et al., 2019). Individuals with I/DD benefit, as

well. Prohn and colleagues (2019) found that students with I/DD experience higher levels of social inclusion and broader social networks when working with a peer mentor without disabilities.

Statement of the Problem

IPSE programs need more research and visibility within the literature in order to secure funding for sustainability (Lee & Taylor, 2022). Providing supports to students with I/DD has emerged as a barrier to participation and program implementation (Lee & Taylor, 2022). Additionally, IPSE programs are fairly new (i.e., since 2008), while service-learning and peer mentorship have emerged as effective methods of supporting students with I/DD in IPSE. More research is needed to evaluate the impact of peer mentoring.

Purpose and Research Questions

The purpose of this study was to explore the impact of a service-learning peer mentorship experience on pre-service special education and dual licensure elementary and special education teachers. Specifically, this study sought to investigate how the service-learning experiences impacted pre-service special education teachers' perceptions of students with I/DD. The goal of this study was to contribute to the empirical understanding of how service-learning experiences involving peer mentorship partnerships with individuals with I/DD impact pre-service teachers. The specific research questions addressed were:

1. What impact did a service-learning experience with college students with I/DD have on pre-service teachers?
2. How did the service-learning experience impact pre-service teachers' perceptions of individuals with I/DD?

Research Procedures

This study employed qualitative content analysis (Krippendorff, 2019; Graneheim & Lundman, 2004). Content analysis is defined as systematic reading and analysis of text to make "replicable and valid inferences" (Krippendorff, 2019, p. 24). In order to make such inferences, sampling units included 74 student reflections spanning a period of three years. Data analysis occurred in two cycles as described by Saldaña (2021): (a) first-cycle coding and (b) second-cycle coding. First-cycle coding proceeded abductively, using the following a priori codes: (a) course concepts, (b) expectations, (c) goals, (d) strengths/weaknesses, (e) assumptions, (f) service delivery, and (g) futures. Other codes emerged from the data during this process. Second-cycle coding involved organizing units from first-cycle coding into overarching categories, then analyzing those categories for themes and patterns (Saldaña, 2021).

Pilot Study

The current study builds on a pilot study conducted during 2022. The purpose of this research was to examine the experiences of special education and dual licensure pre-service teachers engaged in service learning with students with I/DD. To conduct this pilot study, the researchers used a sample of reflections written between the years 2018 and 2020; a total of 10 reflections across the three years were analyzed.

Reflections were analyzed according to first- and second-cycle coding as described by Saldaña (2021). First-cycle coding involved repeated readings of reflections and making notes of topics that appeared using the participants' own words (i.e., in vivo codes). Second-cycle coding involved a more focused approach of organizing topics into overarching categories. This process was repeated to identify themes that emerged across categories. Four themes emerged from this analysis: (a) experience had a positive impact on future teaching, (b) perceptions of people with

disabilities changed over time, (c) unexpected friendships were formed, and (d) perceptions of own strengths and weaknesses impacted goal attainment.

The current study built on this original work by including all reflections from every year, rather than just a sample. This expansion helped build a more robust dataset for better understanding of the phenomenon.

Significance of the Study

IPSE is a fairly recent phenomenon that requires more research in order to provide the best supports to students with I/DD (Lee and Taylor, 2022). The purpose of this study was to explore how a service-learning peer mentorship experience impacted pre-service special education and dual licensure teachers' perceptions. This study contributed to the current body of literature about the impact of peer mentorship on typically developing college students, and how working with students with I/DD affects their perceptions of the population.

Limitations and Delimitations

It is important to address known limitations of any study, as well as define what the study will not be addressing (delimitations). First, data for this study came from one reflection and represents only a snapshot of time for these preservice teachers. Pre- and post-reflections were not collected. Second, and also a delimitation, the perspectives of students with I/DD were not included in this study.

Definitions of Terms

- Comprehensive transition program: federal program that makes students with I/DD eligible for need-based federal financial aid and provides other funding mechanics for institutes of higher education to establish postsecondary programs for students with I/DD.

- Dual licensure pre-service teachers: pre-service teachers who will receive an elementary and special education dual license upon completion of their preparation program.
- Intellectual/developmental disabilities: a significant limitation in intellectual and adaptive functioning that manifests during the developmental period (i.e., before 18 years old) and adversely impacts educational performance.
- Inclusive postsecondary education program: a type of comprehensive transition program in which students with I/DD spend 50% or more of their time either (a) taking credit-earning courses with students without disabilities, (b) auditing classes with students without disabilities, (c) taking continuing education courses with students without disabilities, and (d) engaging in internships or other work-based experiences with people without disabilities.
- Learning partners: students enrolled in the Pathways program pre-service teachers were partnered with for service-learning.
- Pre-service teachers: special education and dual licensure pre-service teachers enrolled in SPED 400 who completed service-learning hours as part of course requirements.

Acronyms

- CTP: comprehensive transition program
- HEOA: Higher Education Opportunity Act
- I/DD: intellectual/developmental disability

- IDEA: Individuals with Disabilities Education Act
- IPSE: inclusive postsecondary education

Organization of the Dissertation

This dissertation is organized into five chapters. Chapter I: Introduction (current) is a brief overview of the background and procedures of the study. Chapter II: Literature Review provides an in-depth review of what is known and IPSE programs and supports provided to students with I/DD enrolled in IPSE. Chapter III: Methodology provides a detailed description of content analysis, how content analysis was used to address the research questions, and detailed procedures regarding study methods (e.g., data collection, analysis). Chapter IV: Findings includes rich descriptions of themes and patterns that emerged through data analysis. Finally, Chapter V: Discussion contextualizes study findings within extant literature, makes recommendations for future researchers and practitioners, and address limitations of the study.

CHAPTER II: LITERATURE REVIEW

Intellectual and Developmental Disabilities (I/DD)

Intellectual and developmental disabilities (I/DD) are a group of disabilities that result in significant limitations to an individual's intellectual functioning and adaptive behavior, usually present at birth and starting before the individual turns 18 years old (National Institutes of Health, 2021.) A significant limitation to intellectual functioning is usually defined as an IQ score of less than 70. Impairments to adaptive behaviors include limitations to behaviors such as language, social skills, and daily living skills (American Association on Intellectual and Developmental Disabilities, 2023). To be eligible for services under the Individuals with Disabilities Education Act (IDEA, 2004), individuals with intellectual disability must exhibit "significantly subaverage general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child's educational performance" (34 C.F.R. §300.8(c)(6)).

The history of education for individuals with I/DD is one of stigma, marginalization, isolation, and exclusion (Nielsen, 2013). In the past 50 years, since the passage of the Education for All Handicapped Children Act (EAHCA) in 1975, educational opportunities for children and youth with I/DD have improved, including opportunities to be educated alongside students without disabilities in general education classrooms (Williamson et al., 2020). IDEA expresses a preference for students with disabilities to be educated in the least restrictive environment (LRE) alongside their peers without disabilities to the greatest extent possible (IDEA, 2004). However, IDEA also requires districts to establish a continuum of alternative placements (e.g., self-contained classrooms) as part of the LRE mandate, which can function to perpetuate the segregation of students with I/DD in K-12 educational settings (Ryndak et al., 2014). As a result,

movement has been made toward more inclusive settings for students with I/DD, but this population remains one of the most segregated disability groups covered under IDEA (Ryndak et al., 2014; Williamson et al., 2020). While there is still work to be done, progress on this front has been considerable since passage of EAHCA. However, postsecondary opportunities for individuals with I/DD have only recently become accessible, largely through the proliferation of inclusive postsecondary education (IPSE) programs (Carter et al., 2019; Culnane et al., 2016).

Inclusive Postsecondary Education

College enrollment for individuals I/DD has increased substantially in the last two decades. In 2005, 0% of students with I/DD attended college; by 2011, this number increased to 6.7% (Newman et al., 2011; Wagner et al., 2006). This increase in postsecondary attendance is due to passage of the Higher Education Opportunity Act (HEOA) in 2008. Several barriers exist to post-secondary access for individuals with I/DD. These include barriers in infrastructure, teaching-learning process, and institutional management (Fernández-Batanero et al., 2022). Infrastructure refers to physical barriers in the environment, for example architecture. This is especially true on campuses with old buildings, in which space is not adapted to meet the needs of students with disabilities, thus limiting mobility (Fernández-Batanero et al., 2022). Teaching-learning process refers to preparation, or lack thereof, of university faculty in inclusive, accessible teaching methods. Typically speaking, university faculty do not have adequate knowledge or understanding of disability, how disability could impact a student's ability to successfully engage in the classroom or complete their programs, or laws governing education for individuals with disabilities (Fernández-Batanero et al., 2022; Schilling-Dickey, 2022). Material resources was also included in this category; materials are generally not adapted to the needs of students with disabilities and limits their access to materials. Finally, institutional

management refers to a lack of services for students with disabilities at the university level, in addition to lack of funding and support for programs and services.

Passage of the HEOA marked a shift in the landscape for postsecondary education opportunities for students with I/DD. HEOA established a process for schools offering postsecondary education for students with I/DD to obtain Comprehensive Transition Program (CTP) status. CTP status makes students eligible for need-based federal financial aid (e.g., Pell grants, work study) and gave postsecondary institutions the opportunity to apply for grant funding to establish their own CTP programs for students with I/DD (Carter & McCabe,2021; Farley et al., 2014; Scheef et al., 2020). To meet the criteria for a CTP under the HEOA, students with I/DD must spend at least 50% of their time in one or more of the following options: (a) take credit-earning courses with students without disabilities, (b) non-credit-earning audits of classes with students without disabilities, (c) non-credit-earning cases with students without disabilities (e.g., continuing education), and (d) internships or work-based training experiences with people without disabilities (ThinkCollege, n.d.). Together, these changes led to a rapid expansion of inclusive postsecondary education (IPSE; Carter & McCabe, 2021; Farley et al., 2014). Post-secondary educational opportunities are a natural extension to the increase in inclusive K-12 educational opportunities (Scheef et al., 2020), and a necessary part of achieving the Individuals with Disabilities Education Acts (IDEA, 2004) and national disability policy of "…ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individual with disabilities" (20 U.S.C. §1400(c)(1)).

Postsecondary opportunities for individuals with I/DD go back as far as the 1970s, when programs mostly focused on occupational skills training (Neubert et al., 2001). Current programs have a range of services. Some focus on skill development such as independent living, social

skills, vocational skills, and self-determination skills, while others focus more on academics. Regardless of the program focus, providing more academic opportunities and opportunities to enroll in typical college courses has become more of a priority in IPSE programs (Scheef et al., 2020). According to data from Think College (2023), there are currently 328 IPSE programs in the United States, 13 of which are in North Carolina. Of these 328 programs, approximately 55% are approved CTP, meaning students with I/DD can access federal financial aid. Of programs housed in four-year universities, 112 offer housing options for students, 91% of which are inclusive, on-campus housing options (Weir & Bates, 2023). In these programs, students with I/DD can access college courses, prepare for careers, increase self-determination skills, and be exposed to opportunities to engage with peers without I/DD. Programs now exist in both two-year community colleges and traditional four-year universities (Farley et al., 2014). According to Farley and colleagues (2014), 75% of these programs include activities with peers without disabilities and 63% include participation in traditional college classrooms. As of October 2023, approximately 8,000 students with I/DD were enrolled in an IPSE program in the U.S. (Weir & Bates, 2023). According to Bukaty and Papay (2023), 72% of students who enroll in such IPSE complete their programs.

Not all programs look the same; there is considerable heterogeneity among postsecondary education programs for students with I/DD in the United States. To examine this heterogeneity, Whirley and colleagues (2020) conducted a literature review of 68 studies examining IPSE programs across the United States. The authors coded for the following variables: (a) program length, (b) credentials students earn upon completion (i.e., no credentials, certificate, or diploma), and (c) program model. Program model was organized into a taxonomy of mixed/hybrid, substantially separate, or fully inclusive models. Programs were considered

mixed/hybrid if they contained components of both fully inclusive and separate models. For example, students with I/DD might have classes with students without disabilities, but also take some specialty classes exclusively with other students with I/DD. Substantially separate models referred to programs that are located on a university or college campus, however students with I/DD take specialized classes with only other students with I/DD; they do not take any classes with students without disabilities.

Of the 42 studies that reported on program length, 19 reported the program took two years to complete, while 10 programs lasted four years. Nine programs had the option for students to remain enrolled an additional year or two. Fifty-three percent of studies did not report credentials students earned. Of the 47% that reported those data, 32 studies reported that students earned a certificate, while four studies reported that no credentials were earned. The type of certificate/credential (e.g., certificate of completion, diploma) was not reported. Forty-two of the 68 studies examined described the program model according to the taxonomy above. Of these 42 studies, the majority (i.e., 26) described their programs as mixed/hybrid; two of the identified studies described programs as substantially separate, and 14 reported models that were fully inclusive (Whirley et al., 2020).

According to results of an analysis conducted by Alqazlan and colleagues (2019), program content can differ by program model. For instance, mixed model programs focused on social and communication skills for the purposes of community integration. Separate program models focused on daily living or vocational skills for the goal of facilitating independence; inclusive models focused more on academics, including test-taking and study skills. Outcomes also varied by program model, with more gains more benefits being reported for students enrolled in inclusive and hybrid/mixed model programs.

Barriers to IPSE Programs

Even with the proliferation of such programs, barriers to access still exist. Lee and Taylor (2022) conducted a systematic literature review of 21 articles published since the passage of the HEOA in 2008. Their intention was to identify outcomes of and barriers to implementation of IPSE. Barriers fell into two categories: enrollment and implementation. Barriers to enrollment included lack of collaboration, limited funding, and lack of preparation/knowledge about such programs. Lack of preparation and funding will be discussed immediately below; lack of preparation/knowledge will be addressed in the section titled "Students with I/DD in IPSE Programs."

Lack of collaboration with high schools was seen as a barrier because students with I/DD did not understand the expectations of attending an IPSE, nor did they develop the skills needed to successfully participate in the programs. This also resulted in less outreach to students and parents/guardians, presenting a barrier because students and parents/guardians did not know such programs existed. After graduation, families noted a lack of collaboration in relation to employment and independent living supports; these supports stopped upon completion of the program. Families wished for the supports to be sustained, and collaboration between community agencies and IPSEs would be necessary to do this (Lee & Taylor, 2022).

Even with grant programs and expansion of federal student aid allocated in HEOA, IPSE programs still deal with a lack of funding. Financial aid is an important factor in enrolling in an IPSE program, and to be eligible for financial aid, students must be enrolled full time, usually 12 credit hours a semester. If students wanted to take fewer credits, families must pay out of pocket. Because of limited programmatic funding, IPSE programs cannot offer tuition assistance to students. Another funding issue relates to sustainability. Programs had funds to implement a

program initially (i.e., model demonstration programs), but sustaining the program permanently was a concern, meaning access to IPSE programs could be cut off in the future if/when funding runs dry (Lee & Taylor, 2022).

Once enrolled in an IPSE program, students with I/DD still face barriers. Students with I/DD had difficulty connecting with the college community without disabilities and wanted more opportunities for social interactions. Additionally, transportation emerged as an issue. Lack of public transportation for students created a significant barrier to students enrolled in programs, who then had to rely on parents/families to drive them to classes. This was even more pronounced in rural areas (Lee & Taylor, 2022).

Benefits of IPSE Programs

Despite barriers to accessing and implementing IPSE programs, several benefits remain. Part of the impetus for expanding access to postsecondary education for students with I/DD was a recognition of the link between earning potential and postsecondary enrollment; that is, earning potential is positively correlated with education level (U.S. Bureau of Labor Statistics, 2023a). According to the U.S. Bureau of Labor statistics (2023a), in 2022 individuals with no high school diploma earned approximately $682 per week compared to $853 per week for people with a high school diploma. That number increases to $935 per week for people with some college but no degree, $1,005 a week for an associate's degree, and $1,432 a week for a bachelor's degree. Increasing individuals' earning potential can go a long way toward the goal of economic self-sufficiency for individuals with disabilities, a primary objective of IDEA.

Adults with disabilities are much less likely to have a bachelor's degree and be gainfully and competitively employed than adults without disabilities (U.S. Bureau of Labor Statistics, 2023b). Despite underemployment when compared to people without disabilities, the

employment outlook for people with disabilities has improved over time. For example, in 2022 21.3% of people with disabilities were employed, up 2.2 percentage points from 2019. Additionally, the unemployment rate for people with disabilities declined in 2022 (U. S. Bureau of Labor Statistics, 2023b). It is important to note, though, that these data are not disaggregated by disability category, and the employment picture for individuals with I/DD could look considerably different from that of individuals with disabilities generally. According to the most recently available data (Siperstein et al., 2013), only 34% of adults with I/DD aged 21-64 are employed, and only 18% of those people are employed in a competitive job. IPSE programs are one way to bridge the employment and income gap between individuals with and without I/DD. In fact, research has supported that enrollment and completion of an IPSE program contributes to gainful and competitive employment for adults with I/DD (Avellone et al., 2021; Grigal et al., 2011).

Non-Economic Benefits to Individuals with I/DD

Students with I/DD who enroll in IPSE programs experience several non-economic benefits as a result of attending an IPSE program. These include improvements to adaptive behavior skills, self-determination, and social competence (Lee & Taylor, 2022).

Adaptive behavior skills include those related to independent living, communication, social skills, and personal care (Saulnier & Klaiman, 2018). Prohn et al. (2018) conducted a study using a validated measure of adapted behavior (Scale of Independent Behaviors-Revised [SIB-R]) to examine changes in independence for six college students with intellectual disabilities enrolled in an IPSE program. When compared to baseline data taken at the beginning of the academic year, all six participants had greater SIB-R scores at the end of the year, indicating all participants gained more independence and needed less support. According to

Hendrickson and colleagues (2017), students with I/DD enrolled in a post-secondary education program experienced positive changes in socialization, including making new friends.

Benefits to Campus Community

Additionally, inclusive college campuses benefit more than just individuals with I/DD. According to Lee and Taylor (2022), having an IPSE on a college campus has a positive influence on attitudes about diversity and disability of typically developing college student as well as college/university faculty and staff. This increase in positive attitudes is usually coupled with a decrease in negative attitudes, such as pity, sadness, and sympathy for people with I/DD. IPSEs also lead to improved attitudes about inclusion of students with disabilities on the campus, and more willingness to interact with people with disabilities.

Having students with I/DD in classrooms also changed how instructional faculty and staff taught. For example, Jones and colleagues (2016) surveyed faculty at a four-year university who had experience with students with I/DD in their classrooms. Faculty responded that having students with I/DD in their classrooms lead to personal and professional growth. Faculty researched effective instructional strategies for diverse learners, which they felt led to students' both with and without disabilities gained knowledge and skills related to the academic content being taught. They also saw students gain more self-confidence and developed more altruistic tendencies, such as more willingness to assist peers, which gave faculty a positive sense of self. Similarly, O'Connor et al. (2012) found that faculty who taught inclusive courses experienced better job satisfaction and a more positive classroom climate. Faculty who teach courses that include students with I/DD demonstrate an increase in positive attitudes toward IPSE programs (Plotner & Marshall, 2015). Faculty are not the only benefactors, though. College students without I/DD who attended an institution with an IPSE generally experience more comfort with

people with disabilities, increased self-esteem, and more sensitivity to their own vocational interests (Izzo & Shuman, 2013; May, 2012). In short, the inclusion of students with I/DD is widely beneficial for the community (Scheef et al., 2020).

However, lack of or limited interaction with students without disabilities limits the true inclusive nature of IPSE programs (Scheef et al., 2020). It is not enough to simply have students with I/DD on college campuses; to make campuses truly inclusive, supports must be provided to students with I/DD so they can make academic and social progress (Lewis, 2017). Such supports include service-learning experiences for students without disabilities that provide opportunities for peer mentorship, in which students with and without I/DD interact in meaningful ways.

Supporting Students Enrolled in IPSE Programs

Several strategies have been used to support students with I/DD in IPSE programs. These include peer mentoring/peer supports (PM/PS), service-learning, and reflection. Each of these approaches will be discussed in detail below.

Students with I/DD in Postsecondary Education

Even with passage of the HEOA and expansion of CTPs, individuals with I/DD have the lowest enrollment in postsecondary education than any other disability category; only 23% of high-school aged students with I/DD enroll in a two- or four-year college (Lewis, 2017). Other data suggests only 30% of students with intellectual disabilities attend some type of college, versus 56% of students with other disabilities (Grigal et al., 2011). One reason for this may be a lack of interrogation about taken-for-granted assumptions of people with I/DD. Additionally, some studies (e.g., Berg et al., 2017) have suggested that students with I/DD are not well prepared during the K-12 transition process for postsecondary experiences. This includes preparation in entitlement and eligibility systems (e.g., IDEA, Americans with Disabilities Act),

hidden curriculum of higher education (e.g., expectations), and practical skills (e.g., transportation; Berg et al., 2017).

Moreover, many students and families do not have access to information about postsecondary programs for students with I/DD. Mock and Love (2012) conducted a qualitative analysis of data gathered from multiple stakeholder groups (e.g., parents/guardians, students with I/DD). According to the parents/guardians included in this study, information regarding specific options available, and availability of such information early in life were essential elements of planning for post-secondary options. Information is key to making transition decisions (Griffin et al. 2010). The responsibility of offering information about transition to post-secondary education, and options for such education, should be the responsibility of K-12 school personnel. However, parents and families often feel they do not get adequate information from transition teams.

Griffin and colleagues (2010) conducted a survey of 108 family members of transition aged (i.e., between 14 and 25 years old) students with I/DD. Results of their analysis revealed many barriers to post-secondary planning and access, starting with K-12 transition teams. For example, while parents/guardians felt post-secondary education would be a good option for their child, educators did not encourage students to pursue education beyond high school. Only 26% of parents/guardians surveyed said their child's individualized education program (IEP) had a plan for what would happen after high school. K-12 transition teams presented a barrier to post-secondary planning and access; they majority of survey respondents (i.e., 75%) said they did not receive information or guidance about IPSE programs, and 36% said school personnel did not facilitate understanding of their options.

Data from the National Longitudinal Transition Survey 2 (NLTS-2) tells a similar story—students with intellectual disabilities (ID) are not prepared for post-secondary education at the same rate as students with other disabilities. Grigal and colleagues (2011) conducted a secondary analysis of NLTS-2 data to determine the extent to which transition plans of students with ID reflect expectations for post-secondary education. According to their analysis, only 11% of transition plans for students with ID identified post-secondary attendance as a goal, compared to 58% of transition plans for students with other disabilities. Additionally, it was rare for representatives of post-secondary programs to participate in transition planning for students with I/DD.

Despite post-secondary planning being a legal requirement of a student's transition plan (34 C.F.R. § 300.43), and post-secondary education goals being a predictor of post-secondary enrollment (Grigal et al. 2011), it seems K-12 teams are falling short in adequately preparing students with I/DD for post-secondary education. Information about IPSE programs is not offered early enough in high school (Mock & Love, 2012). In fact, the majority of families did not receive information about IPSE programs while their students were still in high school (Griffin et al., 2010). Moreover, students with I/DD are not adequately prepared for college and need to develop specific academic and daily living skills before enrolling in an IPSE (Berg et al., 2017). Combined, these factors may perpetuate the assumption that students with I/DD do not have the skills or abilities to attend college (Grigal et al, 2011).

It is not enough to merely open the college campus to students with I/DD, they must also be supported during their postsecondary experiences. Peer mentorship and peer supports are an effective way of providing support to individuals with I/DD, while also challenging assumptions about what people with I/DD can and cannot do (Lewis, 2017).

Peer Mentoring/Peer Supports

Peer mentorship has gained traction in the literature as an effective method of supporting college students with I/DD in inclusive postsecondary programs (Jones et al., 2021). In traditional models of mentorship, a younger person (i.e., mentee) is matched with an older, more experienced person (i.e., mentor); the mentor provides support to the mentee in some area of development. This is typically a one-way relationship, in which the mentor has something to give, and the mentee has something to learn, and relies on some paradigm of disadvantage and marginalization (e.g., mentoring poor, inner-city students; Jones et al., 2021). The model of peer mentorship discussed here is different. Peer mentorship programs used in IPSE can more appropriately be called peer mentoring partnerships. The mentor and mentee are roughly the same age, are navigating similar complexities of college life (e.g., classes, social life), and it is expected the relationship will be reciprocal (Jones et al., 2021; Wilt & Morningstar, 2020). Within a reciprocal peer support model, formal and informal relationships between mentors and mentees are leveraged to foster personal development and social inclusion; in fact, the development of reciprocal relationships can help students with I/DD build social capital needed to develop social networks (Wilt & Morningstar, 2020). That is, students with I/DD gain support in the areas of social skills and academics, while their peer mentoring partners gain skills in collaboration, communication, and competence with diversity (Jones et al., 2021).

Peer Mentoring/Peer Supports in IPSEs

Peers play an important role in supporting students with I/DD in IPSE programs as tutors, job coaches, residential assistants, or social supports (Carter et al., 2019; Carter & McCabe, 2021). There is a growing literature base describing the efficacy of peer mentoring for college students with disabilities to facilitate a range of skills including academics (e.g., Campbell-

Whatley, 2001) and social skills (e.g., O'Brien et al., 2009). Giust and Valle-Riestra (2017) used a mixed methods approach to evaluate skills and activities mentors utilized when working with students with I/DD in an IPSE. Based on data from 31 mentors, the authors found the skills they most encouraged during mentoring were inclusion, self-determination, and adaptive behavior. To facilitate inclusion, mentors encouraged students with I/DD to become more involved in campus activities and would attend some activities with their mentee. Some mentor-mentee pairs would spend time together off campus, partaking in shared hobbies like video games. Self-determination was encouraged in a variety of ways, including discussions with mentees about their learning preferences and needs, speaking to instructional staff, and assisting mentees with public transportation. Finally, mentors helped mentees develop adaptive behavior skills by facilitating social and communication skills. This often looked like helping the mentee understand socially appropriate behavior, working on public speaking, and cultivating the development of social networks (Giust & Valle-Riestra, 2017). Similarly, Holzberg and Ferraro (2021) conducted a study in which a peer mentor worked with three college SWD to advocate for academic accommodations in PSE. Two of the three participants were enrolled in the university's CTP. Data indicated explicit instruction in self-advocacy increased participants' skills in accessing academic accommodations and positively impacted self-determination. Additionally, students believed the self-advocacy instruction positively impacted their ability to advocate for their accommodations.

Accardo and colleagues (2019) used a combination of surveys and semi-structured interviews to investigate preferred accommodations for 48 students with autism attending university. Data were collected across two years and four universities. Findings showed students with autism preferred peer tutoring and mentorship as one of their accommodations because they

benefited from developing social skills in natural contexts and talking to peers about their problems.

Impacts of Peer Mentorship

As previously noted, peer mentorships in CTPs should be conceptualized as a reciprocal arrangement between two similar-aged individuals who both benefit and gain new skills from the mentorship experience (Jones et al., 2021). The benefit to peer mentors has been well documented. Farley and colleagues (2014) conducted a pilot survey with 39 peer mentors to determine the impact of mentorship experiences. Mentors who completed this survey volunteered to be part of a peer mentorship program and represented various majors. Qualitative analysis of the surveys showed that mentors experienced many benefits as a result of participating in the mentorship program, such as: (a) intrapersonal growth and enrichment, (b) work experience and knowledge, (c) development of friendships, and (d) interpersonal skill development. Additionally, mentors felt they experienced personal changes after participating in the mentorship program, including their perspectives of I/DD. For example, some mentors noted how similar they realized they were to peers with I/DD, which had not occurred to them before participation in the program. Other students found themselves becoming advocates for individuals with I/DD in their daily lives by challenging assumptions of friends and family. Some students even changed the course of their career to special education or another field in which they would be working closely with people with I/DD every day. Overall, Farley et al. (2014) documented a "profound and positive effect on [mentors'] lives" (p. 658) as a result of participating in a peer mentorship program.

These findings have been supported by other studies. For example, Harrison and colleagues (2019) found that peer mentors demonstrated increased positive attitudes toward

people with I/DD, increased knowledge of I/DD, more interactions with people with I/DD, and lowered feelings of sensitivity (i.e., sadness/pity). A recent study by Jones et al. (2021) revealed similar findings. These authors conducted a qualitative analysis of 344 written reflections spanning 10 years, written by 85 undergraduate volunteer peer mentors from a variety of majors. Volunteers engaged in the peer mentorship experience as part of service-learning requirements for education courses. Analysis of the reflections revealed four themes: (a) professional learning, (b) intrapersonal learning, (c) broadening friendship networks, and (d) challenging [dis]ability. First, undergraduate mentors felt they experienced professional growth, with the mentorship experience making them better prepared to be teachers and working with students with disabilities, as well as providing them with an opportunity to apply skills they had learned in their courses. Undergraduate students also felt they learned more about themselves through the experience and learned just as much from their mentorship partners as their partners learned from them. Lasting friendships were made between undergraduate students and their mentorship partners, which most of the mentors did not expect. Finally, the mentorship experience gave undergraduate students an opportunity to challenge some of their preconceived notions about disability and start to view their mentorship partners with I/DD as more like themselves than different.

Social inclusion of students with I/DD is another potential benefit of peer mentorship/peer supports. Despite the friendships between mentorship partners noted in the literature (e.g., Farley et al., 2014; Jones et al., 2021), peer supports can actually hinder social inclusion, especially when supports restrict independence and are not age appropriate (Prohn et al., 2019). There is a dearth of literature about the social inclusion of students with I/DD enrolled in IPSE programs on inclusive campuses. One exception is Prohn and colleagues (2019), who

examined the social inclusion of students with I/DD enrolled in IPSE programs. The study included 15 peer mentors, split into three focus groups. All participants were undergraduate students enrolled in university courses and paid by the university's IPSE program to provide supports to students with I/DD. Qualitative analysis of focus group data revealed four elements that determined if students with I/DD were socially included: (a) campus environment, (b) support, (c) individual skills for developing and maintaining social relationships, and (d) self-determination. One example of a supportive campus environment is the inclusion of students with I/DD in residential halls; this is considered a necessary precursor to social inclusion in PSE. The supports provided to students with I/DD helped develop and maintain social relationships. For example, peer supports introduced students with I/DD to other undergraduate students and were a bridge or facilitator of a new friendship. When students with I/DD acquired skills for organizing and engaging in social situations, social inclusion benefited greatly. Finally, students with I/DD needed strong self-determination skills and opportunities to make independent choices about their social activities (Prohn et al., 2019). Students have more opportunities for autonomy and choice in inclusive contexts.

Prohn and colleagues (2019) described a friendship dynamic different from others described in the literature. While the friendships described were considered reciprocal, the authors noted that peer mentors had a difficult time navigating the boundary of mentor and friend. Mentors were committed to helping improve the life of the student with I/DD but found it difficult to treat them as they would other, typically developing college friends. This led the supports to sort "friendships into typologies—one for [friends with I/DD] and one for [friends without I/DD" (Prohn et al., 2019, p. 117). The result of these typologies was a difference in behavior with friends with and without I/DD. For example, supports would go to the bar and

drink alcohol with their friends without I/DD but felt they could not do so with their friends with I/DD (Prohn et al., 2019). Still, peer mentorship has its limits. Once enrolled in IPSE, barriers remain, including lack of support and training for peer mentors and instructional faculty (Giust & Valle-Riestra, 2017; Lee & Taylor, 2022). One way to mitigate barriers may be service-learning.

Service-Learning

Bloomquist (2015) defined service-learning as "a type of experiential education that combines credit-earning, course-based learning with community service...combination of class work and practical work" (p. 169). Experiential learning is a theory of learning that dates back to Dewey and involves the acquisition of new information and skills in natural settings where students can problem-solve in a low-risk environment due to unpredictable issues arising within that environment. Within experiential learning theory, students actively construct knowledge through experience, in real-world, practical environments rather than passively engage in classroom instruction (Marder et al., 2017; Salam et al., 2019). This results in learning that is more meaningful and powerful (Marder et al., 2017).

Service-learning, then, is people learning as part of developing practice (Carrington & Selva, 2010), or learning by doing (Salam et al., 2019). A key component of service-learning is meaningful connections between the service experience and content studied in the course (Yurasoyska, 2021). Service-learning is a useful educational experience because it can teach people how to engage with communities they will be interacting with in their profession (Bloomquist, 2015). Students can participate in their community while simultaneously practicing concepts learned in the classroom (Carrington & Selva, 2010). Service-learning benefits students in a variety of ways, including increased learning, practical experience, and more understanding of course content (Salam et al., 2019).

In this context, service-learning can engage pre-service teachers with individuals with I/DD, whom they may be teaching and providing services to when they enter the workforce. According to Salam and colleagues (2019), who conducted a systematic review of the extent to which service-learning is used in higher education, service-learning has become increasingly popular in teacher education programs. During these service-learning experiences, pre-service teachers were able to broaden their understanding of the role of teachers. Other benefits were appreciated as well. For example, students who participated in service-learning experiences acquired various skills such as communication, independence and teamwork, social, and critical thinking, and problem-solving. Pre-service teachers were able to use their problem-solving skills when they had to apply theoretical understandings to real-world issues.

Reflection

Similar to service-learning, the concept of reflection used in education stems from Dewey as a necessary part of experiential learning. In this context, reflection is conceptualized as "methodical thinking about experience that enables authentic learning to take place and transform into action" (Camus et al., 2021, p. 286). Reflection can play many roles in education in a variety of ways, from articulating student learning (Molee et al., 2010) to transforming learning into more impactful experiences (Cress & Patton, 2013). That is, reflection can help students understand the connections between their learning and greater social change.

Molee et al. (2010) aimed to understand the depth of learning students achieve through reflections in which they responded to specific prompts. Samples were taken from two undergraduate preservice education courses. Reflections from 25 students were included in the study. Results indicated that students were able to identify, describe, and apply academic

concepts. While reflection gave students a space to articulate their learning, it did not result in deeper understanding of academic concepts.

Reflection is viewed as an essential part of teacher preparation programs (Etscheidt et al., 2012). Indeed, facilitating pre-service teachers' reflection on their personal biases is part of accreditation standards for initial teacher preparation (Council for the Accreditation of Educator Preparation, 2022). Reflection is an important disposition for pre-service teachers to develop so they can identify problems, test solutions, be aware of how their thinking impacts their actions, and evaluate their instruction (Etscheidt et al., 2012). Reflection can be used to support other learning experiences, such as peer mentorship/support and service-learning.

Reflection, Peer Mentorship, and Service-Learning

Pre-service teachers in special education benefit from authentic opportunities to apply theoretical concepts to meet the demands of their occupation (Darling-Hammond & Snyder, 2000). When combined with authentic service-learning opportunities, reflection can function to link the service experiences with the in-class learning experience of a service-learning course (Bloomquist, 2015). In the context of service-learning, reflection offers students a way of "analyzing, reconsidering, and questioning one's experiences within a broad context of issues and content knowledge" (Jacoby, 2014, p. 26). Additionally, reflection becomes an effective way for pre-service teachers to interrogate their beliefs and practices, and make appropriate adjustments (Etscheidt et al., 2012). In short, reflection is a critical precondition for learning in a service-learning context (Jacoby, 2014).

Sanders and colleagues (2016) conducted a mixed methods investigation to examine how the structure and frequency of reflection during service-learning impacted student understanding. Reflections from 65 occupational therapy students were analyzed. Analysis of reflections

revealed that service-learning experiences resulted in better understanding of a community and increased examination of taken-for-granted assumptions about individuals with disabilities. The authors concluded that reflection is a key component of service-learning that encourages personal growth, deeper understanding of course content, and interrogation of assumptions. When used as part of a peer mentorship experience, reflection is a useful tool to keep peer mentors without disabilities accountable for their experience (Jones et al., 2021). When reflections of peer-mentorship experiences were investigated, researchers found that peer mentors often re-evaluated their assumptions about disabilities and what people with I/DD can and cannot do.

Purpose of the Study

While the literature base on service-learning and peer mentorship utilized in IPSE programs has grown substantially in recent years, more research is needed on how peer mentoring impacts typically developing pre-service teachers' perceptions of students with I/DD. Therefore, the purpose of this study was to contribute to the empirical understanding of how service-learning experiences involving peer-mentorship partnerships with individuals with I/DD impact pre-service teachers. The specific research questions addressed were:

1. What impact did a service-learning experience with college students with I/DD have on pre-service teachers?
2. How did the service-learning experience impact pre-service teachers' perceptions of people with I/DD?

CHAPTER III: METHODOLOGY

Content Analysis

The purpose of this study was to explore the impact of a service-learning peer mentorship experience on pre-service special education and dual licensure teachers. To best understand this phenomenon, a qualitative research design was used. Qualitative research designs are appropriate when the researcher aims to understand how individuals make meaning of their experiences related to a particular phenomenon (Merriam & Tisdell, 2016). In the context of this study, the goal was to explore how pre-service special education and dual licensure teachers made sense of their experiences working with adult students with I/DD. Due to the focus on pre-service teachers' meaning making, a qualitative approach was appropriate to investigate this phenomenon.

The specific qualitative approach used was content analysis described by Krippendorff (2019) and Graneheim and Lundman (2004). Qualitative content analysis is systematic reading of text for the purpose of making "valid inferences" (Krippendorff, 2019, p. 24) and interpretations (Graneheim & Lundman, 2004). The goal of content analysis is to make abductive inferences, or those that move from text being analyzed to answers to research questions (Krippendorff, 2019). Content analysis was used to answer the following research questions:

1. What impact did a service-learning experience with college students with I/DD have on pre-service teachers?
2. How did the service-learning experience impact pre-service teachers' perceptions of individuals with I/DD?

Data for both research questions came from student reflections related to their experiences. The purpose of research question (RQ) 1 was to explore and understand how a service-learning experience affected pre-service teachers' goals, understanding of course concepts, expectations, and assumptions. RQ 2 was intended to explore the extent to which service-learning and peer relationships impacted pre-service teachers' assumptions about individuals with I/DD. Together, these research questions enabled the PI to explore the experiences of pre-service teachers in service learning with adult students with I/DD.

Pathways Program

Pathways is a four-year comprehensive transition and postsecondary education program for students with I/DD housed within University. University is a public institution in North Carolina serving approximately 14,000 undergraduate students. According to data from 2022, the majority of degree-seeking students are female (66%), and 36% of students live on campus; 51% of students were awarded Pell Grants (U.S. News & World Report, 2023). In 2021, the vast majority of students at University were in-state residents (93%). In the same year, 35.3% of students were Black, 31.9% were White, and 18% were Hispanic or Latino (*Fall 2021 census campus profile*, 2021).

The history of Pathways traces back to 2005, when a committee of individuals with ID, families, and service-providers began advocating and spreading awareness about the lack of inclusive, postsecondary options for individuals with I/DD in the area. The stakeholders researched existing postsecondary education programs in other areas to use a model for their program, began looking for program funding, and began identifying local higher-education partners. In 2007, their work culminated in the launching of Pathways program, funded by the state health and human services department and partnered with University. The program began

with eight students. From there, the program grew considerably. In 2013, Pathways program had enrolled 49 students, partnered with multiple academic departments across the University campus as well as numerous state and community partnerships, and expanded funding support (*Pathways*, 2013).

To be accepted into Pathways, students must: (a) have documentation of a diagnosis of intellectual disability; (b) not be under guardianship; (c) be 18 or older before August 1st of the semester they are applying for; (d) have obtained a high school diploma, certificate of completion, or equivalent before enrollment; (e) not meet requirements for undergraduate admissions; and (f) have basic safety skills for unsupervised settings (*Admissions information*, n.d.). Pathways accepts approximately 67% of students who apply, with a 100% retention rate for first year students. The estimated annual cost for in-state residents, including tuition, housing, meals, and program fees, is approximately $25,000 for the 2023-2024 academic year, and approximately $40,400 for out-of-state students (*Pathways admissions,* 2023).

Students who complete the Pathways program earn a certificate of completion and graduate with their matriculating peers at the University graduation ceremony. The program involves 90-120 course credits over the course of enrollment, a minimum of 200 service hours, and a minimum of 130 internship hours (*Program requirements*, n.d.). Students take courses both with and without other students with disabilities. Courses are taken in career development, self-determination, and life-planning (*Course examples*, n.d.).

Individualized supports are provided to enrollees throughout their program. Every student in Pathways receives a College Support Plan, which is a hybrid academic plan of study and individualized support plan. The Support Plan begins with the identification of natural resources to encourage the student to use natural resources as much as possible. Then, if the student has

additional support needs, the student will work with support staff provided by University. Support staff are typically program interns, graduate students, and campus partners such as peer mentors. Support personnel are not with the student all the time; it is expected Pathways students navigate the college environment independently for some period of time. If a student requires additional support, Pathways will work with their family to identify a third-party provider who can provide such support. Additionally, students enrolled in Pathways can live on University campus if they desire to. Like support decisions, housing decisions are made on an individualized basis based on student needs and goals. Options available are on-campus dorms, privately owned student housing, and off-campus, very similar to college students without disabilities (*Frequently asked questions*, n.d.). See Table 1 for demographic information about students enrolled in Pathways in 2018, 2019, and 2020.

Table 1. Demographic Information for Pathways Students, 2018-2020

	2018	2019	2020
Total Student Count	9	14	10
Race and Ethnicity			
American Indian or Alaska Native	0	0	2
Asian	1	0	0
Black or African American	3	5	4
Native Hawaiian or Other Pacific Islander	0	0	0
White	3	9	4
Two or More Races	0	0	0
Hispanic or Latino	2	0	0
Nonresident Alien	0	0	0

	2018	2019	2020
Unknown	2	0	0
Gender			
Female	2	3	6
Male	5	11	4
Unknown	2	0	0
Diagnosis[a]			
Anxiety	0	2	0
Attention Deficit Hyperactivity Disorder	1	3	1
Autism	3	7	1
Borderline Intellectual Functioning	2	1	1
Down Syndrome	0	2	0
Intellectual Disability	4	9	7
Social Communication Disorder	1	0	0
Specific Learning Disability	0	0	4
Unknown	2	0	0
Exiting			
Conduct	0	1	1
Drop Out	1	2	4
Fit	2	1	0
Graduated	6	10	2
Moved	0	0	2
Unknown	0	0	1

Note. All data from *Pathways student data* (n.d.).

[a] Several students had comorbid diagnoses.

Context of the Study: SPED 400

Some of the individualized supports for students enrolled in Pathways program are provided by undergraduate students enrolled in SPED 400 – Special Education Service Delivery. SPED 400 is offered in the fall semesters. Students enrolled in this course are working toward a bachelor of science degree with licensure in special education or dual elementary and special education (see Table 2 and Table 3 for demographic information). Students in this course are juniors and must complete 20 service-learning hours as part of the course requirements.

Service-learning consisted of pairing students in SPED 400 with students in Pathways. Pre-service teachers provided a variety of supports, including social, academic, and organizational. After completing all required service-learning hours, pre-service teachers wrote a summative reflection responding to prompts about their goals, assumptions, the impact of the experience on their understanding of special education, and any other observations or reflections about the experience. See Appendix A for the assignment description and reflection prompts.

Table 2. Demographic Information for Special Education Majors, Fall 2018-Fall 2020

	2018	2019	2020
Total Student Count	19	20	17
Race and Ethnicity			
American Indian or Alaska Native	0	0	0
Asian	0	0	0
Black or African American	2	5	4
Native Hawaiian or Other Pacific Islander	0	0	0

	2018	2019	2020
White	15	14	11
Two or More Races	1	0	1
Hispanic or Latino	1	1	1
Nonresident Alien	0	0	0
Unknown	0	0	0
Gender			
Female	17	18	17
Male	2	2	0
Full-Time/Part-Time			
Full-Time	19	20	16
Part-Time	0	0	1
Enrollment Status			
New Student	0	0	0
New Transfer Student	0	1	0
Continuing Student	19	19	17
Non-degree Student	0	0	0
Residency			
In-State	19	19	16
Out-of-State	0	1	1
First-Generation			
First-Generation	7	6	6
Not First-Generation	9	10	7

	2018	2019	2020
Not Available	3	4	4
Rural Status			
Rural	12	7	6
Non-Rural	7	12	10
Not Applicable, Unavailable	0	1	1
Class Level			
First Year Undergraduate	0	0	0
Second Year Undergraduate	2	3	1
Third Year Undergraduate	4	7	3
Fourth Year Undergraduate	8	10	13
Fifth Year or More Undergraduate	4	-	-
Second Bachelor's	1	0	0
Unclassified	0	0	0

Note. All data from *Enrollment reports* (n.d.).

Table 3. Demographic Information for Dual Elementary and Special Education Majors, Fall 2018-Fall 2020

	2018	2019	2020
Total Student Count	36	33	29
Race and ethnicity			
American Indian or Alaska Native	1	0	0
Asian	0	0	0

	2018	2019	2020
Black or African American	5	2	4
Native Hawaiian or Other Pacific Islander	0	0	0
White	27	30	25
Two or More Races	0	0	0
Hispanic or Latino	2	1	0
Nonresident Alien	1	0	0
Unknown	0	0	0
Gender			
Female	36	33	29
Male	0	0	0
Full-Time/Part-Time			
Full-Time	36	33	29
Part-Time	0	0	0
Enrollment Status			
New Student	1	0	0
New Transfer Student	0	0	0
Continuing Student	35	33	29
Non-degree Student	0	0	0
Residency			
In-State	34	32	28
Out-of-State	2	1	1
First-Generation			

	2018	2019	2020
First-Generation	11	13	10
Not First-Generation	19	12	12
Not Available	6	8	7
Rural Status			
Rural	18	14	14
Non-Rural	18	18	14
Not Applicable, Unavailable	0	1	1
Class Level			
First Year Undergraduate	1	0	0
Second Year Undergraduate	0	1	2
Third Year Undergraduate	19	13	6
Fourth Year Undergraduate	13	19	20
Fifth Year or More Undergraduate	3	-	-
Second Bachelor's	0	0	1
Unclassified	0	0	0

Note. All data from *Enrollment reports* (n.d.).

Institutional Review Board and Ethical Considerations

Initial Institutional Review Board (IRB) approval was obtained to conduct a pilot study in 2020. The IRB covered secondary analysis of data from three semesters of SPED 400 (i.e., 2018, 2019, and 2020). Due to secondary analysis of data, the study was considered exempt and participant consent did not need to be obtained.

Originally, the researcher planned to amend the IRB to include an additional two years of data from SPED 400 (i.e., 2021 and 2022). However, including these two additional years of data would have changed the intention of the project from a retrospective secondary analysis of existing data to research with human participants requiring consent. Acquiring consent was not feasible, so data from 2021 and 2022 were not included. Data analysis began when IRB approval was obtained. To maintain confidentiality, all data were de-identified and pseudonyms were assigned where appropriate. All data were stored in a password-protected OneDrive Folder with two-factor authentication, per University policy.

Data Collection

Sampling units are defined as portions of a text corpus that will be included in or excluded from analysis (Krippendorff, 2019). For example, in their content analysis of trends in special education literature, Rock et al. (2016) defined their sampling units as published articles included in the journals *Teacher Education and Special Education* and *JTE* between the years 1996 and 2014. For the purposes of this study, sampling units were identified as all written reflections from three semesters of SPED 400 (i.e., 2018, 2019, and 2020). Each reflection represents one student's summary thoughts on their experiences during service-learning; thus, 74 pre-service teachers were included for analysis. All available reflections from each semester were used. See Table 4 for more detailed information on the number of reflections per semester.

Table 4. Number of Reflections per Year Included for Analysis

Year	*N*
2018	35
2019	29
2020[a]	10

Total	74

Note: There is a one-to-one correspondence between the number of reflections and the number of pre-service teachers represented. Each pre-service teacher wrote one summative reflection at the end of their service-learning experience. Those are the reflections included in this analysis.

[a] SPED 400 was delivered in a virtual face-to-face format during 2020, due to COVID stay at home.

Additionally, data collection included artifacts from associated reflections where appropriate. Artifacts were used to triangulate and illustrate themes (Harper, 2005). These artifacts were included at the end of pre-service teacher reflections as a visual representation of their experience. Artifacts could fall into a variety of categories, including but not limited to art, songs, poems, games, and other forms of visual representation.

Pre-service teachers in the 2019 and 2020 were required to complete a Student Support Session form after each tutoring session. The form for the 2019 cohort included length of each session. The form for the 2020 cohort included length of each session and types of activities completed. These Student Support Session forms were analyzed in addition to reflections and supporting artifacts.

Data Analysis

Content analytic procedures refer to coded content as recording, coding, or meaning units, or portions of text that are categorized, compared, analyzed, and summarized for the purposes of inference making (Graneheim & Lundman, 2004; Krippendorff, 2019). To accomplish this, data are decontextualized, (i.e., meaning units separated from context) and

recontextualized (i.e., separated meaning units are combined in new context; Lindgren et al., 2020). Decontextualization and recontextualization occurred in two cycles: (a) first-cycle coding, and (b) second- cycle coding (Saldaña, 2021). For ease of discussion, descriptions of the coding process are delineated by cycle, though it is important to remember that qualitative coding is an iterative process (Merriam & Tisdell, 2016; Saldaña, 2021), involving moving between cycles of coding and including refinements/redefinitions as needed. Data analysis was conducted using a combination of software packages including Microsoft Word, Microsoft Excel, and Atlas.ti. Atlas.ti is a qualitative data management and analysis system available through the University. All reflections were de-identified before analysis began.

First-Cycle Coding

To begin the process of decontextualization, an abductive approach to coding was used, in which the researcher used a priori codes guided by the assignment prompt, but still allowed for codes to emerge from data (Graneheim et al., 2017; Krippendorff, 2019; Saldaña, 2021). First-cycle coding involved repeated readings of data with meaning units falling into the following a priori codes: (a) course concepts, (b) expectations, (c) goals, (d) strengths/weaknesses, (e) assumptions, (f) service delivery, and (g) futures. These codes represented broad topics pre-service teachers addressed in their assignment. To begin the coding process, the researcher read the reflections and used the highlight function in Microsoft Word to color code content according to the a priori codes. If more than one code applied, the color coding was used for one code and a comment was added for additional code(s). Throughout this process, the researcher noticed additional topics emerge that were not captured by the a priori codes. To address this, the researcher added codes and definitions to the codebook (see Appendix B). For example, pre-service teachers discussed issues with getting assigned a learning partner,

scheduling, and learning partners not showing up for support sessions. This did not fit into the original coding schema, so the code “frustration” was added. When the codebook was finalized, all documents were imported to and coded in Atlas.ti. This process yielded 770 quotations.

When all documents had been coded and sorted into initial topics, the researcher began the process of more detailed line-by-line coding. This was the second round of first-cycle coding. All quotations were exported to an Excel spreadsheet. Similar to the first round of coding, the researcher engaged in repeated readings of data and made notes of potential subcodes. This process started by condensing the meaning units into short phrases that summarized the essence of the subtopic the pre-service teachers addressed (Graneheim & Lundman, 2004). These phrases were then consolidated into a subcode representing the subtopic. Subcodes and definitions were added to the codebook (see Appendix C). This followed an inductive logic in which codes emerged from the data (Saldaña, 2021). Subcodes were both descriptive and in vivo (Saldaña, 2021) to capture the essence of the subtopic(s) of each quotation. For example, if a quotation was coded “course concepts” and the pre-service teacher discussed how they saw that concept play out during their service-learning experience, it was assigned the subcode of “illustrated.” Subcodes were collapsed and refined as necessary, then coded in Atlas.ti. This resulted in 767 quotations.

It should be noted that during the second round of first cycle coding, some quotations were split into two or more because even though the initial topic was the same, the sub-topic differed. Therefore, the number of quotations between round one and round two differs. Additionally, codes and subcodes were refined, collapsed, and deleted throughout the iterative process of rounds one and two of first cycle coding. An example of a refinement, the researcher noticed the topic code of “expectations” was unwieldy and made additional coding difficult, as

additional coding required two to three levels of hierarchy. Therefore, the researcher split this "expectations" into "initial expectations" and "actual experiences" topic codes. This change made the coding process more concise and manageable.

Second-Cycle Coding

Second-cycle coding began the process of recontextualizing the data (Lindgren et al., 2020; Saldaña, 2021). See Figure 1 for an example of the decontextualization to recontextualization process using Saldaña's (2021) first- and second-cycle coding. Second-cycle analysis also occurred in two stages. The first involved organizing codes and subcodes generated during first-cycle coding into categories based on similarity or shared characteristic as a first step in consolidating meaning (Saldaña, 2021). This was done by comparing codes, subcodes, their definitions, and sample quotations from all three years of data. When categories were developed, they were then organized into overarching themes. Categories and themes were confirmed by a second researcher.

When coding was complete, the researcher used Sankey diagrams in Atlas.ti to examine differences between cohort years. Sankey diagrams are data visualization tools that display the associations or flow between various elements in a study (Friese, 2021). Sankey diagrams are useful for seeing the flow or overlap of data between study participants and codes, categories, and themes.

Analysis of Support Session Forms and Visual Data

Pre-service teachers in SPED 400 were instructed to include a photograph of the artifact they created to represent their experiences at the end of their reflections. According to Harper (2005), visual data is a secondary, although important, source of information. Visual data can be used to contextualize phenomena, as well as illustrate and triangulate findings (Harper, 2005). To

that end, artifacts, in the form of visual data, were used to illustrate and triangulate themes that emerged from textual data. Some students included an explanation of their artifact in their reflection or as captions to their pictures. Artifacts and associated explanations were cataloged and compared to themes. Additionally, pre-service teachers from 2019 and 2020 had to complete a Student Support Session form (see Appendix D) after every session. Data from these forms were used as additional support for findings.

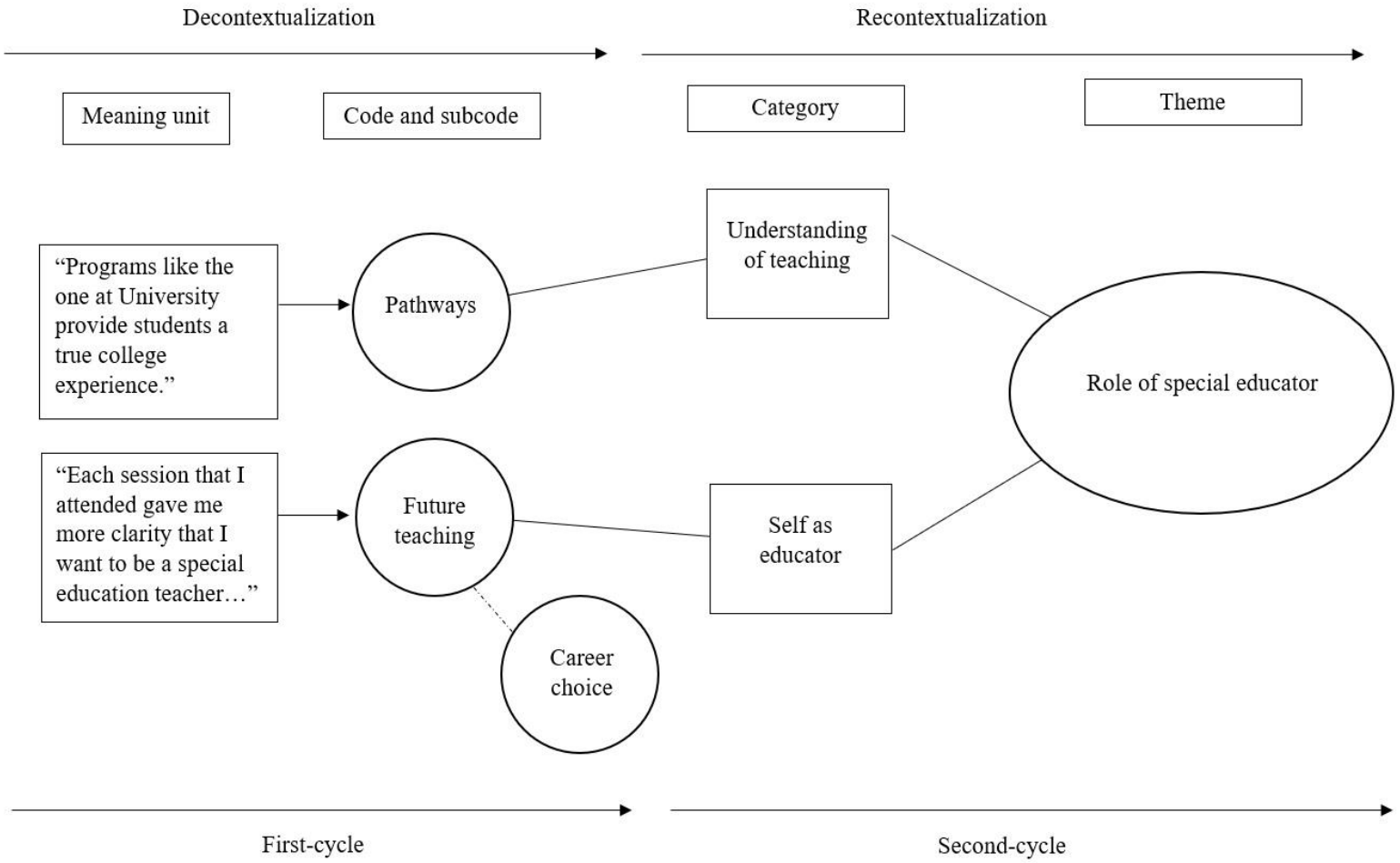
Trustworthiness

The term "trustworthiness" is used as an umbrella term to refer to concepts typically called "validity," "reliability," and "generalizability" in quantitative research. In qualitative research, this refers to credibility, consistency, and transferability (Merriam & Tisdell, 2016). Each of these concepts and how they were addressed is discussed below.

Credibility

The term "credibility" in qualitative research is analogous to "internal validity" in quantitative research. The question to address here is: Do the data and the researcher's interpretation of the data match the reality as expressed by participants (Merriam & Tisdell, 2016)? Triangulation, or the use of three or more data collection methods, sources of data, investigators, or theories (Merriam & Tisdell, 2016) was used to achieve credibility. For this study, reflection data were collected from three separate semesters of SPED 400, in which all students completed the same assignment. Additionally, different types of data were collected (i.e., reflections, artifacts, and session forms). Data were cross-checked and compared across each semester and from each data source to confirm themes.

Figure 1. Visual Representation of Data Analysis Process



Note. Adapted from Saldaña **(**2021**).**

Consistency

Consistency in qualitative research corresponds with the concept of "reliability" in quantitative research, or the "extent to which research findings can be replicated," (Merriam & Tisdell, 2016, p. 250). However, replication is not the goal of qualitative research. Rather, a goal is to ensure findings are consistent with the data collected. To ensure consistency, strategies of triangulation (discussed above), peer examination (i.e., intercoder agreement), and the audit trail (i.e., analytic memos) were employed (Merriam & Tisdell, 2016).

Intercoder Agreement. A codebook containing codes, subcodes, themes, subthemes, and definitions was developed. The researcher shared this codebook with a second researcher and trained them on the coding process. Training was conducted over Microsoft Teams following an "I-do, We-do, You-do" (Archer & Hughes, 2011) format. The researcher sent the second researcher the codebook, along with the purpose and research questions for the study, as well as rules for coding and a list of course concepts. The two researchers looked at a separate sample of coded content together. The researcher conducted a "think-aloud" session in which she read the quotation, looked at the codebook, and verbalized why certain codes did or did not fit and why she chose the code she did. Next, the researcher and second researcher read a sample of quotes together, and discussed with each other which code would best fit, as well as which codes did not work and why. Finally, the second researcher conducted her own "think-aloud" session to code the remaining sample quotations. The researcher would confirm agreement, or they would discuss any disagreements until consensus was reached. Then, the second researcher would independently code a random sample of approximately 30% of quotations. These codes were then be compared to the PI's coding, and intercoder agreement was calculated according to the following formula (Foster et al., 1988):

$$\left(\frac{total\ \#\ of\ agreeents}{total\ \#\ of\ agreements + total\ \#\ of\ disagreements}\right) \times 100$$

IOA occurred for topic and subtopic coding. For each round of IOA, when disagreements occurred, the researchers discussed them. These discussions included both researchers explaining why they selected the code they did, referring to the codebook, looking at the quotation in context, discussing why they felt a specific code did or did not fit, and mutually deciding on a code. This process occurred until the two researchers reached 100% consensus on all coded content. After consensus was reached, the two researchers went back to the codebook and made refinements as necessary. Using these refinements, quotations were re-coded as necessary based on consensus between the two researchers. The IOA process was recorded using Microsoft Teams and documented in analytic memos (see section below).

Analytic Memos. Saldaña (2021) described analytic memos as a qualitative researcher's journal, blog, or "brain dump" about the phenomenon being examined, participants, or data. These memos document the "coding processes and code choices; how the process of inquiry is taking shape; and the emergent patterns, categories, and subcategories, themes, and concepts" in the data (Saldaña, 2021, p. 58). Analytic memos encourage researcher reflexivity and, in the context of consistency, act as an audit trail through which an audience can trace the researchers' thought processes and decision-making (Merriam & Tisdell, 2016). For this study, analytic memos included: (a) thoughts and perceptions about data and codes; (b) coding processes; (c) topic, category, and theme development; (d) questions; (e) decisions with justifications/explanations; and (f) discussions of disagreements with second researcher (described in above section). The researcher made memos in Atlas.ti using the memo function, within comments associated with specific quotations in Atlas.ti, in Microsoft Word, and in Microsoft Excel, as well as by hand on printed copies of the codebook. Additionally, memos

were taken in the form of recorded Teams meetings between the researcher and second researcher as a way to keep track of disagreements and coding decisions. The researcher used these memos to help construct themes. The researcher "sorted" the topics in the memos into categories, compared them to categories that emerged from data, and used this comparison to construct the final themes/subthemes.

Transferability

Transferability in qualitative research corresponds to external validity in quantitative research, or the extent to which findings can be generalized to other participants, settings, situations, etc. (Merriam & Tisdell, 2016). However, the quantitative concept of generalizability cannot be applied to qualitative research because qualitative research often deals with context-bound phenomena and proceeds without pre-existing controls that contribute to generalizability, such as in quantitative research; that is, the purpose is to gain an in-depth understanding of a phenomenon from a specific group of people, not to "find out what is generally true for many" (Merriam & Tisdell, 2016, p. 254). To that end, transferability in qualitative research rests on the extent to which audiences see the findings as applicable to their situation (Merriam & Tisdell, 2016). For example, this study yielded findings specific to the impact of a service-learning experience with individuals with I/DD on pre-service special education and dual education teachers. These findings will be communicated and disseminated via journal articles and conference presentations, and audiences of those communications will determine the extent to which the findings apply to them. The researcher's job as researcher is to provide rich, thick description of the study and findings. According to Merriam & Tisdell (2016),

> when rich, thick description is used as a strategy to enable transferability, it refers to a description of the setting and participants of the study, as well as a detailed description of

> the findings with adequate evidence presented in the form of quotes from participant...[and] documents. (p. 257)

That is, to enable transferability, any communication about the study will include enough detail about the participants, setting, and findings (including evidentiary quotations from data) for readers to decide if the study applies to their unique situation. This also includes demographic information for students enrolled in SPED 400 and those in the Pathways program, to the extent available.

Researcher Positionality

Consistent with Peshkin's (1988) assertion that researcher subjectivities (i.e., the cumulation of beliefs and values that stem from one's position in the world) interact with what is being studied, it is important for a researcher to make explicit their relationship to the data being investigated.

Currently, I am a seventh-year doctoral student completing this study for my dissertation, the final step in earning my Ph.D., under the supervision of Dr. Debra G. Holzberg. As such, it is important to acknowledge the importance of this research in completing my doctoral studies and beginning my scholarly career. Due to my relationship with Dr. Holzberg, who is the instructor for SPED 400, I co-taught SPED 400 during the fall 2020 semester.

CHAPTER IV: FINDINGS

The purpose of this qualitative content analysis was to explore the impact of a service-learning experience with adults with I/DD on pre-service special education and dual licensure teachers. Student reflections, artifacts, and support session data were collected to answer the following research questions:

1. What impact did a service-learning experience with college students with I/DD have on pre-service teachers?
2. How did the service-learning experience impact pre-service teachers' perceptions of individuals with I/DD?

Seventy-four student reflections were analyzed, which resulted in a total of, 802 quotations, organized into 53 codes (see Table 5), sorted into 13 categories, five themes, and seven subthemes which together describe the impact of a service-learning experience with adults with I/DD on pre-service special education and dual licensure teachers. Of the 74 student reflections, 50 included an artifact and 17 of those included an explanation (see Table 6). The results of this inquiry are organized by themes and subthemes that emerged from the data. Themes one through three and theme five address RQ1 while theme four addresses RQ 2.

Theme one delineated the ways in which SPED 400 course concepts became apparent and were used by pre-service teachers. Theme two addresses pre-service teachers' changed understandings of being a special educator. Theme three describes how the service-learning experience differed from pre-service teachers' expectations. Theme four discusses the ways in which pre-service teachers' perceptions of people with disabilities did or did not change, and theme five addresses what pre-service teachers learned about themselves.

Table 5. Quote Frequency by Code and Subcode

Code and Subcode	Frequency of Occurrence
Actual experiences	133
Capacity	19
Connection	23
Interaction	21
Learning Partner	33
Process	17
Support	23
Connections to Other Courses/Practicum	24
Course Concepts	120
Achieve Goal(s)	5
Did Not Use/Apply	8
Extended	17
Illustrated	47
Support	38
Teaching	6
Frustration	21
Learning Partner	8
Process	14
Future Teaching	110
Areas for Growth	7
Belonging	5

Code and Subcode	Frequency of Occurrence
Career Choice	5
Communication	11
Competence	3
Individual	18
Instruction	28
Philosophy	25
Relationships	8
Goals	100
Accomplished	52
Assignment Requirements	5
Comfort with Disability	7
Connection	31
Not Accomplished	12
Person First	5
Personal Growth	2
Professional Growth	11
Support LP	31
Initial Expectations	146
Capacity	33
Connection	14
Interaction	21
Learning Partner	34

Code and Subcode	Frequency of Occurrence
Process	26
Support	21
Pathways	11
Perceptions of PWD	45
Challenges	9
Competence	15
Person first	6
Similarity	12
Support Needed	3
Strengths	49
Development	3
Goal	19
Interactions	12
Supports	16
Weaknesses	43
Development	11
Goal	13
Interactions	8
Supports	12

Table 6. Number of Artifacts and Artifact Explanations by Cohort Year

Cohort year	Reflections	Artifacts	Artifact Explanations

2018	35	11	2
2019	29	29	12
2020	10	10	3

Theme 1: Pre-service teachers saw SPED 400 course concepts illustrated during hands-on experiences with adults with disabilities, as well as utilized course concepts during service-learning.

Course concepts were addressed in 88% (*n* = 65) of reflections. Within this theme, course concepts became apparent in four ways: (a) concepts were illustrated for pre-service teachers, (b) pre-service teachers extended their understanding of course concepts, (c) pre-service teachers were able to use course concepts to provide support, and (d) pre-service teachers made connections to other courses and practicum experiences that were part of their preparation programs. Course concepts illustrated were addressed in 46% (*n* = 34) of reflections, course concepts extended were addressed in 19% (*n* = 14), concept utilization was addressed in 45% (*n* = 33), and connections to other courses and practicum experiences were addressed in 28% (*n* = 21) of reflections. This finding was consistent across all three years of data.

Pre-service teachers identified a number of course concepts when reflecting about their service-learning experiences. The most frequently identified concept across all three years was communication. The second most frequently cited concept differed by year. See Table 7 for a list of concepts identified and associated number of quotations. It is important to note that topics covered in SPED 400 did not change substantively between these three years; the only change was the replacing the reading *Out of My Mind* (Draper, 2010) with *We Want to Do More Than Survive: Abolitionist Teaching in the Pursuit of Education Freedom* (Love, 2019) in 2020 (Dr.

M. Bailey, personal communication, March 29, 2024; *SPED 400 Course Syllabus*, 2018; *SPED 400 Course Syllabus*, 2019; *SPED 400 Course Syllabus*, 2020).

Figure 2 shows a Sankey diagram of SPED course concepts that were illustrated and understanding extended during service-learning. The most frequently illustrated and extended concept was communication. The second most illustrated concept was collaboration, while the second most extended concept was transition.

Service-learning provided pre-service teachers the opportunity to see SPED 400 course concepts illustrated in hands-on authentic experiences with adults with I/DD. Thirty-nine percent (n = 47) of the quotes addressing course concepts focused on concept illustration. This finding was consistent across years. Pre-service teachers described examples of seeing these concepts in action:

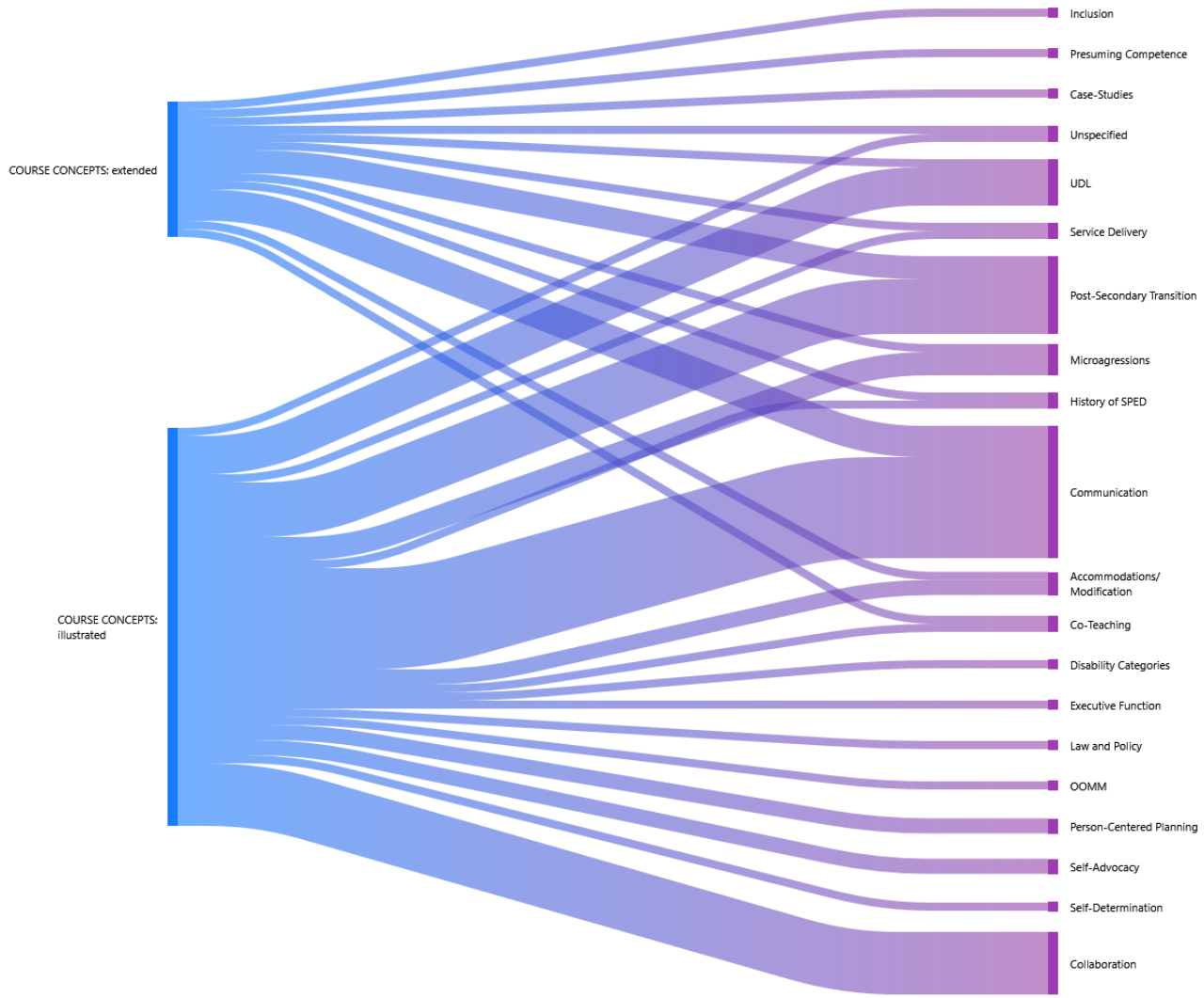
> As I undertook this process there were many concepts that we covered in class which quickly became apparent and incredibly important to me. For example, micro aggressions [*sic*]…while spending time with my partners I quickly noticed the many micro aggressions [*sic*] directed towards them. While spending time with my partners on campus I quickly noticed a lot of confused glances and stares at both my partners and me.

Table 7. Quote Frequency of SPED 400 Course Concepts Identified by Pre-Service Teachers by Year

Concept	2018	2019	2020	Total
Accommodations/Modifications	0	2	2	4
Case-Studies	1	0	0	1
CLD Students	1	0	0	1
Co-Teaching	1	1	0	2

Concept	2018	2019	2020	Total
Collaboration	7	9	3	19
Communication	20	13	4	37
Disability Categories	1	0	0	1
Executive Function	1	0	0	1
History of SPED	0	0	2	2
Inclusion	0	1	0	1
Instructional Diversity	0	2	0	2
Law and Policy	0	0	1	1
Microaggressions	4	1	0	5
OOMM	1	1	0	2
Person First	2	0	0	2
Person-Centered Planning	1	3	0	4
Presuming Competence	0	1	0	1
Self-Advocacy	1	3	0	4
Self-Determination	0	1	0	1
Service-Delivery	2	0	0	2
Student-Teacher Relationships	1	0	0	1
Transition	6	3	3	12
UDL	1	10	0	11
Unspecified	4	1	0	5
Total	54	51	15	120

Figure 2. Sankey Diagram of Course Concepts Illustrated and Extended



Pre-service teachers also saw course concepts illustrated by their lack of use in classes in which Pathways students were enrolled. Pre-service teachers commented on how their learning partner's professors did not use instructional strategies discussed in SPED 400:

> The concept of Universal Design for Learning was something I observed as not being apparent in some courses at University and I observed how that effected [*sic*] students in the Program. Many of the courses that students were taking did not have notes or PowerPoints available to them, which made it difficult for the students to work on

particular assignments, as well as made it difficult for me to help them without access to a rubric or notes to help them better understand the content or the assignment.

Many pre-service teachers included definitions or descriptions of the course concept in their example, indicating a depth of understanding of the concept that pre-service teachers were able to apply it to a real-life situation, "Throughout my service-learning hours I had transactional communication with each student. Transactional communication means that both the sender and receiver are combined and serve both roles."

Not only were course concepts illustrated, but service-learning provided pre-service teachers the opportunity to extend and refine their knowledge of course topics, ultimately leading to deeper understanding. Fourteen percent (n = 17) of quotes addressing course concepts focused on extension of course topics. This finding was consistent across years. One pre-service teacher described how the experience extended their knowledge of communication:

> I cannot say that reviewing these concepts helped with interacting with my service learning partner rather that it helped me better understand more in-depth about these concepts and how they play a critical role…as I reflect upon my experiences I can see where I utilized these concepts and notice how many of these concepts intertwine with one another to create a positive communication between individuals.

Seeing course concepts in action allowed pre-service teachers to apply and contextualize information discussed in their coursework with a new population of students. This was accomplished because pre-service teachers had the opportunity to apply concepts and practice skills in a relatively low risk context (i.e., pre-service teachers did not have the responsibility of being lead teacher).

Subtheme 1.1: Pre-service teachers utilized SPED 400 concepts in different aspects of their learning experience.

Not only did pre-service teachers see course concepts in action, but they were able to put those concepts into action during service-learning. Thirty-six percent (n = 43) of the quotes addressing course concepts focused on concept utilization. Pre-service teachers used course concepts in two ways: (a) provide support to learning partners (n = 38) and (b) accomplish their goals (n = 5). Differences between years were present here, with the 2020 cohort only using course concepts to provide support (see Figure 3).

Figure 3. Sankey Diagram of Course Concept Utilization by Year

The most frequently cited course concept used to provide support was communication (n = 18). Pre-service teachers used communication to: (a) adapt supports to meet the needs of their learning partner and (b) adapt their communication style to meet the needs of their learning partner.

Pre-service teachers were able to use what they learned about communication to learn more about what their learning partner needed. For example, they asked their learning partner questions to learn more about the assignments they were working on, as well as facilitate conversation. As one student stated, “The concepts that I saw and used the most from SPED 400

were collaboration and interpersonal communication. Throughout this semester, Sloan and I discussed some of her homework assignments, study strategies, and personal relationship issues that she was facing." Additionally, pre-service teachers would use communication skills to set boundaries with their learning partner about what support would look like to mitigate learned helplessness and facilitate independence:

> Using these two specific PowerPoints, along with others from the course, helped me develop more knowledge…Some students wanted help on their quizzes, I had to tell them that I could not give them the answer because I did not know it, but that I could reword the questions for them.

Communication concepts learned in SPED 400 became useful for pre-service teachers to adapt their communication style to meet the needs and preferences of their learning partner. Pre-service teachers were able to determine the communication and instructional preferences of individual learning partners, and adapt their interaction and instructional style to better match what they thought learning partners needed:

> One of the main concepts discussed in SPED 400 that became very apparent and helped with my service learning experience was interpersonal communication…When we were meeting, I picked up on how each individual responded to different ways of communication, some negative and some positive. I took these interactions into consideration during each meeting to help make our service learning experience valuable for my partners and myself.

Non-verbal communication became apparent to pre-service teachers as well, both their own and their learning partners'. Pre-service teachers used what they learned about non-verbal

communication to “read” the cues of their learning partner and make changes in an attempt to make their partner more comfortable:

> …there were a lot of instances that nonverbal communication came into play…the students expressed how they were feeling towards an assignment with what their face was saying. Since a lot of the communication did occur nonverbally, I had to challenge myself to read what the students were thinking and use the knowledge I did know to help fix the problem.

Pre-service teachers also adapted their own non-verbal communication to meet the needs of their learning partner. These changes in body language not only made support sessions more academically beneficial for their learning partner, but also helped their learning partner feel more comfortable interacting:

> At this point in the project, I really saw the concepts of interpersonal communication covered in SPED 400 come into play and I decided that a change in body language and tutoring format might make all the difference. At my next meeting with Steve, instead of sitting across the table from him I asked that we sit on the same side so that we could both see our computer screens at the same time and work more closely together. Steve agreed and we tried our new approach. Once we were both looking at the same thing, it was much easier for him and me to research things together and discuss the information on the screen…This simple change affected more than our ability to do work, it also seemed to make Steve more comfortable talking to me and made him more involved in researching questions we had.

Pre-service teacher goals for service-learning fell into several types (refer to Table 4). Of the quotations addressing the type of goals pre-service teachers had (n = 100), 31% (n = 31)

related to providing adequate and meaningful support to learning partners. Pre-service teachers used course concepts to help them achieve this goal. Three course concepts were cited as helping toward goal attainment: (a) collaboration, (b) person-centered planning, and (d) instructional diversity.

Not only did pre-service teachers have goals, but their learning partners did as well. To accomplish both their goals, pre-service teachers described the importance of collaborating with their service-learning partner:

> Using collaborative skills throughout this process was important in making sure that both I and my service learning partners [*sic*] achieved our goals…Without using effective collaboration skills, there was no way for any parties involved to truly support the other in achieving these goals.

In addition to collaboration skills, pre-service teachers utilized planning and instructional approaches discussed in SPED 400 to accomplish their goals. For example, pre-service teachers used the concept of person-centered planning to meet learning partners where they were in order to accomplish the goal of providing support:

> My main goal was to help students with their assignments, and I found that I could best accomplish this through person centered learning. I constantly reminded myself that I was here to help present the material in a way that makes sense to the student.

Finally, pre-service teachers were able to use a combination of course concepts to adapt to the learning preferences of their learning partner in real time. One student described combining person-centered planning and instructional diversity:

> Plenty of times the sessions did not go as planned, but I realized the flow of the sessions fit Addison's needs. An example of this is when I planned on helping her study for her

test by making flash cards together. However, she did not like flash cards as a method of studying and preferred to have a list typed up with bolded key terms. Therefore, I adapted to her needs and she wrote the definition in her own words I supported her with creating. Service-learning provided pre-service teachers an opportunity to apply what they had learned in SPED 400. Throughout the experience, they saw the importance of certain course concepts in meetings student needs, as well as how planning and instructional approaches discussed in SPED 400 could improve the support they provided.

Subtheme 1.2: In addition to SPED 400 concepts, pre-service teachers made connections to other courses and practicum experiences.

In addition to SPED 400 concepts, pre-service teachers made connections between service-learning and other courses and practicum experiences throughout their program. Connections to other courses and practicum experiences were addressed in 28% (n = 21) of reflections. Pre-service teachers in each cohort mentioned such connections, but they were predominantly mentioned by the 2019 cohort (see Figure 4).

Figure 4. Sankey Diagram of Connections to Other Courses/Practicum by Year

While most students enrolled in SPED 400 are special education or dual licensure majors, some are Deaf education majors. One Deaf education major was able to connect the concept of

culturally and linguistically diverse students taught in SPED 400 to the concept of Total Communication taught in the Deaf education preparation program, and discussed how that concept might apply to a broader range of skills,

> Another concept was teaching culturally and linguistically diverse students. As a Deaf Education major, this is something I have become fairly familiar with over the last semester. In deaf education, there is a philosophy called Total Communication…I feel like this philosophy can apply, not only to communication preferences, but also to learning and teaching styles. It has been said over and over that you teach for the students, not yourself. If something is not working for your students, change it. Apply the Total Communication philosophy to your whole teaching style, not just your communication method and mode.

Other pre-service teachers discussed applying the knowledge and skills they gained in SPED 400 and their service-learning experience to other practicum experiences, such as internships with students in K-12 schools, as well as applying knowledge and skills they learned in other practicum experiences to their service-learning. This relationship was often described as reciprocal, with service-learning strengthening skills practiced in internships and vice versa,

> This semester I had an internship placement at a middle school and having the strength to be able to be assertive and confident in my teaching abilities this is also an important skill to have. Working at Devil Bird Middle School definitely strengthened this skill as well as the service-learning hours I logged did.

Service-learning provided pre-service teachers an opportunity to apply concepts and practice skills they learned in SPED 400, as well as make connections to other courses they had taken as part of their preparation programs. Pre-service teachers were able to deepen their

understanding of such concepts and see first-hand how those concepts can affect teaching and learning.

Theme 2: Pre-service teachers extended their understanding of what it means to be a special educator.

Future teaching was addressed in 85% (*n* = 63) of reflections. In the context of this theme, pre-service teachers addressed lessons they learned about (a) communication and relationships, (b) instruction, and (c) themselves as educators. Of the reflections that addressed future teaching, communication and relationships were addressed in 27% (*n* = 17), instruction was addressed in 38% (*n* = 24), and teaching philosophy was addressed in 33% (*n* = 21). In addition to the above discussion, the application of the course concept of communication to future teaching became apparent, "As I go forward, the communication skills I learned and practiced I will use in my classes, future classrooms, and among peers and colleges [*sic*]."

Service-learning also illustrated the importance of relationships to the role of a special educator. Pre-service teachers experienced the difference that positive student-teacher interactions can have on relationships:

> I realized how important relationships are and will [*sic*] in the future as a teacher. This is a concept that we discussed heavily in SPED 400 this semester. Our professor constantly stated how the teacher-student barrier in the classroom should be nonexistent. I found that through showing genuine interest in Owen and Teddy's lives, they opened up and we were able to connect almost instantly.

In fact, pre-service teachers became more aware of the relational aspects of teaching students with disabilities. Two types of relational aspects were addressed: (a) student-teacher relationships (*n* = 8) and (b) belonging (*n* = 5).

Providing support to and interacting with Pathways students emphasized the importance of establishing positive, genuine relationships with students, which was discussed in SPED 400. Pre-service teachers discussed the impact of student-teacher relationships on instruction and future outcomes:

> As an educator, relationships are imperative. It is one of the most powerful and important parts of being an educator because of the change we can make in our students lives. As I have learned in this course, educators can make a difference in a student's trajectory. I can be the difference between a child falling into the school-to-prison pipeline or becoming successful (everyone's definition of successful is different, but I want them to accomplish their goals and be happy).

In addition to instruction and future outcomes, pre-service teachers in the 2018 cohort discussed the impact of student-teacher relationships on belonging, or the idea that students with disabilities feel like an equal and valued member of the classroom community,

> Without feeling supported and loved by those around them, a student will never fully succeed no matter how intelligent they are. Every student needs to feel supported by their teachers and classmates in every capacity whether it be in reading, mathematics, or at the lunch table.

Related to the concept of belonging and student-teacher relationships, pre-service teachers discussed the importance of knowing individual students. Knowing students as individuals is not just important to establishing positive relationships, but also to communicating with students, and managing day-to-day variations in mood and behavior. Pre-service teachers also learned the importance of knowing students as individuals to the instructional and pedagogical aspects of special education,

While working on the same assignment, one student may need help in one area while another student needs help in a completely different area. I will use this to inform my teaching my [*sic*] adapting instruction and service to help fit the needs of all of my students…I also learned how students have different interests that I can incorporate into instruction. In order to learn more about my students they have to feel comfortable around me and I have to give them multiple opportunities to explore what they like…As a future teacher I want to know about my students and be able to help them in any means possible.

Of the 110 quotes addressing future teaching, 25% (*n* =28) focused on instruction. The majority of these quotes (*n* = 18) came from the 2019 cohort year (see Figure 5).

Figure 5. Sankey Diagram of Instruction Quotations by Year

Throughout service-learning, pre-service teachers talked with their learning partners about their partners' experiences in K-12. These discussions impacted pre-service teachers' instructional goals for their own classrooms, especially as it relates to independence and autonomy. For example,

Hearing what Richard had to say about things that he enjoyed and things that he wished he had in high school, influenced the way I thought about my classroom and how I want to accommodate my students. As I move forward in my teaching career…I will do

everything I can to make sure that my students have the ability to make their own choices and have plenty of support so that they can succeed in whatever they desire to do.

Pre-service teachers also addressed incorporating essential skills, or those skills necessary to be academically, vocationally, and socially successful, into their classroom instruction so students with disabilities can independently engage in work and school. Pre-service teachers were able to connect the mastery of independent essential skills and participation in work and education:

> I will also incorporate life skills into my instruction. I want students to leave my classroom knowing how to operate basic technology, write a professional email, and carry on a formal conversation. These skills will assist them if they chose to enter the workforce, or go on to higher education.

The importance of accessibility of information, materials, and assignments became apparent as well. Pre-service teachers discussed ensuring the information they present, including instructions for assignments, are phrased in ways students can understand. Doing so will ultimately benefit students:

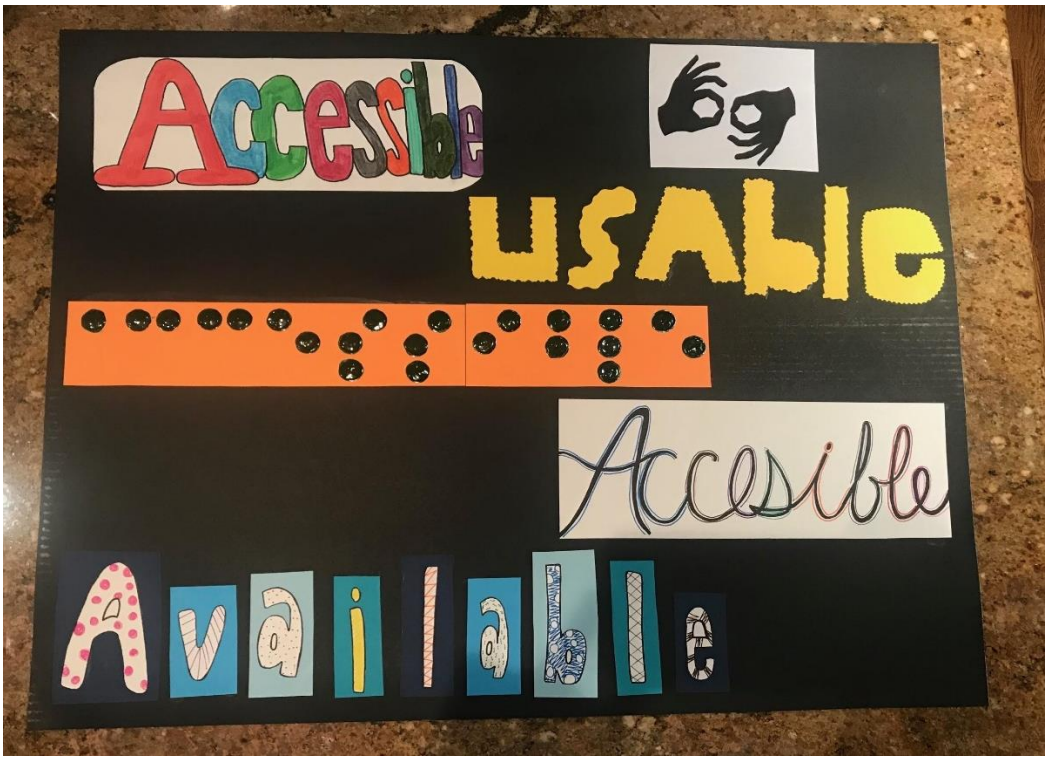
> As a special educator, the assignments and everything in which the student may need, needs to be in a way that will be accessible for the students…I will take what I have learned from this experience and into my teaching career. I will ensure that all of the assignments will be accessible for every student in the classroom because at the end of the day, all of the students will benefit from having it written in a way they can understand.

Similar to skill mastery, pre-service teachers made connections between accessibility and independence. Pre-service teachers began to think about how they could plan classroom context in which students can act independently:

> My experience with Pathways has made me wonder about what my future as a teacher may look like and how I may implement various strategies and modifications into my lessons in a way that all students may access the information on their own.

The importance of accessibility is illustrated in an artifact from the 2019 cohort (see Figure 6). This pre-service teacher chose various representations of the word "accessible" because, "every student deserves for content to be accessible to them, they deserve for it to be available and usable in the language they use."

Figure 6. Artifact Illustrating Accessibility



Note. Artifact from 2019 cohort depicting "accessibility" using synonyms and various language modalities.

Finally, pre-service teachers noted the importance of clarity, explicit instruction, and providing students with examples. Pre-service teachers also began to make connections to evidence-based instructional practices, such as task-analysis (Odom et al., 2010):

> One thing that I learned about service delivery is that students with disabilities often need explicit instructions…I made a note that, in the future when I am working with my own students, I will need to walk them through an example step by step so that they can see what is required of them.

Service-learning contributed to pre-service teachers' understanding of the roles, requirements, and responsibilities of being a special educator. Additionally, pre-service teachers discussed incorporating instruction for post-secondary transition into their classrooms.

Subtheme 2.1: Pre-service teachers learned the importance of their role in secondary transition for students with disabilities.

Within quotes addressing future instruction (n = 28), 18% (n =5) focused on incorporating instruction of post-secondary transition into future classrooms. Eleven quotations addressed the Pathways program specifically, and the impact the program had on their plans for future instruction; this finding was consistent across years. Through service-learning, pre-service teachers had the opportunity to see what life can look like after high-school for students with disabilities, as well as their role in students' post-secondary success.

> The service learning project experience had a huge impact on me. I feel that this experience has provided me with more insight on life after high school for students in special education. I feel that this is important to carry with me as I work in the field of

special education. As a special education teacher, at any level, I will work to provide my students with a foundation to make them successful in their future endeavors.

Seeing the possibilities for students after high school impacted pre-service teachers' view of the instruction they would provide. More specifically, pre-service teachers began to think about how they would address transition in their future classrooms:

> I think seeing all of these things that an adult with a disability is working through will definitely help me plan for my future students. Now that I have seen an example of where they may be in several years, I think I can help improve their experience by setting up opportunities to develop strategies to help work around challenges like the ones my partner had.

Regarding Pathways specifically, pre-service teachers lamented students in the program will not get a college degree, even though they take similar classes that students without disabilities do. This understanding frustrated pre-service teachers, who felt Pathways students should receive a degree:

> I have seen the courses and assignments students from Pathways are involved with, and it is like what every other student is taking, except they will not end up with a degree in the end. That part is very frustrating to me because these students are taking very similar, if not the same courses as other students following the degree track, but they will not end up with a degree.

This understanding furthered pre-service teacher's understanding of the reality of life after high school for individuals with disabilities, even when they have the opportunity to attend college.

Subtheme 2.2: Pre-service teachers learned about themselves as educators.

Thirty-eight percent (*n* = 28) of pre-service teachers addressed what they learned about themselves as educators. Topics in this subtheme fell into three types: (a) reassurance about career choice, (b) teaching philosophy, and (c) areas for growth. Reassurance was addressed in 5% (*n* = 4) of reflections, teaching philosophy was addressed in 28% (*n* = 21) of reflections, and areas for growth was addressed in 8% (*n* = 6) of reflections. First and foremost, the service-learning experience reinforced pre-service teachers' decision to become an educator, "Each session that I attended gave me more clarity in the fact that I want to be a special education teacher because it affected my understanding of special education service delivery." Service-learning also reassured pre-service teachers they had the knowledge and skill necessary to work with students with disabilities, "There have been times where I question if I am capable or fully equipped to work with students who have disabilities, and my partner reassured me that I am."

In addition to the types of instruction and relationships pre-service teachers want to incorporate into their classrooms (discussed above), they learned more about their own teaching philosophy, or the values, beliefs, and dispositions they identified as important for future educators. Of the quotations addressing future teaching (*n* = 110), 23% (*n* = 25) focused on this area, consistent across all three years.

Pre-service teachers identified certain personality traits that are important for special education teachers to have. The importance of these personality traits was illustrated during their service-learning experience. For example, one student discussed the importance of flexibility and resiliency,

> The main effect that this service learning had on my understanding of special education delivery was the lesson it taught me about the effectiveness of flexibility…There were so

> many times during my tutoring sessions that I just wanted to give up and accept defeat… I had to really dig deep and remind myself that I needed to worry more about what I can try next to help the student than about how many times I got it wrong and how frustrated I was…. This experience really gave me a lesson in perseverance, and it is one that I will remember going forward.

Pre-service teachers also discussed the importance of being collaborative and having good communication skills. This is especially true for special educators, who must collaborate with general education teachers, related service providers, parents, and more in order to adequately delivery services, "I will use what I have learned through this experience to inform my teaching in the way that I will be effective when communicating to students and families…"

Finally, pre-service teachers discovered areas for growth as it relates to their future as an educator. Areas for growth included effective communication, time management, and instructional adaptation. For example, "This has helped me see where I need to better myself in my communication to meet all my student's needs within the classroom." Service-learning enabled pre-service teachers to examine and explore relational and instructional aspects of teaching, as well as identify areas in which they need development, in a real-life experience with individuals with disabilities before being responsible for a classroom of their own.

Theme 3: Pre-service teachers' experiences during service-learning differed from their expectations, and sometimes led to friendships.

In the context of this theme, five types of initial expectations and actual experiences emerged: (a) interactions with learning partner, (b) support provided to learning partner, (c) pre-service teacher capacity to provide support, (d) process of establishing partnership with a Pathways student, and (e) forming connections or friendships with Pathways students. Initial

expectations for the service-learning experience were addressed in 86% (*n* = 64) of reflections while actual experiences were addressed in 85% (*n* = 63).

Subtheme 3.1: Interactions with learning partners and supports provided were not what pre-service teachers anticipated.

Pre-service teachers were generally nervous about interacting and communicating with their learning partners. This was especially true for the 2018 cohort (see Figure 7). Of the 21 quotes addressing initial expectations related to interactions and 21 quotes addressing actual experiences of interactions, 90% (*n* = 19) and 86% (*n* = 18), respectively, came from the 2018 cohort. Pre-service teachers were concerned about (a) meetings with someone new being awkward, (b) communication skills of their learning partner, (c) their learning partner not liking them, and (d) their own communication skills.

Figure 7. Sankey Diagram of Initial Expectation and Actual Experiences of Interactions by Year

More specifically, of the 21 quotes addressing initial interactions, 14 relate to awkward meetings. Pre-service teachers expressed anxiety about meeting and being able to interact with someone new; they thought was that meetings would be awkward because they were being

"forced" to interact with each other and because they were tutoring someone their own age. As one pre-service teacher put it,

> Another assumption I had prior to the service learning experience focused on how this experience was going to be forced. I thought it would be extremely hard to meet with other individuals and casually force discussion several times throughout the semester.

With few exceptions, these awkward meetings pre-service teachers anticipated did not materialize. Pre-service teachers were surprised by how comfortable they were talking with their learning partner, and attributed successful interactions to venue and finding common interests. For example, one pre-service teacher noted they and their learning partner enjoyed the same television show, *Grey's Anatomy*, and were able to discuss that to break the ice.

Though not as uncomfortable as originally expected, pre-service teachers did occasionally contend with difficult and uncomfortable interactions. One pre-service teacher described navigating the complex situation of turning her learning partner down when he asked her on a date,

> There was one time were [*sic*] I gave him my phone number for easier communication and he asked me out on a date. It was awkward, but I had to explain to him that our relationship had to be strictly professional. I never thought I would have to have that type of conversation with Luca.

Adding to the anxiety about awkward conversations, pre-service teachers worried about the communication skills and styles of their learning partners. Talking to other SPED students who had completed this project contributed to this particular anxiety. However, as pre-service teachers began working with their learning partners, they learned communication was not as difficult as they originally thought, "I assumed that everyone in the Pathways program were

difficult to communicate with. However, that was not always the case.…My assumptions turned out to not be reality in my personal experience."

More than the communication style of Pathways students, pre-service teachers were concerned about their own communicative abilities and being liked by their learning partners. As one pre-service teacher put it:

> I was extremely nervous when I first heard/read about this service learning project…I was scared that my partner would not like me, or that we would never get to meet. I was afraid that I would not be able to find conversations to have, or that I would say something unintentionally offensive.

There was also a concern about pre-service teachers' ability to communicate in a way their learning partners would understand: "Going into the Service Learning Experience, I knew that I was going to struggle with changing the way I think and talk, to a way that these students could understand what their assignments were asking them to do."

Pre-service teachers found they did not have to adapt their communication style as much as they originally thought: "This experience differed from my initial expectations…it [did not] take as much prompting and wait time as it did to get him to talk with me." One pre-service teacher remarked about how surprised they were their learning partners were so open with them, "I was surprised with how open the students were with me, which quickly bonded us. Two of the students I worked with told me about their disability (I did not ask) and openly discussed the challenges they experience."

Comfortable interactions between pre-service teachers and their learning partners contributed to an overall positive and meaningful experience. Besides anxiety about interactions with their learning partners, pre-service teachers were nervous about providing tutoring support

to a same age peer: “I was also nervous because it was hard to talk to similar-aged peers with school work and how to explain and encourage independence in assignments while keeping their attention without distractions (ex. Being on their cellphones).”

Pre-service teachers found they did not provide the type of support they expected. The type of support pre-service teachers thought they would provide and those they actually provided fell into three categories: (a) academic skills, (b) essential skills, and (c) social skills. For example,

> This experience definitely differed from what I expected at the beginning of the year. At the beginning I thought I’m going to be like a tutor to this student and it will be like I’m a teacher, so I’ll be better prepared to teach.

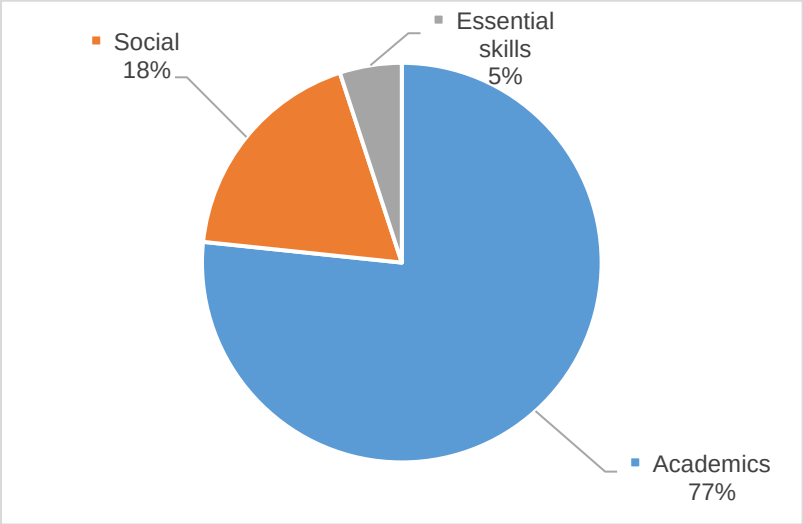
This pre-service teacher went on to describe the activities they engaged in with their learning partner, which were more social in nature, such as playing video games, getting lunch, or attending sports events.

Other pre-service teachers discussed expecting to help learning partners with essential skills like using technology, “My service learning did differ from my initial expectations. Honestly, I came in with expectations that I would be working with students on how to email or use Canvas.” This pre-service teacher went on to describe helping their learning partner with “more difficult” academic content areas. In short, pre-service teachers both expected and actually provided a variety of supports. This finding is validated by Support Session Form data from the 2020 cohort (see Table 8 and Figure 8).

Table 8. Types of Support Provided in 2020 Cohort

	Frequency Count	Percentage
Total Number of Sessions	55	-
Academic Support	51	93%
Social Support	19	35%
Essential Skills Support	11	20%

Figure 8. Percentage of Time Spent by Support Type for 2020 Cohort

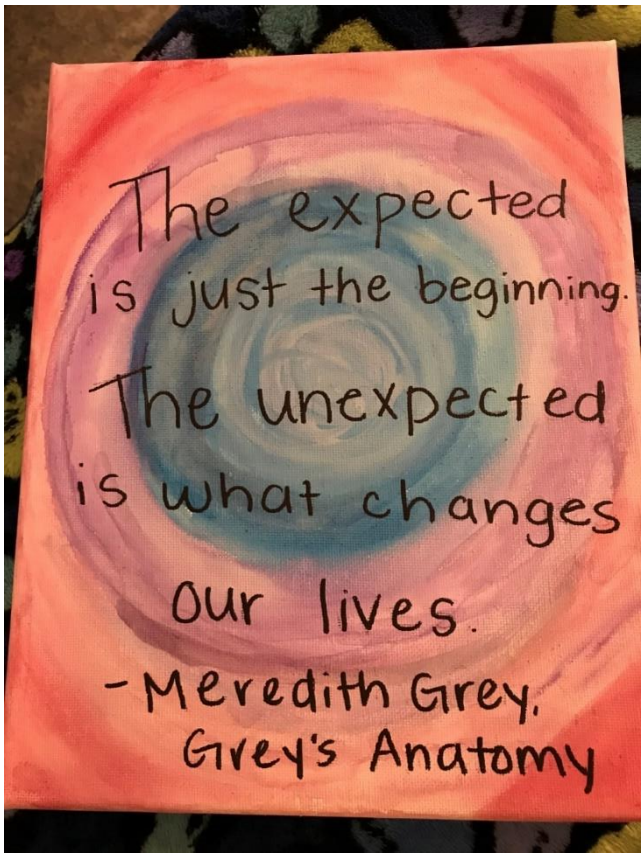


The difference between pre-service teachers' expectations and actual experiences is illustrated in an artifact from the 2018 cohort (see Figure 9). In this artifact, the student used a quote from the show *Grey's Anatomy* that represented her own experiences expecting service-learning to be time-consuming and awkward, but ultimately enjoying the time they spent with their learning partner.

Subtheme 3.2: Stressors or perceived stressors impacted pre-service teachers' ability to provide support.

Perceived stressors impacted pre-service teachers' conception of their support capacity, while actual stressors impacted their ability to provide support. Several factors contributed to pre-service teacher stress around service-learning. These stressors fell into three types: (a) issues with Pathways staff and getting assigned a learning partner, (b) learning partners not showing up for support sessions, and (c) pre-service teacher capacity (see Table 9).

Figure 9. Artifact Illustrating Differences between Pre-Service Teacher Expectations and Experiences



Note. Artifact from 2018 cohort illustrating the difference between pre-service teachers' expectations and their actual experiences.

Table 9. Frequency Count of Quotations by Stressor Type

Stressor Type	Quote Frequency
Pathways Staff	10
Learning Partner	8
Pre-service Teacher Capacity	19

Pre-service teachers in the 2018 cohort experienced significant issues with Pathways staff and getting assigned a learning partner. These issues ultimately impacted pre-service teachers' experiences in two different ways (a) did not receive a learning partner at all, and (b) received a learning partner late in the semester. Seven students from the 2018 cohort (i.e., 20%) discussed communication issues with Pathways staff and difficulty getting assigned a learning partner. Pre-service teachers in the 2019 and 2020 cohorts did not mention such issues. Pre-service teachers took the initiative to email Pathways staff about partner assignment, but often had to wait days for a response:

> The first hurdle that came with this project was the long process of emailing. I would email Marshall and get a response three or more days later. Once he would email, he would say that everyone will be getting their partner soon, so I did not worry. Until about the beginning of October, after one email he finally connected me with Maggie.

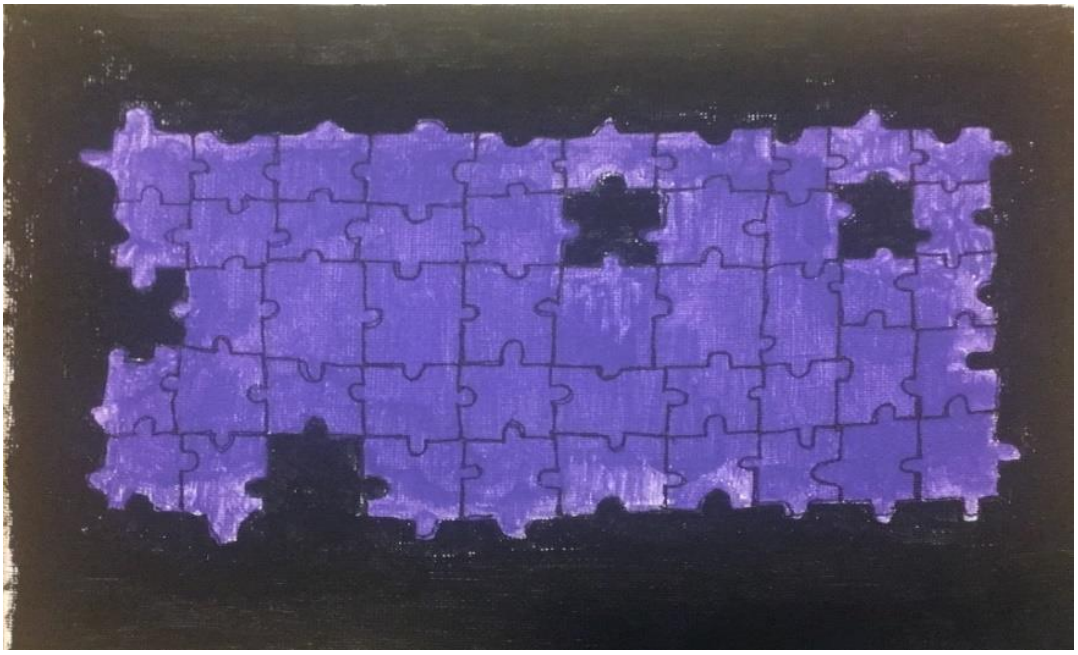
While the above student got assigned a learning partner in early October, another pre-service teacher in the 2018 cohort received a partner assignment in late October. Three other students mentioned not being matched with a learning partner until October or later. Considering the semester ended in early December, this did not leave pre-service teachers much time to

complete the required 20 hours of service-learning. Such difficulty getting assigned a learning partner was not expected:

> I also thought that I would meet with my partner many times, but that was not the case due to not being partnered until late into the semester and due to Richard declining to meet with me after our second meeting.

This particular stressor is illustrated by an artifact from a student in the 2018 cohort (see Figure 10). In their explanation of this artifact, the pre-service teacher described service-learning as an overall fulfilling experience, with certain pieces missing (i.e., the missing puzzle pieces) such as getting assigned a learning partner. These missing pieces kept the "experience from being the best possible experience."

Figure 10. Artifact Illustrating Effect of Stressors



Note. Drawing of a puzzle from the 2018 cohort representing a generally fulfilling experiences with pieces missing that impacted overall quality of service-learning.

Even when pre-service teachers were assigned learning partners, some struggled with their partners not showing up for support sessions. This is an issue pre-service teachers experienced in each cohort year. Compounding frustrations for the student in the quote above, once then were assigned a learning partner, that learning partner did not attend their first support session together. This student waited for 35 minutes for their learning partner to show. Another pre-service teacher described a similar experience, “Many times that I was in the Center, students from Pathways did not come. This was frustrating because I signed up hoping and thinking that students would come.”

Another perceived stressor for pre-service teachers was their capacity to provide supports. Pre-service teachers discussed their perceived capacity as it relates to supporting their learning partner and meeting project requirements two ways: (a) demands of the assignment, including time constraints (b) background knowledge and confidence. Of the 33 quotes that addressed initial expectations of capacity, 58% (n = 19) focused on demands of the assignment and background knowledge. These variables were consistent across years. One pre-service teacher summarized these concerns well. “As we went over the requirements of the project, I could not help but wonder how I would manage to fit twenty hours of tutoring into an already tight schedule, not to mention my worries about whether or not I would be able to provide adequate support as an effective tutor.”

When learning partners did not show up for support session, the stressors for pre-service teachers were compounded. Fortunately for them, the SPED 400 instructor counted any time pre-service teachers were present toward their hours, not just the time they were working with Pathways students (Dr. M. Bailey, personal communication, March 29, 2024). One pre-service teacher addressed this: “I did not fulfill the original goal of 20 hours, but I also think what I learned is more valuable than the number of hours that I ‘earned’, and I appreciate the

adjustments that were made." Therefore, despite pre-service teachers' concerns about not meeting the required number of hours, many of them did. See Table 10 for support session data from 2019 and 2020.

Table 10. Service-Learning Hours Completed by Students in 2019 and 2020 Cohorts

Student	Total Hours Present	Hours Providing Support
2019 Total	605.53	265.75
Student 18	21.42	11.5
Student 19	21	7.67
Student 20	21.33	8
Student 21	20	3.83
Student 22	12.78	8.08
Student 23	20.5	9.75
Student 24	19.5	8
Student 25	20	3.5
Student 26	17	5.75
Student 27	22.75	8.17
Student 28	22	10.5
Student 29	21.92	13
Student 30	19	8.67
Student 31	20	1
Student 32	20	5
Student 56	23.08	19.42
Student 57	20	7.67

Student	Total Hours Present	Hours Providing Support
Student 58	18	2.75
Student 59	22	6
Student 60	20.5	3
Student 61	20	6.17
Student 62	15.5	12
Student 63	10.5	6.5
Student 64	20.5	4.33
Student 65	80	73.83
Student 66*	-	-
Student 67	20	6.33
Student 68	20.25	2.33
Student 69	16	3
2020[a] Total		62.92
Student 33	-	4.17
Student 34	-	14.33
Student 35	-	2.83
Student 36	-	6
Student 37*	-	-
Student 70	-	10.5
Student 71	-	7.5
Student 72	-	3
Student 73	-	2.58

Student	Total Hours Present	Hours Providing Support
Student 74	-	12

*Data not available.

[a]Due to the COVID-19 pandemic, pre-service teachers in the 2020 cohort only recorded actual time spent providing support. Additionally, they did not have to meet the 20-hour requirement.

Another stressor for pre-service teachers was background knowledge and confidence in their ability to provide the support Pathways students needed. This stressor was consistent across years. Pre-service teachers were concerned they would not have adequate background knowledge, and subsequently would not provide adequate support:

> I am not sure if I stand alone, but I will admit, when the idea of tutoring was mentioned in the class, I did not feel as though I was going to enjoy it. If I am being completely honest I felt as though I would not be able to be helpful to the student due to my own insecurities and lack of knowledge.

For some pre-service teachers, this fear was unfounded. Even if they did not have experience in a specific academic content area, they were still able to provide support to their learning partners.

Conversely, other pre-service teachers did not expect their learning partners to bring in work that would challenge them, and were surprised at the content Pathways students were working on: “My experience was a little different than I expected because I never expected to be working on a topic I know nothing about…”

While the above student found ways to assist their learning partner, other pre-service teachers found themselves unable to help due to the content Pathways students were working on.

When this occurred, it was in a general education class the pre-service teacher had no background knowledge in. For example:

> Our first meeting, my student only wanted to work on his Japanese homework. He had one text book, sat it in front of me, and expected me to do it for me [*sic*]. I redirected him, let him know that's not what I was there for, but that I would surely help him. My expectations were totally wrong. Multiple times I asked him if he needed help with anything else, but he said no, he only wanted to work on Japanese homework. I felt bad because there wasn't much I could help him with due to me not knowing Japanese and not being able to read his textbook.

Another pre-service teacher described referring their learning partner to campus resources, such as a writing center, and to their professors for help. These instances of not having the knowledge or resources to provide support impacted pre-service teachers' motivation and confidence.

Subtheme 3.3: Pre-service teachers occasionally developed friendships with their learning partners.

Thirty-one percent (n = 31) of the quotations addressing goals focused on the goal of establishing a connection or friendship with learning partners. This was consistent across years. However, not all the pre-service teachers who named connection as a goal began the semester with that goal in mind. Specifically, four pre-service teachers in the 2018 cohort year indicated they changed their goal to forming connections or friendships after they met with their learning partners; they did not start the experience with this goal, "As the project progressed and I began to meet with my service learning partners more my goal changed…My new goal was to build a friendship." This occurred only in the 2018 cohort.

Pre-service teachers in 2018 changing goals to making connections or friendships is supported by their initial expectations. Of the 14 quotations addressing initial expectations bout connection, 0% came from the 2018 cohort. However, of the 23 quotations addressing actual experiences of forming friendships with their learning partners, 48% (n = 11) came from the 2018 cohort. As on pre-service teacher succinctly stated, "I had no idea that I would come out of this experience with new friends…" Other pre-service teachers even discussed future meeting with their learning partners, beyond the service-learning experience,

> I am happy that my assumption turned out to be wrong because after having several meetings, it did feel like a regular type of routine and that our group was becoming friends. At our last session we even discussed how we might continue meeting a few times next semester after everyone gets situated with their schedules.

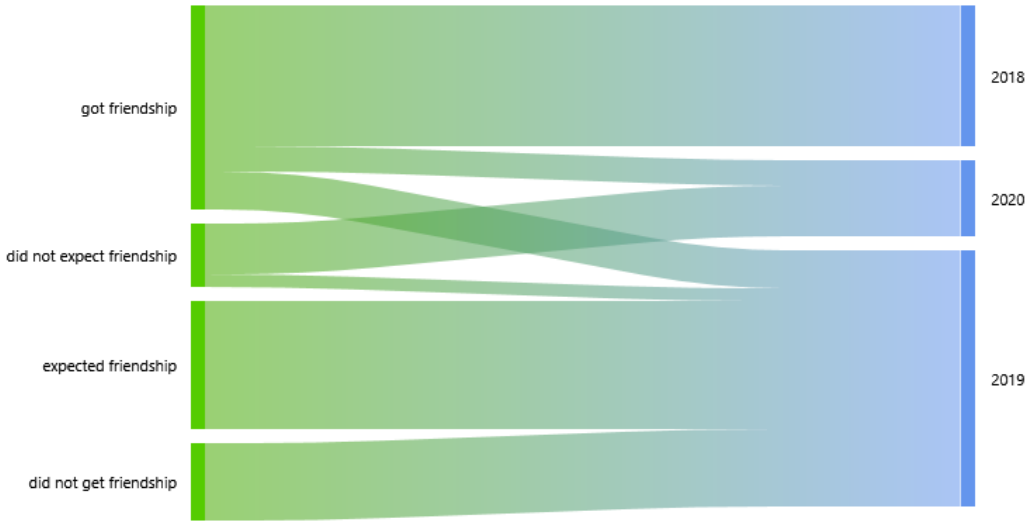
Conversely, the 2019 cohort was the only cohort to state they expected to make friends going into the experience (see Figure 11). Of the 14 quotes addressing initial expectations for connection, 79% (n = 11) came from the 2019 cohort, "When we initially talked about it in the beginning of the semester, I thought it was going to be becoming friends and building relationships with the students in Pathways."

However, some (n = 6) of the pre-service teachers in this group did not end up making connections or friendships, "I tried to create a relationship beyond just the tutoring part. When I tried, they didn't seem interested in that and went back to focusing on their work." For such students, not establishing expected connections contributed to feelings of disappointment with their experience:

> Overall my experience turned out better than I thought academically but socially I wish it had gone better. I wish I had formed close relationships with the students that I worked

with, but they only seemed interested in getting the academic help rather than wanting to get to know me.

Figure 11. Sankey Diagram of Expectation to Make Friends and Actually Making Friends by Year



Despite this, some students in the 2019 cohort were successful in building relationships with their service-learning partner. These relationships occurred even when pre-service teachers did not expect to make a connection from the experience:

> However, following my completion of Pathways, I missed my students…I had built strong relationships with over the course of the semester. There was one student in Pathways in particular who always seemed to gravitate towards me during tutoring sessions; over time this student and I built a stronger and stronger relationship in which we would spend time asking one another meaningful questions while also genuinely listening to one another's response.

Similar to the 2018 cohort, students in the 2020 cohort described forming unexpected friendships, “I had no intent of becoming friends with the student…Yet, the more he questioned me the more I realized we had in common...” Another student in the 2020 cohort was concerned there would be no personal connection, but was relieved to be wrong, “I was concerned that there would not be a connection, but that was not the case. I formed a great connection with the students I worked with and I hope they enjoyed it as much as I did.”

Some pre-service teachers described the reciprocal nature of their learning partnership; the experience went beyond tutoring or mentoring and they were able their learning partner taught them just as much as they taught their learning partner,

> While yes, this was in a sense a mentorship, my friends too taught me so much. They taught me to love despite differences and things I do not understand, they taught me to always unashamedly be myself and most importantly they taught me what it looks like to get out of my norm.

Pre-service teachers’ experiences did not always match what they expected. This was true of the type of support they provided, their learning partner, and working with Pathways program staff to get assigned a learning partner. The difference between expectations and experiences sometimes created stress and uncertainty for pre-service teachers, and other times lead to unexpected friendships. This difference also challenged pre-service teachers’ assumptions about people with disabilities.

Theme 4: Pre-service teachers’ perceptions of people with disabilities were challenged, while others were reinforced.

Perceptions of people with disabilities were addressed in 36% (*n* = 27) of reflections. Similarly, expectations of and experiences with learning partners as they relate to disability were

addressed in 38% (*n* = 28) and 36% (*n* = 27) of reflections, respectively. These findings were consistent across years. The ways in which perceptions of people with disabilities were challenged fell into four categories: (a) competence, (b) similarity, and (c) person first.

Pre-service teachers had assumptions about what the type or intensity of support they would need to provide their learning partner because of disability. These assumptions did not always match with reality:

> I also think I assumed that our partners would be helpless and it was almost our job to come in and save the day for them…I was wrong on both of my assumptions, my partner didn't really ever need school help and he for sure didn't need me to come in to save the day by any means.

Through the service-learning experience, pre-service teachers' assumptions of what people with disabilities are capable of was challenged. These challenged assumptions contributed to pre-service teachers recognizing the competence of individuals with disabilities:

> After meeting with Richard, I see the potential that most people with disabilities have to want to do anything they set their mind to. I now can assume that most people with disabilities have goals that they are trying to reach, just like Richard and that they can be and do anything they want.

Another assumption pre-service teachers had was they would not have anything in common or similar goals and concerns as their learning partner, an assumption they learned was wrong, "While I tried not to have any assumptions going into this experience, I did not think that my partner and I would have the same worries or interests, but I was soon proven wrong." In fact, pre-service teachers learned their learning partners were similar to people without disabilities in many ways:

> Too often, students with disabilities get labeled as individuals that are not capable of leading a productive life, that are helpless, or that are brave for living with their disability. The reality is far different from that. Individuals with disabilities have goals, interests, and aspirations. They have friends, can go to school, can work, can make a life for themselves, and can have their own families.

The concept of similarity extended beyond goals, friendships, work, and school. Service-learning helped pre-service teachers understand that while their learning partners had disabilities, they were still adults deserving of autonomy, just as adults without disabilities:

> Reflecting on the semester I feel that my biggest take away was realizing that my learning partners are adults, nearly as old as I am, and they can or will make their own decisions. Really, they should be making their own decisions!

Finally, pre-service teachers discussed their changed perceptions of people with disabilities in terms of person first, or seeing past what they had learned about the stereotypes of disability and seeing the individual first. Some pre-service teachers learned to see the whole, complex individual rather than a narrowly defined disability:

> I've heard over and over again "If you've met one person with autism, you've met one person with autism" and this was incredibly evident to me during this experience…I find that in learning about autism, a lot of stereotypical autism characteristics are emphasized. The guy I tutored was completely different than these things. He didn't have any stemming [*sic*], he was emotional with me, he communicated so well, and he was very open with me. This gave me a deeper understanding and a new outlook on autism.

This finding is illustrated by an artifact from the 2020 cohort (see Figure 12). This pre-service teacher described having stereotypical views of disability before the service-learning

experience, and how those views changed during her experience. She described seeing beyond the limiting characteristics of the disability, and seeing her learning partner as a whole person, "because when you focus on one part of the image, you miss the bigger picture."

Figure 12. Artifact Illustrating Changed Perspectives of People with Disabilities

Note. Drawing from 2020 cohort representing seeing the bigger picture of a person, rather than just one part of them.

Conversely, stereotypes and pre-existing assumptions of people with disabilities were reinforced for some pre-service teachers. For example, a pre-service teacher discussed how knowing stereotypical characteristics of specific disability categories can help when interacting with that person, without knowing the individual,

> With someone who has Autism, I know that eye-contact is very challenging; therefore, I would not feel disrespected if my partner was not making eye-contact with me. Learning and understanding the different disabilities can help anyone's interaction with people with disabilities.

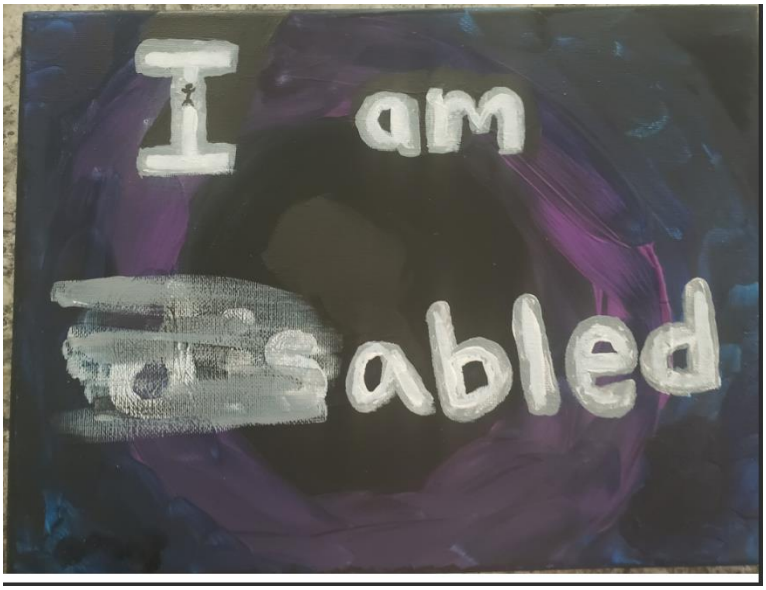
Other pre-service teachers discussed the perceived impact of these stereotypical characteristics, "His diagnosis gives him a lot of strength and courage to do things that most people would think of as different, such as talking to strangers and not being bothered when he loses a game." While this quote uses positive language, the pre-service teacher is their learning partners' personality traits as attributable to his autism, rather than being personality traits shared by many people without disabilities. This indicates a reductive view of disability, in which the pre-service teacher saw the learning partner as a collection of characteristics, rather than a dynamic and complex individual.

Another pre-service teacher discussed the frustration of not knowing their learning partner's disability identification, "It was frustrating not knowing the specific disability because without that knowledge I was unable to understand why a student had to listen to music the entire time or why they struggled with specific things." This indicates some pre-service teachers assume you can rely on diagnostic criteria when interacting with people with disabilities, instead of getting to know the individual.

Additionally, the idea that disability is something to be overcome, rather than something to be accepted and accommodated, was reinforced for some pre-service teachers, "Special education has changed over the years and without the resources provided for the students, they would become the disability and its challenges rather than overcoming the disability and its challenges." This is illustrated by an artifact from the 2019 cohort (see Figure 13), in which the

pre-service teacher explained special education and proper supports can “wipe disability away,” implying a view that disability needs eradication.

Figure 13. Artifact Illustrating Reinforcement of Harmful Perceptions of Disability



Note. Artifact from 2019 cohort representing pre-service teacher’s desire to wipe the “dis” out of “disabled.”

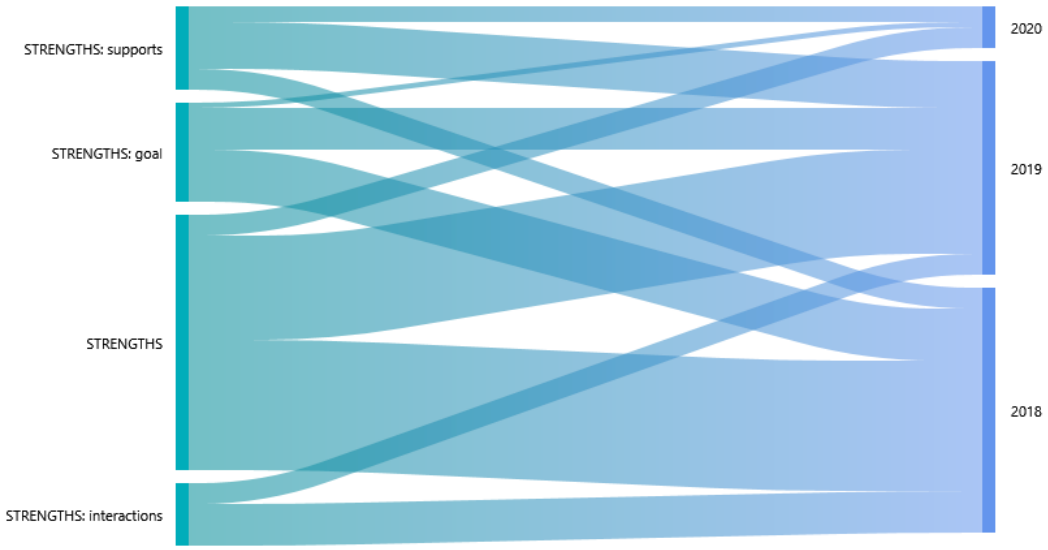
While some pre-service teachers’ assumptions of people with disabilities were challenged, others were reinforced. When such assumptions were challenged, pre-service teachers were able to identify the assumptions they held as harmful or inaccurate. Pre-service teachers were also able to identify perceptions they held about themselves.

Theme 5: Pre-service teachers learned more about themselves as individuals.

Pre-service teachers learned about themselves as individuals. Specifically, pre-service teachers learned about their strengths and weaknesses, as well as how those impacted: (a) interactions with their learning partners, (b) goal attainment, and (c) the supports they provided. Strengths were addressed in 62% (n = 46) of reflections and weaknesses were addressed in 45% (n = 33) of reflections. Of quotations focused on strengths (n = 49), 24% (n = 12) addressed

interactions, 39% (*n* = 19) addressed goal attainment, and 33% (*n* = 16) addressed impact on support. Of quotations focused on weaknesses (*n* = 43), 19% (*n* = 8) addressed interactions, 30% (*n* = 13) addressed goal attainment, and 28% (*n* = 12) addressed impact on support. Findings for strengths were largely consistent across years; the only exception being the 2020 cohort did not address strengths as they related to interactions (see Figure 14).

Figure 14. Sankey Diagram of Impact of Strengths by Year



Similarly, findings for weaknesses differed from year to year (see Figure 15). The 2020 cohort only addressed weaknesses as they relate to interactions, the 2019 cohort did not address interactions at all, and the 2018 cohort addressed all three variables.

Strengths that impacted interactions included being a social person, not being afraid to ask questions, and being talkative. Pre-service teachers attributed these qualities to quickly connecting and having comfortable conversations with their learning partners, “Lexi and I had no problems hitting it off from the start because one of the strengths I have is being able to talk to anyone and everyone.”

Figure 15. Sankey Diagram of Impact of Weaknesses by Year

While being talkative was considered a strength by some pre-service teachers, others considered it a weakness. For these pre-service teachers, being talkative got in the way of Pathways students being able to engage in conversations:

> I am very talkative, which was a strength and a weakness within this …I kept having to remind myself that these meetings were about him and not me, and he needed to be given a chance to speak. My partner is very quiet and shy, so I often felt as if I were talking for him, or not giving him a chance to speak.

Pre-service teachers cited additional strengths as attributing to comfortable interactions. Such strengths included a general respect for their learning partners and empathy:

> One of my strengths is being polite and respectful to other people. I knew I wanted to make Richard feel comfortable with our meetings, so I treated him with the same respect that I would treat anyone else with. I think this helped our meetings feel more comfortable and helped us form a friendly relationship.

Strengths and weaknesses affected pre-service teachers' ability to accomplish goals of establishing connections or relationships with their learning partners. For some pre-service

teachers, their perceived strength of a caring personality helped achieve their goal, “During this experience, I was able to meet some of my goals using my strengths. I think the strengths that helped me most are; my openness, caring…These strengths helped me build strong relationships/connections with two students from [Pathways]…”

In addition to a goal of establishing connections, pre-service teachers had a goal of providing their learning partner with needed support. Strengths that contributed to pre-service teachers accomplishing this goal included adaptability, flexibility, and resourcefulness:

> However, during my first meeting with Preston, when I learned that he was working on a large project that entailed a substantial amount of writing, I became worried that these challenges were going to impede his progress. I quickly thought of how I might be able to simplify the process so that both Preston and I could feel successful. I used his essay prompts as sentence stems and offered to type as he dictated his responses. This proved to be a highly effective strategy that I came back to over the course of our working together. Even though it was overwhelming to face those anxieties in the moment, it forced me to realize that my strength in resourcefulness far outweighs my weaknesses.

Rather than finding strategies to help their learning partners complete a task independently, some pre-service teachers competed the tasks for their learning partner, a weakness which impacted quality of supports provided, “My biggest weakness is to give up and do the work myself because if I couldn’t come up with a strategy my way out of that is to just do it for them and that is not how I should do it.”

Additionally, service-learning provided pre-service teachers the opportunity to practice and develop skills in areas they felt required more development, “This project required me to work on both my strengths and weaknesses with communication.” Pre-service teachers learned

about themselves as individuals throughout the service-learning experience. Learning more about themselves is illustrated in an artifact from the 2019 cohort (see Figure 16). This pre-service teacher explained that they had certain weaknesses starting out, such as being close-minded and impatient (labeled petals on red flower on the left), but Pathways caused them to grow into becoming more patient and open-minded (labeled petals on yellow flower on right).

Figure 16. Artifact Illustrating Personal Growth

Note. Drawing from 2019 cohort representing weaknesses being "watered" by working with Pathways students, and pre-service teacher experiencing growth.

In sum, service-learning provided pre-service teachers an opportunity to identify their own personal strengths and areas for growth. Pre-service teachers were able to see how their strengths and weaknesses affected interactions with learning partners, as well as the support they were able to provide.

CHAPTER V: DISCUSSION

Passage of the HEOA (2008) marked an expansion of access to postsecondary education for individuals with I/DD. Specifically, HEOA provided two- and four-year colleges and universities avenues for establishing CTPs and extended federal financial aid to students enrolled in such programs who might not receive a college degree upon completion of their postsecondary education (Carter & McCabe, 2021; Farley et al., 2014; Scheef et al., 2020). As a result, inclusive postsecondary education programs have proliferated since 2008, resulting in a 6.7% increase in the number of individuals with I/DD enrolled in inclusive postsecondary programs from 2005 to 2011 (Newman et al., 2011; Wagner et al., 2006).

CTPs come with benefits both for individuals with I/DD and campus communities such as: higher employment rates for those who complete such programs (Avellone et al., 2021; Grigal et al., 2011); improvements in adaptive behavior skills, self-determination, and social skills (Lee & Taylor, 2022); improved attitudes about diversity and disability (Lee & Taylor, 2022); and professional growth for faculty (Jones et al., 2016). However, despite these benefits, barriers for students with I/DD exist within IPSE programs, including limited interactions with the peers without disabilities (Lee & Taylor, 2022) and supports for social and academic progress. Natural supports, or informal and reciprocal relationships with community members that provide connection and support, have been shown to increase social connection and quality of life for people with disabilities (Friedman, 2023). Service-learning that utilizes same-age peers as a natural support is one way to address both of these barriers.

One such IPSE program that utilizes service-learning with peer supports is Pathways on University campus. During the fall semesters, students in Pathways receive peer support from pre-service special education and dual licensure (elementary education and special education)

teachers as part of a service-learning requirement for their SPED 400 course. The purpose of this study was to add to the emerging literature about peer supports and service-learning by examining the impact of a service-learning experience with adults with I/DD on pre-service special education and dual licensure teachers. Specifically, this study addressed two research questions:

1. What impact did a service-learning experience with college students with I/DD have on pre-service teachers?
2. How did the service-learning experience impact pre-service teachers' perceptions of individuals with disabilities?

This purpose of this chapter is to provide: (a) summary of findings, (b) discussion of findings as they relate to current literature, (c) discussion of implications for research and practice, (d) limitations of the study, and (e) conclusions.

Summary of Findings

Content analysis methods (Krippendorff, 2019; Graneheim & Lundman, 2004) were used to address the above research questions. Students in SPED 400 were required to complete 20 service-learning hours, complete a summative reflection about their experience in response to specific prompts (see Appendix A), create an artifact that represented their experience, and complete student support session forms. Reflections, artifacts, and student support session forms were analyzed across three semesters of SPED 400, totaling 74 reflections, 50 artifacts, and session forms from two semesters. Five themes and seven subthemes emerged from the data which together describe how providing peer support to adults with I/DD as part of service-learning impacted pre-service teachers.

Theme one addressed how concepts from SPED 400 were illustrated and utilized by pre-service teachers. A number of course concepts were identified in pre-service teacher reflections, the most frequent of which was communication. Pre-service teachers described not just how those concepts were illustrated, but also how their understanding of concepts was extended and how they used those concepts to provide support to their learning partner. Additionally, pre-service teachers were able to make connections to their service-learning experiences and other courses and practicum experiences in their preparation programs.

Theme two discussed how service-learning contributed to pre-service teachers' understanding of what it means to be an educator, including educator roles, requirements, and responsibilities. Pre-service teachers learned the importance of communication, student-teacher relationships, instruction, and individualization to fulfilling the requirements of being an educator. In addition, pre-service teachers discussed their role as K-12 educators in post-secondary transition for students with disabilities. Pre-service teachers also learned more about the values and beliefs they felt were important as future educators.

Theme three explored discrepancies between what pre-service teachers expected from their service-learning experiences, and what actually occurred. Pre-service teachers expected interactions with their learning partners to be challenging, but typically were not. Some pre-service teachers expected to provide social and essential skills support and were surprised when their learning partner needed support in academic content areas. Other pre-service teachers expected to provide academic support but found themselves providing more social and essential skills support. Additionally, pre-service teachers experienced stressors that impacted their ability or perceived ability to provide support. First, the 2018 cohort had a difficult time getting assigned a learning partner, with some of them not being able to begin their service-learning until

later October. Second, pre-service teachers were concerned about their capacity to provide supports to their learning partners, both in terms of background knowledge and scheduling constraints. Finally, some pre-service teachers found themselves developing friendships with their learning partner. Sometimes, these friendships were unexpected. Other times, pre-service teachers had the goal of developing friendships but were not able to, leading to disappointment.

Theme four discussed the ways in which pre-service teachers' perceptions of people with disabilities were challenged or reinforced. During service-learning, some pre-service teachers learned that people with disabilities are competent and capable, more similar to people without disabilities than they thought, and more than just a collection of characteristics. Conversely, stereotypical views of disability were reinforced for other pre-service teachers.

Finally, theme five addressed what pre-service teachers learned about themselves as a result of their service-learning experience. Specifically, pre-service teachers identified strengths and weaknesses that impacted how they interacted with their learning partners, accomplishing their goals, and the supports they provided. Pre-service teachers also discussed skills they were able to develop during service-learning, as well as areas for future improvement.

Discussion of Findings

This study highlights several ways in which a service-learning experience with adults with disabilities affected pre-service special education and dual licensure teachers. Specifically, pre-service teachers: (a) extended their understanding of and used course concepts; (b) refined their conceptualization of being an educator; (c) adapted their expectations of the experience and their learning partner, as well as made unexpected friendships; (d) challenged or reinforced their assumptions of people with disabilities; and (e) learned about their own strengths and weaknesses.

Understanding and Use of Course Concepts

One benefit of service-learning is providing pre-service teachers the opportunity to increase their learning of course concepts through practical experiences (Salam et al., 2019). Service-learning with college students with I/DD provided SPED 400 students the opportunity to do just that. Pre-service teachers saw SPED 400 and other course concepts illustrated, extended their understanding of those concepts, and put those concepts to use during service-learning. Additionally, SPED 400 students were able to identify when faculty teaching classes Pathways students were enrolled in were not using accessible teaching methods, such as UDL (Fernandez-Batanero et al., 2022). Pre-service teachers had the opportunity to practice concepts learned in SPED 400, such as communication and collaboration in natural, low-risk environment (Carrington & Selva, 2010). The extension and use of SPED 400 concepts by pre-service teachers indicate they were actively constructing knowledge during service-learning, resulting in a more meaningful and powerful experience (Marder et al., 2017; Salam et al., 2019). These connections between service-learning experience and content studied in the associated course is a key component of effective service-learning (Yurasoyska, 2021). These findings indicated pre-service teachers were not only able to identify course concepts in action but were applied and refine those skills. Additionally, service-learning provided an opportunity for deeper understanding of SPED 400 topics, as well as concepts discussed in other areas of pre-service teachers' preparation programs.

Conceptualization of Being an Educator

Service-learning in teacher preparation programs has the dual benefit of broadening pre-service teachers' understanding of the role of teachers (Salam et al., 2019) and providing vocational clarity (Izzo & Shuman, 2013; May, 2012). SPED 400 students experienced both

these benefits during their service-learning experience. Pre-service teachers expressed they are better prepared to work with students with disabilities because they had the opportunity to apply skills in a natural setting (Jones et al., 2021).

According to Berg and colleagues (2017) K-12 settings do not adequately prepare students with I/DD for postsecondary transition. Pre-service teachers in this service-learning experience learned a great deal about their role in postsecondary transition for students with disabilities, including educating families about IPSE programs and encouraging them to see postsecondary programs (Griffen et al. 2010), and the skills they need to teach their future students to facilitate postsecondary success (e.g., academic, essential; Berg et al., 2017).

Adapting Expectations

After meeting their learning partner and attending a few support sessions, pre-service teachers learned they needed to adapt their expectations of what the experience would be. This included expectations of the types of support they would provide and expectations of their learning partners. Many pre-service teachers expressed initial discomfort at interacting with their learning partner; they thought interactions would be awkward and did not know what to expect from someone with a disability. After meeting their partner, though, this began to change, and pre-service teachers felt more comfortable interacting with an individual with I/DD. This is consistent with previous literature when colleges and universities have IPSEs on campus, students without I/DD feel more comfortable interacting with people with disabilities (Izzo & Shuman, 2013; May, 2012). This is another benefit of service-learning—providing students the opportunity to engage with a community of people they will be interacting with in their profession (Bloomquist, 2015).

Pre-service teachers also had to adapt their expectations about the types of support they would be providing. Some pre-service teachers expected to provide academic support and ended up providing social support instead. The development of informal and friendly relationships in which social supports are provided can help students with I/DD practice appropriate social behavior and build social capital necessary for social networking (Giust & Valle-Riestra, 2017; Wilt & Morningstar, 2020). Evidence of this is clear in the following story:

> His only request from me was that I help him learn how to talk to women. He has a tendency to come off as socially awkward, and sometimes has troubles [*sic*] talking to woman [*sic*] in his daily life. I helped him with this by taking him out in public, praising him when we are around woman [*sic*], and acting as his wingman when we are in public. I also helped by coaching him up when he wanted to talk to a girl that he saw…I watched his confidence slowly build up…I saw a girl come up to him one day during our session and start talking to him and flirting with him, and this was a girl I had never met before. After she left he told me that he had met her at his work and said that he remembered how I had told him to just take a leap and talk to a girl. He did, and it worked, and he began seeing that girl after they talked for a while.

Other types of social supports included going to sports events, campus activities, and playing video games, consistent with the types of social supports discussed in the literature (Giust & Valle-Riestra, 2017).

Friendship

Service-learning provided both pre-service teachers and their learning partners the opportunity to develop friendships. Students with I/DD in IPSE programs experience positive changes in socialization, which includes making new friends (Hendriskson et al., 2017).

However, many of the pre-service teachers who felt they made friends with their learning partners found these friendships to be unexpected, similar to findings from Jones and colleagues (2021). Also consistent with Jones et al. (2021) was the two-way nature of these supports. When pre-service teachers discussed friendships, they also discussed how much they learned from their learning partner, indicating a reciprocal nature to the relationship.

Pre-Service Teachers' Assumptions about People with Disabilities

Pre-service teachers' assumptions about people with disabilities were both challenged and reinforced. In terms of being challenged, previous research has indicated exposure to individuals with I/DD in postsecondary contexts leads to increased positive attitudes and decreased negative attitudes such as pity, sadness, and sympathy (Harrison et al., 2019; Lee & Taylor, 2022). This was consistent with pre-service teachers in SPED 400; when they talked about changed perceptions, they often mentioned that people with disabilities do not need pity. Consistent with previous research (Farley et al., 2014; Jones et al., 2021), pre-service teachers in this service-learning experience challenged preconceived notions of disability and experienced personal changes, such as realizing they are more like people with I/DD than different from them.

This was not always the case, however. Some stereotypical views of disability were reinforced for pre-service teachers. These views were usually centered on a reductionist view of disability in which the individual with I/DD is a collection of diagnostic characteristics rather than a whole, complex human being. Completing service-learning as a SPED 400 course requirement could be a moderating factor here. Harrison and colleagues (2019) found that students without disabilities who volunteered to provide support to students with I/DD exhibited more positive attitudes toward people with I/DD than non-volunteers. It is also possible that

while explicit attitudes, or those consciously available, changed for some pre-service teachers, implicit attitudes (i.e., automatic, subconsciously held beliefs about people or groups) remain unchanged (Harrison et al., 2019). This finding indicates service-learning has the potential to be a powerful vehicle for challenging assumptions about disability and making permanent perceptual changes about individuals with disabilities. Simultaneously, service-learning can just as easily reinforce harmful stereotypes and assumptions about disability and those identified with disabilities.

Strengths and Weaknesses

The reciprocal nature of this type of service-learning mentorship, that is the dyad are peers going through similar experiences, means pre-service teachers should benefit from the experience as well as the students with I/DD (Jones et al., 2021). This was largely the case for SPED 400 pre-service teachers. Similar to Farley and colleagues (2014) and Jones et al. (2021), pre-service teachers in SPED 400 experienced intrapersonal growth by identifying their own strengths and weaknesses. Pre-service teachers learned how their strengths can benefit their interactions with the general population, as well as with future students, "I think one of my strengths is that, while I may have assumptions or judgements, I do not let that impact how I behavior or treat people…This is very helpful when meeting new people or working with students…" Pre-service teachers also experienced growth in areas they considered weaknesses, "…one of my weaknesses is my confidence. I doubt myself a lot, but this service learning helped me grow and force myself out of my comfort zone…" This finding is consistent with previous literature that providing peer mentoring can result in valuable intrapersonal insights (Farley et al., 2014; Jones et al., 2021).

Implications for Research and Practice

Findings from and limitations of this study can inform future research and practice. Recommendations for future research include addressing long-term outcomes of service-learning as peer mentoring, as well as taken-for-granted assumptions about people with disabilities. Recommendations for practice include better collaboration between IPSE program staff and instructional staff, as well as recommendations for pre-service preparation programs.

Implications for Future Research

Peer mentorship as service-learning to provide supports to adults with I/DD enrolled in IPSE programs is an emerging area of the literature. Future research can address these gaps. For studies such as the current one, it would be beneficial to conduct follow-up studies with pre-service teachers who completed service-learning. These studies could explore the extent to which lessons learned through service-learning experiences have maintained throughout the rest of their educator preparation programs and in their classrooms.

Prospective studies can also be designed to capture a more comprehensive picture of the service-learning experience. For example, researchers can use pre- and post-reflections, focus groups, and interviews to explore the impact of service-learning in more depth. Such studies should include individuals with I/DD, as their experience would be a valuable contribution to the literature. Similarly, future research could look at academic data of students with I/DD who receive support from service-learning. This would provide a way of quantifying the effect of peer supports, which would be beneficial for policy changes and securing funding.

Future research should also explore in more depth pre-existing assumptions of disability, and the effect of interacting with someone with I/DD has on those assumptions. It has been established that students with I/DD are not adequately prepared for or informed about

postsecondary opportunities (Griffin et al., 2010; Grigal et al., 2011; Mock & Love, 2012), the responsibility for which is on K-12 teachers. Taken-for-granted assumptions about disability and people with I/DD might contribute to this lack of preparation (Grigal et al., 2011). Pre-service teachers engaged in service-learning with college students with I/DD graduate to become in-service teachers responsible for delivering services to children with I/DD. Service-learning can either challenge assumptions or reinforce them, as seen in this study. Future researchers should explore these taken-for-granted assumptions, as well as interventions for challenging those assumptions within a service-learning context.

Implications for Practice

Implications for practice fall into two main categories: (a) recommendations for instructors overseeing service-learning and (b) recommendations for educator preparation programs.

Pre-service teachers in this study experienced frustration getting their learning partner assignment, communicating with Pathways staff, learning partners not showing up for sessions, and not feeling prepared to help Pathways students in classes they were taking. The first recommendation for practice addresses issues with IPSE program staff. IPSE program staff should work closer with service-learning course instructors to ensure timely assignment of learning partners. Additionally, IPSE program staff should be more communicative with service-learning course instructors, as well as pre-service teachers. When this is not possible, service-learning course instructors should be flexible with service-learning requirements. Additionally, service-learning course instructors should, to the extent possible, clarify expectations for pre-service teachers. Service-learning course staff should also consider making reflections more systematic, so students have more opportunities to interrogate their beliefs, especially as it relates

to disability (Etscheidt et al., 2012). Finally, IPSE staff and service-learning course instructors should consider collaborating with instructional faculty who teach courses IPSE students take so they can provide important information to pre-service teachers.

In terms of educator preparation programs, given the role of special educators in successful postsecondary transition for students with I/DD, preparation program staff should consider incorporating instruction on talking to students and families about postsecondary options such as IPSE programs (Griffin et al., 2010; Mock & Love, 2012). Additionally, programs should consider making the skills necessary for postsecondary education part of the curriculum, so all graduates are prepared to facilitate successful transition. Legally, transition plans must be developed by the time the student is 16 years of age; however, transition plans may be developed as early as 14 years old (IDEA, 2004). As such, preparation programs should prepare their students to provide transition instruction and services beginning in elementary school because, as the saying goes, "transition begins at birth."

Limitations

Four limitations to this study were identified: (a) data comes from undergraduate reflections, (b) reflections are summative only, (c) no follow-up was conducted, and (d) individuals with I/DD were not included.

Though 74 reflections were included in this study, the limited nature of reflections as data should not be ignored. These reflections were collected as part of a graded assignment, which could impact the quality of responses to reflection prompts. Additionally, the quality of reflection varies, with some pre-service teachers addressing each prompt and other pre-service teachers addressing only a few prompts in their reflections. Similarly, some pre-service teachers answered prompt questions more thoroughly than others. Because these were reflections and not

interviews for example, the researcher was unable to ask follow-up questions to explore or clarify when needed.

On a similar note, these reflections were summative only; that is, they were written after pre-service teachers finished their service-learning experience. The retrospective nature of the reflections could impact reflection quality. Not only that, but there are not prospective reflections to compare responses to. Pre-service teachers are retrospectively reporting their expectations for the experience, for example. This would be more reliable if pre-service teachers had addressed the same prompts before they began service-learning, and the researcher compared the responses against each other. Another limitation is that no follow-up was conducted. The researcher could not follow up with pre-service teachers to see if the experience had maintained its effect over time, for example, if changed perceptions of people with disabilities were sustained.

Finally, students enrolled in Pathways were not part of this study. Considering service-learning was a pre-service teacher-Pathways student dyad, leaving half that dyad out of the study was a major limitation. The researcher could not ask Pathways students about their perception of working with SPED 400 students, or if they felt the experience was beneficial for them. The experiences of people with I/DD are valuable sources of knowledge that can add a substantial amount of information to the literature base. They should be included in more research about issues that affect them.

Conclusion

In conclusion, findings from this study indicate that service-learning is a valuable experience for SPED 400 students, albeit there is room for improvement. This service-learning experience exhibited many of the characteristics of effective service-learning discussed in the literature. Learning partnerships were reciprocal, with both pre-service teachers and Pathways

students benefiting (Jones et al., 2021; Wilt & Morningstar, 2020). Pre-service teachers benefited from the opportunity to apply theoretical concepts learned in SPED 400 and other course concepts and practice collaboration and communication skills (Darling-Hammond & Snyder, 2000; Jones et al., 2021). Pathways students benefited from receiving support in social skills and academics and were provided with connections to the community (Jones et al., 2021; Lee & Taylor, 2022). Additionally, friendships developed overtime between pre-service teachers and Pathways students, while pre-service teachers' taken-for-granted assumptions of people with I/DD were challenged (Jones et al., 2021). Service-learning as part of SPED 400 course requirements benefited both SPED 400 pre-service teachers and Pathways students. Such programs have potential to make campus communities more accepting and inclusive. Together, these findings indicate that service-learning with Pathways students was a meaningful experience that provided pre-service teachers the opportunity to apply what they had learned in their preparation programs, meet new people and develop new friendships, and challenge pre-existing assumptions about people with disabilities. More succinctly, "This service learning project may just be the best thing that I have done in college up to this point, and for those who didn't get to experience this I feel bad for them."

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APPENDIX A: ASSIGNMENT DESCRIPTION AND REFLECTION PROMPTS

Service-Learning Project

- You will represent your feelings/experience about the service-learning project in one of the following ways:
    - Poetry
    - Visual art
        - A painting
        - Drawing
        - Graphic arts
        - Photography
        - Sculpture
    - Music
        - Original lyrics
    - Individually created game (i.e., a game that does not exist)
    - Puzzle
        - Or any other type of creative means of expressing your experience
            - *Must be approved by the instructor(s)*
- Be prepared to turn in your product in the future; we will let you know when and where.
- TAKE a picture or pictures of your product and upload them to Canvas WITH your reflection.
    - Add the picture/s to the end of your reflection
    - IF your product has multiple sides or dimensions which can't be captured by a single photo, please take pictures of all of the views/angles.
        - We should be able to see everything from the photo/s you submit
- Along with your "product" you will write a reflection
    - Two – three pages (minimum)
    - Double-spaced
    - 12-point Times New Roman
    - Save the format according to the instructions on the syllabus
        - Save as a PDF!
    - Include a proper heading
    - Be well-written (think about grammar, spelling, syntax, etc. be sure to incorporate feedback you have received on your writing over the course of the semester into this essay)

<u>The reflection will address the following prompts in essay form:</u>

- ☐ Did any of the concepts covered during your SPED 400 class become apparent during this experience?
- ☐ Did you use anything you learned in SPED 400 to help reach your goal, or conversely, did anything you learned during your service learning help you with your coursework in SPED 400 (or any other class)?
    - ☐ If so, what was it and how did it help?
- ☐ Did this experience differ from your initial expectations? Why or why not?

- ☐ What goal were you trying to (or hoping to) accomplish?
    - ☐ Did you accomplish the goal?
- ☐ How did your strengths and weaknesses contribute to working towards the goal you were trying to accomplish?
- ☐ What assumptions did you bring to your service-learning experience?
- ☐ What new assumptions did you need to form as you undertook this process?
- ☐ What effect did your service-learning experience have on you and on your understanding of special education service delivery?
- ☐ How will you use what you learned (about any aspect of your service-learning experience) to inform your teaching as you move forward in your coursework?

- Remember, this is an essay – therefore, you should include an introduction, you should thoroughly address the questions in the prompt and add anything else you feel is relevant, and you should include a conclusion.
- Keep in mind, do not just go through and answer the questions; your essay should be well-constructed and should make sense in the context of your individual service-learning experience.

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APPENDIX B: FIRST CYCLE TOPIC CODE BOOK

Code	Definition	Example Quotation
Actual experiences	How experiences did or did not align with initial expectations. Refer to initial expectations definition. What actually happened during their experiences.	"While my partner knew I could be one of she needed, she didn't really need me. She had her schedule and supports on campus figured out. My new assumption became that she would come to me as a natural support if needed, and this assumption was correct."
Connections to other courses/ practicum*	When they make connections to content from other courses or experiences in other internships or practicums as part of their program.	"Through our course this semester, I learned a lot that I applied at my internship placement while teaching students and when tutoring students from Programs."
Course concepts	Pre-service teachers identify concepts from SPED 400 (see list at bottom) they saw happen and/or applied during service-learning experience and how they saw/used those concepts. Also includes if they specify nothing they learned in Course helped them or they didn't use anything during service-learning.	"I think it is important to use effective communication and collaboration, which are both things we learned this semester, in order to make students feel welcomed and feel a sense of belonging."
Frustration*	Pre-service teachers describe difficulty being assigned a Program partner, communicating with Program faculty/staff, understanding expectations of the assignment, incompatibility of sessions offered and pre-service teacher schedules, and/or learning partners not showing up for sessions.	"The collaboration and communication between Program and this class/you/Dr. Bailey, was frustrating at times. It was frustrating for me because I would go and students from Program would not come."
Future teaching	What pre-service teachers will take with them throughout their program and into their future classrooms. Includes discussions of how the experience impacted their understanding of special education service delivery, working with students, what students need, what's best for students, how they can serve students, as well as their perceptions of their future as a teacher.	"My experience with Program has made me wonder about what my future as a teacher may look like and how I may implement various strategies and modifications into my lessons in a way that all students may access the information on their own."
Goals	What they're goals were and if they accomplished them or did not accomplish them. Includes examples/explanations of how they did or did not accomplish goals. Does not include how	"With this service learning experience, my main goal was to increase my comfortability and skill in working with students with disabilities. I feel

Code	Definition	Example Quotation
	strengths and/or weaknesses contributed or did not contribute to goals.	like I was able to accomplish this. I have been able to see growth throughout this project."
Initial expectations	Initial and/or anticipatory expectations, thoughts, feelings pre-service teachers had about the service-learning experience. Includes general expectations, thoughts, and/or feelings, as well as those about activities they would be working on during support sessions, their learning partner, interacting with their learning partner, the assignment, themselves, the process, and time/scheduling issues. They might refer to these as expectations or assumptions. Can also be just general discussions of their thoughts/feelings/expectations.	"Our first meeting together did not go as I expected. Before meeting I was under the impression that we would be helping Sophia with her homework for one of her Human Development classes."
Pathways*	Pre-service teachers' reflections about the Pathways program, what it does for students, and they role programs like Pathways play in secondary transition.	"This semester I learned quite a bit about special education delivery at the higher level. I learned that Program is a flawed program because it does not give the students a college degree despite the students actively attending classes."
Perceptions of PWD	Perceptions or assumptions pre-service teachers had about individuals with disabilities initially, new assumptions that formed throughout the experience, and/or how assumptions changed. These are perceptions or assumptions made because the individual has a disability. Includes preservice teachers' thoughts on society's perceptions of PWD. Can include perceptions or assumptions pre-service teachers had of their learning partner only if they state the perception/assumption was because of LP's disability.	"Often, society pities those with disabilities, but if they are given the chance, they would see that they are people just like anyone else. It sounds cliché, but it is true."
Strengths	Identified strengths and/or personal positive personal attributes and/or how those impacted their experience (e.g., during interactions with partner, to achieve goals).	"One of my major strengths was that I was open minded, and I was ready to go with any change that happened even if it did not fit my initial expectations. This helped me towards my goal because I was flexible and was not judging."
Weaknesses	Identified weaknesses, areas for improvement, and/or areas where they struggle. Includes how impacted them (similar to	"My weakness is my shy and quietness, especially with others my own age, which

Code	Definition	Example Quotation
	above), or hindered them during the experience (e.g., got in the way of achieving goals).	caused the challenge of starting the conversation and thinking of ways to meet with my partner."

Course topics list (developed using syllabi and what pre-service teachers identified in reflections)

- "Out of My Mind"
- Accommodations and modifications
- Background on disability and SPED (history, policy)
- Case-studies
- Co-teaching and co-planning
- Collaboration
- Cultural competence
- Effective communication
- Executive function(s)
- IEPs
- Implicit biases
- Inclusion
- Interpersonal communication
- Least dangerous assumption/presuming competence
- Mental health
- Microaggressions
- MTSS, RTI, SWPBS, and UDL
- Person centered planning
- Person-first language
- Roles of a special educator
- Secondary transition
- Service delivery models
- Student-teacher relationships
- Teaching CLD students

APPENDIX C: FIRST CYCLE SUBTOPIC CODE BOOK

Code	Subcode	Definition	Example Quotation
Course Concepts	Accomplish goals	Pre-service identified attributed Course content and/or information to achieving their goals.	"These accommodations are small in scale, however I was able to see the large impact they had on the student's ability to complete their assignments with less stress and greater success. This was one way I used the concepts of diversification of instruction that we learned in this course to help me reach my goal of helping students in any way I could."
	Did not use/apply	Pre-service teachers state they did not use or apply any course concepts during their service-learning experience.	"This was a lot more of a personal growth goal and because of that, I didn't use anything from any classes to help me reach my goal."
	Extended	Pre-service teachers built on, clarified, extended, learned more about, or otherwise refined their understanding of course concepts and/or information.	"This service learning project has provided me an opportunity to work with another student with an intellectual disability, which helped me further my knowledge about communication."
	Illustrated	When pre-service teachers saw a course concept or course information happen in real life during their service-learning	"I Witnessed a lot of self-advocacy in this area for students in Program. If they

Code	Subcode	Definition	Example Quotation
		experience; they saw an "illustration" of that concept and/or information.	thought they were struggling, I saw a lot of students knowing their supports or asking where they can get help with projects they were stressing over."
	Support	When pre-service teachers used the knowledge and/or skills they learned in Course to aid in providing support to and/or interacting with learning partners. This can include interacting with Program personnel, University faculty/staff, other pre-service teachers in their cohort who were part of the service-learning.	"To do this I relied a lot on UDL. Using multiple resources, visually and written, to help explain my points. I provided scenarios, created outlines, drew pictures so that I could help my student see from different perspectives/steps what I was trying to rely to them."
	Teaching	Pre-service teachers identify course concepts necessary for being a teacher, and/or how course concepts apply to their career as an educator.	"Hearing him say this made me think about how I can establish that feeling in my classroom. I think it is important to use effective communication and collaboration, which are both things we learned this semester, in order to make students feel welcomed and feel a sense of belonging."
Frustration	Learning partner	Frustration with learning partner(s) for things like not showing up to tutoring sessions, not coming prepared.	"My first student (student A) was responsive when we were first matched. As the weeks went by, I started hearing from her less and less. I was disappointed because I was

Code	Subcode	Definition	Example Quotation
			enjoying the experience and I wanted to serve her as much as I could.”
	Process	Frustration with getting matched with service-learning partner, the assignment, ability to get needed information, scheduling for tutoring sessions.	“My service learning experience had a very late start. One of the most frustrating things was trying to get a partner. That is what took the longest time.”
Future Teaching	Areas for growth	Pre-service teachers identified areas (skills, attitudes, thought processes) in which they need to grow in order to be a better teacher and/or better serve students.	“ Time management was my biggest challenge going into this project but something that I learned and this will carry me through the rest of my semesters and career.”
	Belonging	Pre-service teachers learned the importance of all students feeling welcomed into the classroom, supported by the teachers and peers, and like they belong as part of the classroom community.	“I did learn a few different ideas for helping me when I am a teacher in the future. I learned the value of making everyone feel comfortable and welcome. When teaching, I want to make sure my students feel comfortable and safe around me, because this will help them to open-up and learn more.”
	Career choice	Choice to become a teacher was affirmed or reinforced as a result of and/or throughout the experience.	“Thank you Dr. INSTRUCTOR for helping me realize and know for sure this is my calling through this project.”

Code	Subcode	Definition	Example Quotation
	Communication	Communicating with students, families, and other school staff.	"As I go forward, the communication skills I learned and practiced I will use in my classes, future classrooms, and among peers and colleges."
	Competence	SWDs are competent and capable, no matter their disability/disability label.	"In saying all of this, I am affected in the sense that I want to make sure that I empower all of my students and show them their potential so that they have high expectations for themselves."
	Individual	Importance of knowing the individual student (their interests, likes, dislikes, needs, communication style, etc.).	"I honestly feel that I could ask him about how he learned best. This would help me in case it works for my future students since not all students learn the same."
	Instruction	Skills, adaptations, knowledge, supports, and/or instructional approaches pre-service teachers state they will incorporate into their future classrooms.	"Seeing this process made me want to implement Person-Centered Planning when I become a teacher because it can be very beneficial and I have seen it work in Alexs life."
	Philosophy	Skills, dispositions, values, knowledge pre-service teachers identified they want to bring with them into their future teaching. Also those they feel are important for teachers to have.	"It made me reflect on how awesome it was to see that he had, had parents and teachers who pushed him to his full potential and for him to also recognize that he was more than what society might think

Code	Subcode	Definition	Example Quotation
			of him to be. I reflected on how one day, I will be one of those teachers to push these students to be the best version of themselves and settle for nothing less than what they deserve."
	Relationships	Importance of student-teacher relationships.	"By having weekly meetings where we just sat and ate lunch together, I realized how important relationships are and will in the future as a teacher."
Goals	Accomplished	Stated goals were accomplished, achieved, or met as well as examples of how those goals were achieved and why goals were achieved. Does not include strengths and/or weaknesses as reasons for achieving goals.	"I feel as though I accomplished my goal because I gained knowledge in my experience that I can take into my future classroom and internships."
	Assignment requirements	Pre-service teachers state their goal was to meet requirements of the project/assignment, including getting all required hours, meet with LP regularly.	"Originally, my goal was to meet my partner and just get my time done."
	Connection	Goal to be friendly, build friendships, form connections, have positive relationships, get to know LP.	"I made a lot of friends throughout my service-learning journey; meaning I was able to accomplish my goal. Now, I meet with students that I have tutored throughout the week to catch up and get something to eat."
	Comfort with disability	Learning how to interact with people with disabilities, being more comfortable	"With this service learning experience, my main goal was

Code	Subcode	Definition	Example Quotation
		interacting and/or socializing with PWD, being more comfortable working with PWD of any age.	to increase my comfortability and skill in working with students with disabilities. I feel like I was able to accomplish this. I have been able to see growth throughout this project."
	Not accomplished	Stated goals were not accomplished, achieved, or met as well as examples of why goals were not achieved. Does not include strengths and/or weaknesses as reasons for achieving goals.	"I was afraid to ask Richard about his academics, especially during the first meeting, which prohibited me from meeting my goal."
	Person first	Pre-service teachers stated goal is to see the person before the disability, or see the person beyond the disability.	"The change in my expectations truly accomplished my goal to understand the person behind the student. I felt this goal was important because it informed my teaching to be person centered instead of curriculum based."
	Personal growth	Goals relate to learning more about themselves and/or growing as an individual/person.	"Along with my assumptions, I had goals to make some friends, spend time enjoying getting to know other students, helping students who need it, and growing personally by learning from them."
	Professional growth	Goals relate to being more confident in professional skills, developing professional skills, working with SWD.	"My goal for this experience was to learn more about students with disabilities in Program so I can take what I

Code	Subcode	Definition	Example Quotation
			learned and apply it to my future classroom and during my internships."
	Support LP	Goal was to support LP academically, socially, being more comfortable in sessions, with whatever they needed. Can be specific or general.	"My goal was to serve the students that I worked with and help them succeed by being the best that I could be for them. I would say that I accomplished this goal and so much more."
Perceptions of PWD	Challenges	What pre-service teachers think will be challenging because an individual has a disability; knowledge the individual won't have due to disability. Includes pre-service teachers stating they were right or wrong about this.	"School is hard for anyone, but it can be even harder for a person with a disability."
	Competence	PWD can achieve academically, are intelligent, capable, have skills, have potential. Pre-service teachers identified an assumption that PWD are not competent or capable. This perception changed as part of service-learning, and pre-service teachers learned PWD are competent and capable.	"After meeting with Richard, I see the potential that most people with disabilities have to want to do anything they set their mind to. I now can assume that most people with disabilities have goals that they are trying to reach, just like Richard and that they can be and do anything they want."
	Support needed	The type of support or assistance pre-service teachers thought they would provide because their LP had a disability. Also includes pre-service teacher stating they were wrong about this perception.	"Knowing that these students had intellectual or developmental disabilities, I assumed academic support would be what they needed. What I quickly found was that my service learning partners

Code	Subcode	Definition	Example Quotation
			really did not need tutoring or a lot of help academically, what they really wanted was just the basic support someone finds in a new friendship."
	Person first	Pre-service teachers discuss stereotypes society has of PWD, whether or not they agree with those stereotypes. Relates to how people, and in some cases the pre-service teacher, viewed the disability and it's stereotypes rather than the individual. Society and/or pre-service teachers making assumptions about disability without knowing the individual. Also includes starting to see their partner as a person, not a disability label, or only seeing the disability label.	"I think that if were not for my partner having autism, I would not have ever met him. His diagnosis gives him a lot of strength and courage to do things that most people would think of as different, such as talking to strangers and not being bothered when he loses a game."
	Similarity	Perception or assumption that PWD or LP would look or act different because they have a disability, and/or not have goals, relationships, independence, etc. Pre-service teachers learned that PWD are "just like us;" want similar things; have similar goals/aspirations; have similar non-academic activities, backgrounds; go through similar experiences; make their own decisions, etc.	"These students are not a charity case, they are students just like us who want to succeed and enjoy their life as college students."

	Code	
Subcode	Initial expectation	Actual experiences
Capacity	Pre-service teachers' thoughts, feelings, expectations, etc. about their ability to handle the demands of the project, including the time demands, as well as their ability to provide supports due to things like not having adequate background knowledge. Example: "My initial expectations were that this requirement was just that and I was nervous because of all the tasks and expectations for myself this semester."	How pre-service teachers' actual ability to handle the demands of the project were the same as and/or different from their initial expectations. Example: "In some instances, this experience did meet up to the expectation because they were needing help with courses I haven't previously taken. In other instances, I was able to help students just by rephrasing or changing the overall statement for the students to understand."
Connection	Pre-service teachers' thoughts, feelings, expectations, etc. about forming bonds, relationships, or friendships with their learning partners. Example: "I had no intent of becoming friends with the student, because I wanted to make sure I was refilling my duties by providing support."	How actual connections made or not made were the same as and/or different from their initial expectations. Example: "I tried to create a relationship beyond just the tutoring part. When I tried, they didn't seem interested in that and went back to focusing on their work."
Interaction	Pre-service teachers' thoughts, feelings, expectations, etc. about interacting with LPs, what interactions would be like (e.g., awkward, difficult). Example: "At the beginning of this project, I assumed that it would be a bit awkward, and that we would struggle to find things to talk about."	How actual interactions with learning partner(s) were the same as and/or different from their initial expectations. Example: "However, this was not the case at all, instead our two meetings were very relaxed and guided by short conversations."
Learning partner	Pre-service teachers' thoughts, feelings, expectations, etc. about their learning partners. Includes knowledge they would and/or would not have, how they would behave, type of support(s) they would need, the assignments they would be bringing to the experience.	How pre-service teachers' learning partner(s) were the same as and/or different from their initial expectations.

	Example: “I was so excited to be finally be paired with a partner. I was expecting him to come in and need help scheduling things and helping him prepare for his class.”	Example: “After my first session of service-learning hours I realized that it was the same as tutoring any college student. The Program students were enrolled in regular classes, which I was unaware of.”
Process	Pre-service teachers’ thoughts, feelings, expectations, etc. about getting a partner, scheduling support sessions, composition (e.g., one on one vs. group), communication between Program and course, the assignment. Example: “I was anxious because there were not clear instructions of what we needed to accomplish with our service learning partner(s).”	How the process was the same as and/or different from their initial expectations. Example: “After this, things went very smoothly. I was a little disappointed that our schedules were not more compatible, but that is neither of our faults.”
Support	Pre-service teachers’ thoughts, feelings, expectations, etc. about the types of activities/supports pre-service teachers thought they would be engaging in or providing., independent of learning partner (e.g., academic, social). Includes role they thought they would play during the experience. Example: “When I first went into Program I was expecting to help the students send emails, maybe do a simple assignment or to help them with reading or annotating. I was not expecting college leveled assignments walking through the door to help the student with.”	How supports provided were the same as and/or different from their initial expectations. Example: “The students did not need help on the material as much as they did understand the assignments, essay structure, citing sources, and rewording.”

	Code	
Subcode	Strengths	Weaknesses
Development	Strengths pre-service teachers felt they got to practice or develop more during service-learning.	Pre-service teachers identified weaknesses that need further development and/or weaknesses they got to work on through service-learning.

	Example: "This project required me to work on both my strengths and weaknesses with communication. I learned quickly that I would have to make the initiative to schedule meeting times, which allowed me to work on taking initiative in things in general."	Example: "I have always struggled with initiating conversations with peers, so I was able to develop my communication skills during this experience."
Goal	Strengths helped pre-service teachers achieve their goals. Example: "I think my strengths of interpretation and compassion helped me towards my goal of being able to help Luca in the way that I was able to understand what was expected in his assignments to urge him to do good, even when he wanted to quit."	Weaknesses hindered goal attainment, or helped pre-service teachers achieve their goals. Example: "Weaknesses that hindered my reaching of the required hours goal was my lack of planning in advance for days that people could not meet. If I had thought about it ahead of time, we would have had a back-up plan for when partners could not meet."
Interactions	Impact strengths had on interactions and relationships with LPs. Example: "Lexi and I had no problems hitting it off from the start because one of the strengths I have is being able to talk to anyone and everyone."	Impact weaknesses had on interactions and relationships with LPs. Example: "My weakness is my shy and quietness, especially with others my own age, which caused the challenge of starting the conversation and thinking of ways to meet with my partner."
Supports	How pre-service teachers used their strengths to provide support to LPs. Example: "A lot of my success was due to the fact I was willing to look at what I was doing wrong and fixing it instead of repeating it hoping for it to work eventually."	Impact weaknesses had on pre-service teachers providing support to LPs. Example: "My biggest weakness is to give up and do the work myself because if I couldn't come up with a strategy my way out of that is to just do it for them and that is not how I should do it. Luckily, I learned how to provide different strategies and techniques that helped them instead of just doing it for them."

APPENDIX D: SUPPORT SESSION FORM QUESTIONS

2019 Support Session Form Questions

- Email address
- Name
- Meeting location
- Date
- Session start time
- Session end time
- Total minutes SES student was present
- Total minutes with peer partner (if you did not meet with a student, put a zero [0] on the line)

2020 Support Session Form Questions

- Name
- Name of student with whom you worked
- Meeting platform (e.g., Zoom, Google Meet, etc.)
- Date
- Session start time
- Session end time
- Total minutes spent tutoring/providing support
- Please indicate whether the meeting was academic, social, skills (e.g., computer, time management), or other. Check all that apply.

- Total minutes met with a peer partner for academics. If you did not meet for academics, put a 0 on the line.
- Total minutes met with peer partner for social. If you did not meet for social, put a 0 on the line.
- Total minutes met with peer partner for skills. If you did not meet for skills, put a 0 on the line.
- Subject or topic covered in tutoring (i.e., what did you work on with the student?)