

Preservice Teachers' Shifting Perspectives of Individuals with Intellectual and Developmental Disabilities in Service-Learning Experiences

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Abstract: Preservice teachers often have low post-school expectations for students with intellectual and developmental disabilities (IDD), although the stated goal of special education is to increase those very outcomes. However, setting high expectations and learning the accompanying soft skills is a complex skill set to include in special education teacher training. This qualitative study ($n = 7$) uses the consensual qualitative research-modified method to analyze preservice teachers' shifts in perception of students with IDD following a service-based, extended field experience with college students with IDD who attend a university's inclusive postsecondary education [IPSE] program. The service-learning experience included both planned and unplanned activities that were also a part of the curriculum for students enrolled in the IPSE program. Researchers identified six primary domains: (1) content knowledge, (2) getting to know students, (3) helping students, (4) preservice teachers needing support, (5) social and emotional connections, and (6) misconceptions. The resulting core ideas suggest that special education teacher training with extended service learning may help candidates to see the whole person with IDD and that instruction for teacher development can be enriched through applied learning opportunities. Conclusions position subsequent inquiry to explore service-learning outcomes and preservice teacher soft skill development.

Keywords: teacher education, disability perspective, postsecondary education, service-learning experience

Preservice Teachers

Recent literature confirms our fears regarding ableism bias—preservice special education teachers often do not have high expectations for the students they teach (Carter et al., 2018; Coates et al., 2020), despite special education teacher preparation standards to the contrary (e.g. the Council for Exceptional Children [CEC] and CEEDAR Center's High Leverage Practices, and the CEC Initial Special Education Preparation Standards). Beginning special educators' expectations can be unrealistic, potentially due to gaps in professional training (Billingsley, 2004; Kurth & Foley, 2014). This stigmatization also encourages teachers to have low expectations of students with disabilities and limits the abilities of the students they teach (Cavendish et al., 2019). In 1948, Merton described a self-fulfilling prophecy in which he asserted that if someone believes a false notion, they then engage in

behaviors that make the notion become a truth. Later, in 1968, Rosenthal and Jacobson challenged this phenomenon in a classroom setting by sharing low expectations for randomly chosen students and setting high expectations for others. At the end of the school year, the outcome of these predictions reinforced this phenomenon; the students with whom extraordinary expectations were relayed made greater gains than thought possible. This behavior was referred to as the *Pygmalion Effect*. The Pygmalion Effect suggests that high expectations lead to an increase in performance, which can significantly impact an outcome.

This phenomenon has been reiterated in recent studies focusing on students with intellectual and developmental disabilities (IDD). Researchers have found that teacher's expectations of their students can affect students' self-perceptions of their own abilities as well as that of an entire class, which can lead to a shift in academic self-concept (Rubie-Davies, 2006; Trouilloud et al., 2006). Further supporting this, Holwerda et al. (2014) surveyed 314 young adults with IDD between the ages of 17 and 20 and included parents' ($n = 315$) and/or teachers' ($n = 222$) expectations of their ability to work in competitive employment. The results indicated that the most significant predictor of their ability to work in competitive employment was the classroom teacher's expectations for the student, thus strengthening the argument that classroom teachers, including preservice teachers, need to have high expectations for the students they will serve (Kahn & Lewis, 2014). Furthermore, the US Supreme Court determined in *Endrew F. v. Douglas County School District* (2017) that to maintain the lowest expectation for students with disabilities is a violation of a student's right to a Free and Appropriate Public Education (FAPE), one of the main tenets within the Individuals with Disabilities Education Act (IDEA, 2004).

Positive expectations are not the sole determinant of successful outcomes for students with IDD. Research on instructional best practices in the field of special education has established several effective instructional strategies for this population (Bhattacharjee & Roy, 2022; Dey et al., 2014; Garrels & Arvidsson, 2019; Radford et al., 2015). Providing high-quality instruction is a complex task, especially for educators of students with IDD (Pennington & Courtade, 2015). Many students with IDD require intensive interventions to develop the skills to meet their post-school goals successfully. Consequently, teachers, including preservice teachers, may overly support students rather than structure each stage of the learning process effectively to support independence (Causton-Theoharis, 2009; Radford et al., 2015).

Indeed, special educators are expected to instill in their students the ability to make decisions and be self-sufficient (Cho et al., 2013). Best practice supports scaffolded instruction (Malmgren & Causton-Theoharis, 2006; van de Pohl, 2010) and multiple opportunities for students with disabilities to acquire and practice self-determination skills, as well as experience control and choice in their daily lives (Landmark et al., 2010; Wehmeyer et al., 1997).

For all these reasons, universities must prepare preservice teachers to take on this responsibility. Through expanding their expertise and confidence in meeting the needs of students with disabilities, preservice teacher education should focus on strengthening preservice teachers' self-efficacy, establishing more positive attitudes, and minimizing their concerns (Forlin et al., 2009). Furthermore, institutions must better understand and accept their responsibility for ensuring that graduates have the necessary knowledge, skills, attitudes, and confidence to be more proactive in promoting inclusion for all students (Forlin et al., 2009).

Inclusive Postsecondary Education Programs and Preservice Teachers

With the passing of the Higher Education Opportunity Act in 2008, inclusive postsecondary education (IPSE) programs began to expand nationwide and provide college opportunities for individuals with IDD. In 2023, over 300 such programs were reported across the United States (Thinkcollege.net).

IPSE programs generally focus on building program participants' career, independent living, and self-determination skills so they are prepared to engage in competitive integrated employment (Think College National Accreditation Center Workgroup, 2021). A major component of gaining those skills is quality time spent on career exploration and preparation through a variety of learning experiences (e.g., resume development, career interest assessments, mock job interviews). One method to provide skill instruction and support in these areas is through peers such as preservice teachers. Peer-assisted learning is an evidence-based instructional practice (What Works Clearinghouse, 2022). In the college setting, peer mentors are commonly used to provide less stigmatic support for the IPSE program students (e.g., they have a peer who is close in age sitting with them and working with them rather than a professor or significantly older instructor; Carter et al., 2019).

Peer-assisted learning through service or experiential learning has the additional benefit of reciprocal learning for all parties involved (Buchanan et al., 2002). Service learning is also considered a high-impact educational practice by the Association of American Colleges & Universities (Kuh, 2008). A high-impact practice like service learning related to their major provides the undergraduates a structured experience where they can take what they have been learning in the classroom and apply all that theoretical knowledge into actual practice.

Purpose

This study aimed to catalog and interpret the effects of a service-learning experience on preservice teachers' perception of students with IDD. The service-learning experience involved both planned and unplanned interactions with college students diagnosed with IDD enrolled in the university's IPSE program. These activities were embedded within an Assessment in Special Education course to increase incoming preservice teachers' expectations for students with IDD and provide them with practical experience implementing age-appropriate vocational assessments. The questions that guided this study include the following:

1. What are preservice special education teachers' perceptions of working with college students with IDD?
2. What themes emerged from these preservice special education teachers' journal entries surrounding their experiences working with college students with IDD?

Method

Participants and Recruitment

Once the university's Institutional Review Board approved the study, preservice teachers in the assessment course were recruited to participate by a researcher who was not the course instructor. This researcher did not have any prior interactions with the preservice teachers. The inclusion criteria for this study were all preservice teachers enrolled in the Assessment in Special Education course. The preservice teachers who consented to participate ($n = 7$) were juniors in the first semester of the special education bachelor's degree program. Each preservice teacher had completed the university's pre-professional block (PPB) program, which included three courses during their sophomore year focusing on exploring teaching and learning, socio-cultural perspectives, and critical issues in education. The PPB program also included a field experience in which preservice teachers spent 51 hours in P-12 classrooms to develop an understanding of the field of education and the diverse needs of students.

The Setting

The assessment course required preservice teachers to complete a semester-long service-learning experience that included at least 10 hours working with and/or mentoring the students enrolled in the university's IPSE program. All five IPSE program students were diagnosed with IDD, and each had an individual program of study. Most of the students (four) were in their first semester of the IPSE program and enrolled in a career exploration course, a first-year experience course, and an independent study course focusing on their individual goals. The fifth student was in his second year of the program and was taking courses in sports marketing. The service-learning project's planned activities took place during regularly scheduled IPSE program instructional time as well as some limited after-class time for one student. Several of the activities were pre-planned by the course instructor. These activities included preservice teachers working with IPSE students to help them complete a vocational assessment and mock job interviews to guide IPSE students toward a greater sense of confidence and ability before interviewing in the real world. The director of the IPSE program also offered the preservice teachers an option to participate in a person-centered planning training session. The remainder of their 10 hours were coordinated by the director of the IPSE program and were designed to best meet the needs and interests of the IPSE students and the availability of the preservice teacher. Many of these were social activities (e.g., going to lunch or dinner or attending a sporting event).

Materials: The Journal Entries

Preservice teachers were instructed to maintain a journal throughout their service-learning experience. During their first and last weeks of classes, students were given time in class to answer pre- and post-course service-learning experience questions (see Table 1). Throughout the remainder of the semester, preservice teachers were expected to maintain a journal that detailed descriptions of their thoughts, experiences, and impressions while interacting with IPSE students. The instructions given to preservice teachers were to write a brief description of their experience and resulting thoughts and/or feelings regarding the event. They were also told the journal could include a reflection on their frustrations, joys, or discoveries.

Table 1. Pre-service teachers' journal entry prompts.

<p>Pre-Course Questions: Take a few minutes and think about students who have an intellectual and/or developmental disability. Feel free to be honest; there are not any right or wrong answers.</p> <ul style="list-style-type: none">● When you hear the term “students with intellectual and developmental disabilities,” what comes to mind?● What are your thoughts on teaching students with this disability?● Where do you envision this learning occurring?● How do you think you should teach these students?● How do you think these students learn best?
<p>Post-Course Questions: When you hear the term “students with intellectual and developmental disabilities,” what comes to mind?</p> <ul style="list-style-type: none">● What are your thoughts on teaching students with this disability?● Where do you envision this learning occurring?● How do you think you should teach these students?

- How do you think these students learn best?
- When you think about your experiences in this course, do you think your perceptions about students with IDD have changed?
- If so, how?
- Were there experiences in this course that made you think differently about students with IDD?
- If so, what were they?

Research Design

This study used a qualitative research method, the consensual qualitative research-modified (CQR-M) approach developed by Hill et al. (1997). This design was chosen based on several key components. Through the CQR-M approach, researchers derive meaning from phenomena as they occur while recognizing participants' individuality as well as commonalities (Hill & Knox, 2021). Hill and Knox (2021) state that this method is useful when analyzing the in-depth experiences of participants to evaluate subtle nuances within their descriptions that might not be easily identified from a researcher's perspective. This method is also beneficial when investigating shifts in individuals' perspectives in response to an intervention. Neither of these might be possible through quantitative means. According to Hill and Knox (2021), this method is appropriate for topics with few pieces of prior research and those topics that do not already have measures in place that are psychometrically sound. Researchers should not have preconceived notions regarding the truth of this phenomenon. The researchers analyzed the data inductively, using a free response journal to meet this requirement. The method qualified as "CQR-modified" because focus interviews were not held after journal analysis, as no diverging themes needed further exploration.

Procedures for Analyzing Data

Researcher positionality

The researchers who completed the data analysis included three assistant professors of special education who identify as White and female at a southeastern United States university. All had previous experience as K-12 classroom teachers of students with disabilities ranging from mild to extensive support needs. The second author was the instructor for the assessment course, and the first author is an executive director for the university IPSE program.

Coding process and trustworthiness

Once the semester ended, the first author, who was not the course instructor, deidentified the data and assimilated the journal entries into a single running document. To establish the trustworthiness of the data, each researcher independently reviewed the journal entries of all preservice teachers and then met regularly to discuss and triangulate findings until a team consensus was reached. First, each researcher evaluated the preservice teachers' journal entries and identified their own domains using color coding. The researchers then met to discuss commonalities and address any differences of opinions until a consensus was reached regarding where each comment fell in the coding structure. Researchers then returned to the data in search of evidence that preservice teachers had a shift in perception and/or understanding of the abilities and instruction of students with IDD. Afterward, the

researchers again met and discussed each domain, including similarities and differences, until a consensus was reached and domains were determined. These domains were further evaluated to develop core ideas or themes. The domains and core ideas were checked for consensus and to ensure the findings represented the complete set of preservice teachers' responses through an internal audit by the second author, as Hill and Knox (2021) recommended. This was accomplished by repeating the process of reviewing all the journal entries and comparing findings from the consensus groups against the domains and core ideas established. This process was implemented to ensure all preservice teachers' voices were heard and represented fairly.

Cross-Analysis

Within each of the six domains, preservice teachers' reflections were broken down further into subcategories that emerged from the descriptions of their experiences. The domain and sub-domain results were then cross analyzed into themes representing the findings' core ideas or common patterns. Table 2 describes the resulting domains and subcategories within each area. Table 3 displays frequency results across the seven preservice teachers' journal entries. Based on recommendations from Hill and Knox (2021), the research team determined that categories were considered *general* if all seven participants addressed a domain within their journal, *typical* if there were four to six preservice teachers' journals that referenced a domain within their entries, and *variant* if only two to three categories were discussed in preservice teachers' entries.

Table 2. Domains and sub-categories of seven preservice teachers' journal entries.

Domain	Overall Mentions
1. Content Knowledge	62
a. Knowledge of IPSE programs	26
b. Knowledge of Special Education	29
c. General Content Knowledge comments	7
2. Getting to Know Students	52
a. Making Friends	24
b. Understanding their individual needs	21
c. General Getting to Know Students comments	7
3. Helping Students	47
a. IPSE students needing help	17
b. PSTs felt helpful to an IPSE student	18
c. IPSE student and PST worked together	10
d. General Helping Students comments	2

4. Social and Emotional	42
a. Felt pride	9
b. Felt connected	8
c. Felt impressed	14
d. General social/emotional comments	11
5. Needing Support	28
a. I felt vulnerable	17
b. SPED content knowledge gaps	1
i. Modeling	2
ii. Differentiation	4
c. General needing support comments	4
6. Misconceptions	26
a. Regarding students with disabilities	18
b. Confronting bias	8

Note: IPSE = Inclusive Postsecondary Education; PST = preservice teacher; SPED = special education

Table 3. Domains categorized by frequency across seven participants.

Domain	Outcomes (out of 7 participants)
Content Knowledge	General (7)
Getting to Know Students	General (7)
Helping Students	General (7)
Social and Emotional Connections	General (7)
Preservice Teachers Needing Support	Typical (5)
Misconceptions	General (7)

Note: General: 7 participants; Typical: 4-6 participants; Variant: 2-3 participants. There were not any variant cases.

Results

Each journal entry involved relevant information and was included in the analysis. Preservice teachers' perceptions were grouped into six domains: (1) content knowledge, (2) getting to know students, (3)

helping students, (4) preservice teachers needing support, (5) social and emotional connections, and (6) misconceptions. Each domain included several sub-categories described below within each domain description. Upon further cross-analysis and interpretation of these categories, two core ideas were derived from the data: (a) toward a social and emotional benchmark of seeing individuals with disabilities as complex individuals, classmates, or friends, and (b) toward the application of content learning, problem-solving, and management that begets quality teacher development. Following the domain descriptions, a section for the two core ideas describes how the domains were summarized.

Domain 1: Content Knowledge

Content knowledge was identified as a common domain amongst journal entries, with the greatest number of mentions by all preservice teachers. Growth over time in special education content knowledge centered upon two primary areas: (a) knowledge of the IPSE program and (b) general knowledge about special education. Additionally, several cases expressed growth in content knowledge across both categories. For example, Audrey described an understanding of the importance of person-centered planning, which is an integral component within IPSE programs, “so the students have a say in their future,” while also including knowledge of special education procedures in statements such as, “families are even encouraged to attend.”

Knowledge of the IPSE Program

Preservice teachers described IPSE program knowledge as “valuable information” for future educators. They connected the content taught within the assessment course with the real-world, authentic experiences they witnessed within the IPSE program. This connection is evidenced in comments such as Kayla, who said, “The different experiences with [the IPSE program] helped me better understand post-secondary students with IDD.” Despite the contrary taught in the assessment course, Chloe pointed out that she “did not think the students were going to have jobs and internships while they were in [the IPSE program].” Audrey wrote in one of her later entries, “I learned so many critical pieces of information from the STAR training [a person-centered planning model], and I even plan to complete the 25-minute webinar.” All of these were evidencing knowledge gained about IPSE programs. This shift over time is also indicated in comments such as Audrey, who stated, “I learned that [IPSE program] is for students with disabilities in their first two years of college. They live in dorms and attend their common core classes.” This shift was also evidenced in later entries, which mention how well the preservice teachers got to know the needs of the program students. For example, Rosa’s earlier entries mentioned the program director providing her with support to respond appropriately to program students’ needs. She stated, “I was prompted to remind them to work on their approved topic.” In another instance where she was helping with a writing assignment, the program director stepped in and reminded Rosa, “They have already been reminded to work on it, and it’s now their choice.”

General Knowledge About Special Education

Overall, preservice teachers’ demonstrated content knowledge through comments such as, “I learned what qualified an individual to have an intellectual disability,” and “We should continue educating students regardless of their disability. This ties in with the zero reject [IDEA legislation], and it shows me how crucial it is.” Preservice teachers commented on learning-specific supports for individuals with IDD, such as “visual and auditory aids,” and strategies, such as the need to “break down information,” as an effective instructional practice within the IPSE program. Melanie saw information

taught within the assessment course reiterated in the IPSE program when she was “given the opportunity to build a rubric that the [IPSE] students will use for their final presentations.” Audrey reflected upon one experience with a program student by stating, “I do not think that he understood what I was asking. I had to repeat some of my questions.”

Across preservice teachers, there were indications of basic educational knowledge (e.g., “Handshake is a[n employment] resource that he can use”), teaching practices (e.g., “I think they will learn best in groups and active lessons,” and “work at their own pace”), and also soft skills (Clark, 2018) and the less tangible, work-related social behaviors of teaching students with disabilities. For example, Melanie stated, “If they know that their teacher cares or believes in them, then I feel like it will improve their learning,” and Chloe stated she learned “how to write a positive profile for students.” Other preservice teachers indicated a growth in content knowledge related to special education law. This includes Rosa, who said, “I understand that students need to receive individualized instruction as per their IEP/504 plans.” She also mentioned specific evidence-based practices such as “differentiated instruction with clear, concrete directions,” specific assessment tools like “person-centered planning using the STAR method,” and encouraging self-determination (e.g., “the [program director] reminded them that they have already been reminded to work on it and it’s now their choice”).

When analyzing preservice teachers’ thoughts throughout this semester-long experience, the researchers found that preservice teachers’ perceptions changed over time, as indicated by comments such as, “My perceptions changed because at the beginning of the semester, I didn’t understand what qualified an individual to have an intellectual disability,” and “Special education teachers should also observe their performance on the tests and observation to make their final decision.”

More to the focus of this project were comments such as Audrey, who stated, “I learned that no matter what, we should continue educating students regardless of their disability,” and Chloe, who said, “I think my perceptions about students with IDD have somewhat changed. I believe that the students are a lot more capable than I thought before starting this course.” Other comments supporting the need for rigor in their instruction came from preservice teachers such as Melanie, who stated, “If I give them the bare minimum to do, then they will not succeed because I would have been making things too easy for them.”

Domain 2: Getting to Know Students

The researchers also found that preservice teachers’ journal entries focused on getting to know the IPSE program students in various ways. Over the course of the semester, preservice teachers began to focus on getting to know the whole person by (a) becoming friends with program students and (b) learning about their individual needs.

Becoming Friends With IPSE Program Students

Preservice teachers’ demonstration of developing friendships with IPSE students included initial journal comments such as, “I had a fun time,” “I had a fun experience,” “I enjoyed interacting with both of them,” and “he is funny and sweet and has a strong work ethic.” Kayla stated in her post-course journal entry, “I think working in this program was a great way to see our peers and help support their learning and make some pretty great new friends.” The researchers noted that Kayla called the students in the IPSE program her “peers,” indicating the level of comradery that developed over time. Kayla was also impressed to see that “[IPSE student] is involved in so many different things offered at [university], such as athletic marketing and he is in a fraternity.” Chloe pointed out that the

experience “helped me get to know the students on a more personal level,” and Rosa claimed, “I was able to develop an ongoing friendship.”

Other preservice teachers admitted to common issues in developing friendships through comments such as, “I was a little nervous,” and surprised when program students seemed to like them. This was demonstrated in comments such as, “he seemed genuinely interested in our conversation.” Chloe pointed out that some in-class assignments helped her develop friendships with IPSE program students, “The Inventory Assessment [activity] helped me get to know the students on a personal level.” Other comments demonstrated growth over time, such as Chloe, who said, “I got to interview my new friend,” and “If I see [IPSE student] on campus, I will go hang out with him. He is one of my new friends... I hope I get to talk to him more.” Other preservice teachers invited IPSE program students to participate in outside activities with them. An example of this is Jayden, who wrote, “I invited two kids from [the IPSE program] to be on the [intramural football] team. We were out there for about two and a half hours practicing and playing in the real game.” In another example, Kayla wrote, “I decided to introduce him to my friend Brandon, who also loves video games and even designs his own video games. They seemed to get along very well. We all sat together during the [worship] service, and I asked him if he wanted to stay for the lip sync battle we would have after, but he kindly declined.” Mary also shared, “Another time, my boyfriend and I went to dinner with [two IPSE students]. They really enjoyed eating with new people.”

Learning About Individual Student Needs

In their journal entries, preservice teachers discussed getting to know the individual needs of IPSE program students. Examples of this included statements like the following from Chloe, “some students needed help getting vocal words to written words, while others just needed guidance,” and Rosa, who said, “he needed help knowing how to make notes and learning to study.” Other examples of this include Melanie, who remarked, “[IPSE student] is super nice and easy to talk to. He takes a little bit to open up but once he does he is a great friend to have.”

Examples of this are repeated throughout preservice teachers’ journal entries. Kayla demonstrated she started to learn more about the individual needs of the IPSE student when she stated, “he learned best if we wrote what he said on a notecard then he typed it in the PowerPoint.” Kayla’s final entries showed her shifting perspective when she discussed how, while working with a program student, he “was actually getting frustrated with me” and that she needed to “let [IPSE student] take over again, which he really appreciated.” She noted, “As a future SPED teacher, it is very important for me to allow and encourage my students to be as independent as possible.”

Within Jayden’s entries, he included that he “invited two kids from [program name] to be on the [university’s flag football] team” that he coached. The time he spent with them during flag football, as well as class sessions, led to a “better understanding of how these students learn” and that the program students benefited from “verbal prompting and guidance.”

Melanie shared that things were “a little awkward” when she first started working with the program students, “but then as we continued to have our conversation, we all got to know each other better and made some really good friendships.” By the end of the semester, Melanie shared that she had learned more about how to “better think about my possible students and what they are capable of,” “how to grade them on it,” and “really thinking about what they could be graded on.” Ultimately, she reflected that the program students she got to know “taught me that they can do things on their own and the only way for a student with IDD or any disability to grow is to try things on their own.”

Domain 3: Helping Students

The domain area of “helping students” was repeated consistently throughout the preservice teacher journal reflections. Three main subgroups fell under this category and included (a) a discussion of the program students needing help, (b) preservice teachers feeling helpful to an IPSE program student, and (c) the IPSE program student and the preservice teacher working together.

Preservice Teachers Felt They Were Helpful to an IPSE Program Student

Initially, precourse and early journal entries focused on feeling helpful to IPSE program students. For example, Chloe’s initial entries included helpful suggestions, “We told him about intramural football, and he was super excited to learn about how to create a team,” and Jaylen’s feelings of helpfulness including, “I love to work with students with disabilities but also because I want to be a coach and got to do that too.” Kayla also demonstrated feelings of helpfulness in her entry, “He seemed really excited about the assignment and having me and [IPSE student] there.” Kayla showed evidence of academic helpfulness in statements such as, “We asked him questions that we went over in class to help lead the conversation in the interview. I think the assignment was a good way to prepare for an actual interview and to look back on for reference of things he did well and some things he could work on.” Their journal comments about the ways preservice teachers felt helpful to the IPSE program students shifted to more specific entries as the semester went on. For example, Chloe mentioned she “helped him create a PowerPoint” and “helped him find the basketball schedule.” In later entries, she discussed how she “made it where [IPSE student] could coach us as well” when [IPSE student]’s fraternity brothers were coaching her flag football game and how she “helped him find the section that the answers were in, and I would read that section multiple times until he picked up on the answer.”

Rosa, too, demonstrated helping support program students in comments such as, “It was apparent that he was nervous. To help him relax about the experience, we started a simple conversation and also explained what we were going to ask him.” She goes on to write that she let him review the questions (pre-teaching) and assured him that if he needed to take a break, she would pause the session. Rosa evidenced feeling helpful when she explained, “I came up with a template similar to the Cornell method that worked well for him.”

Program Students Need Help

Preservice teachers also identified ways they recognized that IPSE program students needed help. For example, Rosa mentioned an event in which the program director had “a direct conversation about the way he was acting yesterday regarding some inappropriate discussions.” As mentioned earlier, Rosa stated that the program director asked her to “remind them to work on their approved topic.” Audrey recognized that a student “seemed to be struggling.” Other comments throughout the journal entries included, “[IPSE student] just needed a little help” and “[IPSE student] was confused on what was expected but would not ask for help until he was prompted multiple times.” Kayla noted that the IPSE program students “needed extra help and assistance, but they were able to do the assignments.” She worked with one student on “an end of semester PowerPoint, and he was able to come up with all the content on his own but I wrote his thoughts in complete sentences for him to type in the presentation.” Kayla shared how “We helped them come up with topics” for a presentation and that “We were there specifically for helping them with their schoolwork and guiding them,” and that they were available so program students could “get help if needed.” She also noted that when an IPSE program student attended a worship service, she was also a part of, she was “able to talk to him and help him succeed here however that looked in this social situation,” and she thought “he felt more

comfortable here having people to get to know and interact with.” Rosa also shared more specific mentions of students needing help through statements such as, “[IPSE student] had me help him with one of his assignments for his Careers class,” and “To help him overcome this, we specifically went to booths that had his interests like chips, Capri-Sun and pizza,” and “To help him relax about the experience, we started a simple conversation and also explained what we were going to ask him.”

Mary noted in her post-course journal entries that she “did recognize that students in [IPSE program] needed some help” but “also forgot that sometimes students in [IPSE program] want to be as independent as possible.” She said she “tried to help them,” but sometimes she helped too much. Similarly, Melanie noted that she “had to think about what type of things the students are capable of” and that “I need to be there for them.” Rosa also mentioned being aware that at times during a particular activity, an IPSE program student “became frustrated and almost shut down but he regained control and finished the interview beautifully.”

IPSE Program Students and Preservice Teachers Worked Together

Journal entries included discussion of IPSE program students and preservice teachers working together. Examples include statements such as, “Kayla and I would write what he said down so he could look at it to type. We also had access to his PowerPoint, so we could help with grammatical errors.” Chloe discussed assisting an IPSE student with a quiz, helping “him find the section that the answers were in, and I would read that section multiple times until he picked up on the answer.” On another quiz, Chloe stated she “helped [IPSE student] split his screen” so he could see the quiz and learning management system at the same time. She wrote, “I did the same thing where I would find the section that went with the question, and I would read it multiple times for him.” Later, she described writing positive student profiles: “This is a few sentences over positive character traits for the students. They send these to the students’ professors at the beginning of the semester so the professor knows more about them. We wrote one for [IPSE student] before we left the [IPSE program].” Kayla helped IPSE students with an assignment and stated she “helped them come up with topics for each slide and research the information to put on the slides.” On a less academic level, Rosa stated, “Audrey and I facilitated peer communication with [IPSE student] during the Homecoming Scavenger Hunt. We walked around campus while looking for things he needed. We also helped him communicate with peers and participate in making a TikTok video.” Rosa also reported, “We went over how to search for specific jobs on indeed.com. We also reviewed how to scan for specific information such as the job requirements.”

Domain 4: Social and Emotional Connections

Researchers identified a common thread throughout journal entries that focused on preservice teachers making social and emotional connections to IPSE students that increased as they gained experience with the IPSE program students. Journal entries that demonstrated this included statements indicating feeling (a) a sense of pride, (b) connection, and (c) a sense of being impressed.

Sense of Pride

Early entries from the preservice teachers did not include many mentions of feeling a sense of pride. Comments related to a sense of pride grew as preservice teachers engaged in more activities with the IPSE program students. In her post-course reflection, Chloe wrote about feeling a sense of pride through common social activities:

My student coached my flag football team, and I got to hangout with him at my sorority formal. I learned how involved he was on campus in his fraternity. This showed me the social capabilities that these students held. He is so valued and loved by his peers, and it really showed me how he was having a true college experience while he is at [university]. He is not letting his disability slow him down one bit...and I am so proud of him.

Audrey posted with regard to a sense of pride during the mock job interview activity that “[IPSE student] did such a great job. He maintained his eye contact and even asked questions at the end.” Other comments reiterated this, such as Kayla’s discussion of the mock job interview, “He did very well and met all expectations for an interview...He did a great job,” and Melanie posted, “[IPSE student] did a great job at answering all of the questions,” and “overall, he provided great answers...he finished the interview beautifully.” Overall, preservice teachers wrote comments such as, “From talking to him, I could tell that he really likes college life and is thriving here at [university]. I left feeling so much joy...Overall, it was a great experience” and “...getting to know [IPSE student] was one of the highlights of my semester.”

Sense of Connectedness

Many responses also demonstrated feeling a sense of connectedness. Examples included Chloe’s early understanding that “Students will learn best when they feel comfortable and appreciated.” During her second experience-based journal entry, Audrey recognized that her own feelings are similar to those of IPSE students, “I learned from [IPSE student] that many students feel anxious when they leave campus.” As she spent more time with IPSE students, Audrey then shared that “I had a fun experience hanging out with [program student],” and “I enjoyed interacting with both of them [program student and another preservice teacher].” In her post-course entry, Chloe noted, “It helped me know what students enjoyed, so I could make connections with them inside and outside of the classroom.” Regarding the mock job interviews, Chloe began her journal entries feeling “nervous going into the [mock job] interview, but X made it very comfortable,” and later stated, “I really enjoyed my time spent interviewing and talking with X.” By her final entry, Chloe wrote that the interviews, “helped me understand how passionate and hard the students were working towards their future goals.”

In early journal entries, Kayla wrote, “Going into this interview, I was a little nervous because I wanted to be respectful of him and treat him the way he deserved...When we met and started the interview, I felt instantly comfortable, and I really enjoyed talking to him.” As the semester progressed, Kayla shared that it was “fun talking to M because we talked about flag football and other activities.” Others also noted that their sense of connectedness transitioned to more social avenues than purely academic experiences. This was reflected in Chloe’s later journal entries, stating, “I think it helped to understand and get to know him [IPSE program student] better when I saw him outside of the classroom setting. It was the 100% real [program student].” Mary similarly noted in her post-course journal entry that “[IPSE program] students are very similar to people without IDD. They want to be independent and not have somebody there at every step helping them.”

Preservice Teachers Feel Impressed by IPSE Students

Other responses focused on feeling impressed by the work of IPSE program students. Examples of these included Audrey’s statement, “When we reached the [student building], [IPSE student] made a motioned video like a TikTok, and it came out amazing.” Later in her next entry, Audrey posted that “[another preservice teacher], and I agreed that we would hire him if it were a real interview...He did such an excellent job, and I am so proud of him.” Other similar posts included comments such as,

“He seems like such a free-going and spontaneous person, which is awesome,” and “To my surprise, the students at [IPSE program] didn’t need nearly as much support as I originally thought.” Chloe referenced the flag football games, stating that an IPSE student coached her game with his fraternity brothers, “He was the most encouraging coach ever.”

Domain 5: Preservice Teachers Needing Support

A fourth domain identified within journal entries focused on the need for support while working in the field with IPSE program students. The comments on this topic fell within two sub-areas: (a) feeling vulnerable and (b) having content knowledge gaps. The researchers further broke down the second sub-area, “content knowledge gaps,” into two recurring strands that included a need for support in the areas of (i) modeling and (ii) differentiating instruction.

Feeling Vulnerable

The researchers identified 14 comments related to preservice teachers’ need for support due to a feeling of vulnerability, including comments such as, “I didn’t know how to help him,” and, “I wish I could have offered him support, but I didn’t know how.” Other comments included, “I felt useless not doing anything,” and “we were not sure the best way for him to learn.” Another preservice teacher remarked, “I had to truly stretch my brain and try to find those areas that [IPSE students] would be able to achieve.”

Preservice Teacher Content Knowledge Gaps

The preservice teachers’ comments indicated a need for support centered on content knowledge and included comments related to modeling, such as, “Maybe next time, I need to slow down and speak more clearly.” Another preservice teacher explained, “[two IPSE program students] were showing me their presentation one day and I tried to help them correct the title slide. While I thought I was being helpful, [IPSE student] was actually getting frustrated with me. When I realized he was frustrated with me, I stopped and tried to let [him] take over again, which he really appreciated.” Other examples included, “I was very nervous that I had given too much work to them, I was wrong on this. [The program director] told me to make some areas different or to work things differently.”

Preservice teachers also commented on the need for support on ways to differentiate instruction. An example of this included, “I need to work on my communication skills...I tried but do not think he understood what I was asking. I had to repeat some of my [mock job interview] questions several times and he would look at my paper to understand what I was saying.” Another reported thinking that [IPSE student] was not applying himself when “I thought I was giving [him] perfect guidance. It turns out that I needed to change the terminology that I was using and it turns out the student was actually trying, I just had to do better on my part.”

Domain 6: Misconceptions

Preservice teachers expressed various encounters that (a) described misconceptions about students with disabilities or (b) highlighted a common misconception that was challenged. The data showed instances of preservice teachers’ initial and incorrect assumptions going unchallenged. Other misconceptions were challenged by the experience, but areas of misconception were still noted. For example, Chloe discussed her changing perceptions regarding the capabilities of individuals with IDD, then concluded with the statement, “Once I got to know the students, I knew exactly what they were

capable of.” This is a generalization and oversimplification of working with individuals with IDD, as each student possesses their own strengths, weaknesses, needs, and personality. Therefore, it is not possible to know “exactly what they were capable of.”

Misconceptions Regarding Students With Disabilities

Misunderstood topics also included errors in understanding disability categories, such as, “When I hear the term students with IDD, I think of...a problem with learning that prohibits their development.” Preservice teachers identified misunderstandings regarding the IPSE program, such as “[IPSE program students] live in dorms and attend Common Core classes.” They also demonstrated misconceptions regarding IPSE students, such as referring to IPSE students older than the participant as “kids” and misjudgments regarding working with students with disabilities in the future (e.g., “I plan on having my own classroom, so a majority of the learning will occur there”). Other expressed misconceptions included overgeneralization of general knowledge with statements like “no two students learn alike” and “I never see someone with a disability as different.”

Misconceptions That Were Challenged

Some preservice teachers indicated the “obliteration” of a misconception like “students with disabilities are often discarded as unable or unfit to attend college” and then stated that “working with [IPSE student] proves that wrong.” Another preservice teacher said, “I started to think that the [IPSE] students were not capable of doing [final project],” followed by, “After talking to [program director] I snapped out of it and got onto the right track with my brain and knowing that these students are capable of doing some slightly challenging work.” Rosa described how this experience changed her “own perceptions of students with disabilities that I felt applied to me as a mother.” She then shared that “one [misconception] in particular was [an IPSE student] not wanting to go home for Thanksgiving break because he wanted to spend some time with his friend’s family. He explained how his mom wasn’t keen on the idea, and I realized that I also would feel the same way if C, my son with ASD, decided to act on his newly found independence at college. [IPSE student] telling me that he’ll be fine and that he enjoys spending time with his friends really made me realize that parents need to take a step back when their child feels comfortable and confident because that’s the ultimate goal.”

Core Idea 1: Service Learning May Help Students to See the Whole Person

Domains for “helping students” and “getting to know students” revealed a theme around “seeing the whole person,” which can be summarized by Chloe’s closing comment for one journal entry, “I can tell he does not let his disability define him, and it is inspiring to me. I have learned so much about students with IDD through him, and he changed my views forever.” Preservice teachers explicitly named each of the course assignments associated with the service-learning project as helping them to “think differently about students with IDD,” frequently described as more “positive,” “trying” as opposed to “not applying” themselves.

Social and Emotional Domain

Feelings of pride, enjoying time spent getting to know IPSE students, and noting “inspirations” were connected to one-on-one interactions with IPSE students and observations of their capabilities. Preservice teacher descriptions indicated low initial expectations, which were then raised through the service-learning experience. Statements like “it helped me to understand” or “it helped me to get to

know them better” were connected to comments about “feeling comfortable” and indicated a developing idea of who students with IDD could be. Although data did not consistently reveal whether preservice teachers’ comments were rooted in objectification (e.g., seeing an individual as an object instead of a subject), devaluation (e.g., assumptions of poor performance), or the individualization of disability (e.g., disability as an individual problem, not a social one) as described in the definition of “inspiration porn” (Grue, 2016), data indicated that all were present in part. Several instances of both a focus on the person with IDD (e.g., “He seems like such a free-going and spontaneous person, which is awesome” from Audrey) and on the disability (e.g., “I learned from the STAR training that many students feel anxious when they leave campus, so having STAR meetings help to relieve stress” from Audrey) as the catalyst for these feelings. The goal of service-learning experiences would be for students to see beyond initial bias and connect emotionally to the people they meet (Buchanan et al., 2002). However, further study is necessary to define and support these emotional experiences. Experiences wherein a student can feel “instantly comfortable” and “really enjoyed talking to [students with disabilities]” (Kayla) can lead to richer learning.

Helping Students Domain

Preservice teachers’ ideas of interactions with IPSE students were often described as helpful or feeling helpful. Instances in which preservice teachers practically applied what they learned (e.g., creating rubrics with the program director) were connected to comments about helping and feelings of accomplishment. As an example of the change over time, Audrey’s reflections indicated an uneasy feeling when she did not know how to help but demonstrated more confidence as time passed. Preservice teachers also noted instances of “helping” an IPSE student. They realized that they (the preservice teacher) needed to back off (e.g., IPSE student became frustrated because they wanted more control than the preservice teacher was giving them). This was connected to changing perceptions of the IPSE students as preservice teachers realized that the goal was to support the individual, not to complete the assignment for them. Preservice teachers mentioned specific instances of helping that made them feel valuable and led to other engagement opportunities (e.g., attending a flag football game together and creating opportunities for the IPSE students to lead). Only one preservice teacher described a feeling of working with the IPSE student, but the instance was a significant note toward the justification of changing perceptions toward students with IDD.

As preservice teachers reflected on getting to know the IPSE students, their efforts to “help” became more tailored to individual interests, preferences, and social/emotional needs. Data indicate that preservice teachers shifted from efforts to seem helpful to building trust. Other comments indicated preservice teacher realizations that IPSE program students were capable of more with a small amount of support both academically (e.g., the IPSE student formed thoughts that addressed writing prompts but needed support in writing the response) and socially (e.g., gaining access to a student organization). One preservice teacher reported developing notetaking supports to help the IPSE students, similar to the Cornell method (Paulk & Owens, 2010), indicating a connection to typical teaching supports and their own support experiences with teaching and learning. Again, this points out that preservice teacher service-learning experiences helped them see the whole student as time passed, not just in the tutor/tutee roles.

Getting to Know the Student Domain

Preservice teacher reflections contained many mentions of opportunities to get to know IPSE students and brief descriptions of how that presented as relationships developed. Preservice teachers mentioned the development of “comfort” in opposition to “knowing” the IPSE students as time

progressed. Journal entries connected to their coursework on the diversity of students with IDD were confirmed and given the context of lived experiences. For example, Chloe's early mention that "I learned more about how diverse students with IDD are" developed into describing IPSE students as friends: "If I see M on campus, I will go hangout with him." Mentions of having fun with and hanging out with IPSE students increased in later journal entries. For example, Kayla stated, "I think working in this program was a great way to see our peers and help support their learning and make some pretty great new friends!" The number of connections to sharing personal interests (e.g., talking about sports or video games they enjoy) and use of the word *friend* ($n = 20$) and other descriptions of social/emotional experiences (e.g., *fun* or *funny*, $n = 11$) increased in journal reflections written in the latter part of the semester.

Core Idea 2: Preservice Teacher Development Through the Application of Training

Needing Support Domain

Early journal entries recorded more feelings of unease and participants' need for support than later entries (i.e., fewer mentions of words *frustrated*, *unsure*, *uncomfortable*, *awkward*, *nervous*), indicating that preservice teachers felt more at ease as they got to know the students in the IPSE program. Five preservice teachers specifically discussed needs in this area, emphasizing the prominence of their own emotional support needs. For example, Audrey mentioned feeling useless and wanting to connect but not wanting to come off "too strong." Several preservice teachers (Jayden, Kayla, Melanie) wrote that they thought an IPSE student was "doing well and [they were] giving [IPSE student] what they needed," but then found that they were confusing the IPSE students and needed to reframe an explanation. Through this experience, they reported feeling unprepared to teach, including discomfort and "overwhelmedness." The complex reactions of preservice teachers indicate the need for both content practice support and emotional support in early career teaching. Preservice teacher data also demonstrated feelings of benefit from shifting those negative feelings toward greater comfort and confidence as the service learning unfolded. Audrey summed up this shift in her comment, "I wish I could have offered him support, but I did not know how to help him. Next time I see him needing some help, I will try, even if it is not successful."

Helping Others Domain

Preservice teachers mentioned "helping" tasks or feeling "helpful" as some of the most impactful experiences. Tutoring, social skills, and extended exposure to IPSE student experiences were deemed important. Anecdotally, conversations with one preservice teacher indicated that they would be seeking employment within the IPSE program as a peer mentor. One noted item discussed instances of preservice teachers reflecting on collaboration with IPSE program participants. This was a consistent shift from previous reflections describing positive feelings resulting from the helper/helpee relationship toward solidarity with their fellow students.

Content Knowledge Domain

This domain focuses on the generalization of preservice teacher content knowledge accumulation to a new environment (i.e., the service-learning experience/IPSE program). Preservice teacher participants explicitly mentioned interview time with IPSE students and the repeated experience opportunities throughout the semester as helping them to develop a deeper understanding of the experiences of individuals with intellectual disabilities. Early journal entries included a great deal of

discussion about content knowledge in a theoretical sense, which can be attributed to the early phase of preservice teacher knowledge development. As the semester progressed, connections to content knowledge became more connected to the actual lived experience of applying that knowledge or acknowledging the preservice teacher's need to obtain more content knowledge to be successful when working with IPSE students.

Misconceptions Domain

Overall, preservice teacher experiences challenged some preconceived notions indicated in early journal entries; however, preservice teachers sometimes expressed opinions that narrowed the learning potential, work potential, or social potential of students with IDD. A few preservice teachers required unlearning from previous experiences about the capabilities of individuals who were taught in "self-contained" or segregated special education in K-12 as compared to students educated with the general population of K-12 students. The data did not capture whether those misconceptions were sufficiently challenged, but there were some indications of shifting perceptions, such as increased social/emotional comments (e.g., feeling impressed, friendship, were encouraging).

Discussion: The Story of the Data

Service Learning Adds Deeper Depths to Special Educator Training

Service-learning projects, particularly ones with repeated and structured opportunities to engage with individuals with intellectual disabilities, have the potential to increase the application of special education assessment coursework knowledge, increase practical applications of some intangible but critical soft skills of teaching and learning, and connect to individuals with intellectual disabilities as whole people. To meet the need for addressing teaching attitudes, addressing common teaching concerns, and building the capacity for early-career teacher self-efficacy (e.g., Forlin et al., 2009), service learning can help students to apply tangible aspects of their training while experiencing many of the intangible joys, anxieties, benefits, and challenges of teaching. The data tell us that all those described in this study (IPSE program participants and preservice teachers) needed help to access their learning, and the reciprocal nature of these experiences, as described in the literature (e.g., Buchanan et al., 2002), reveals the potential scope of the impact. Moreover, future instructional practices for teaching key self-determination skills involving social and emotional learning may be more effective; we posit it is unlikely that a teacher is prepared to foster social and emotional growth in others without personally benefiting from social and emotional engagement. Service learning is already considered a high-impact practice for teacher training (Kuh, 2008). Yet, the multi-faceted nature of teaching and learning for students with disabilities (which is likely to involve a continuous cycle of challenging assumptions about student support needs and biases associated with disability) may compound the impact of an already effective intervention.

Service-Learning Experiences Have Reach

Service learning may impact student learning beyond the experience and may spur future learning and experiences that students seek out on their own (e.g., continue to volunteer for or work as a peer mentor for the program). If the preservice teachers were to apply their experience to subsequent learning and future classroom practices (as the data suggest), common issues of overhelping (e.g., Radford et al., 2015), a lack of scaffolding in instruction (e.g., Malmgren & Causton-Theoharis, 2006), and lacking opportunities to practice self-determination skills (Wehmeyer et al., 1997) in the early

career of special educators may be avoided. The data illuminate how a key experience in service learning may serve as a catalyst for greater involvement in the experiences of individuals with IDD, increased risk-taking in the support of and relationship-building with individuals with IDD, and greater confidence in teaching practices. This study affirms that individuals in a mentoring or helping role can shift their attitudes toward students with IDD, seeing individuality, personality, and humanity first as variety-in-ability becomes normalized in their experience (Athamanah et al., 2020). Preservice teacher reflections indicated forming friendships, peer interactions, and plans for additional interactions as a result of more than curiosity or interest but respect. As we strive toward the goal of a more inclusive education system for students with all varieties of learning support needs, service-learning experiences to complement teacher training may extend beyond training moments to provide the tools necessary for the proactive career advocacy for inclusion in our schools (Forlin et al., 2009; Van Laarhoven et al., 2007).

The Dangers of Unchallenged Misconceptions

Although experiences like this are designed to dispel misconceptions, misconceptions can be fostered by these experiences when they go unnoticed in reflection and unchallenged by subsequent coursework or experiences. Such unchallenged notions can have sweeping effects as a preservice teacher comes to impact the lives of an ever-increasing number of young people. Revisiting the Pygmalion Effect (Merton, 1948), we can see how the power of an early reinforced misconception might shape the learning experiences of an early-career teacher such that an individual's need for intensive interventions to meet learning goals (Pennington & Courtade, 2015) might also mean a lack of educational opportunities and reduced avenues for success. Instead, we must find avenues for exposing and challenging misconceptions, as the journal reflection process allowed in this case. Service-learning experiences such as this may yield high expectations for students with IDD and thus lead to greater outcomes for the students in their future classrooms (e.g., Holwerda et al., 2014). In this way, higher education may teach to the spirit of the Endrew F. (2017) decision and establish strong experiential connections to the principle that we all deserve more than the minimum benefit possible from our education.

Limitations and Recommendations for Future Research

This analysis was limited in several ways that may impact the interpretation of the data. The data analysis changed from a mixed methods design, including CQR-M, to primarily a qualitative CQR-M method (Hill & Knox, 2021). The small sample size may be seen as a limitation in quantitative research; however, qualitative research seeks not to generalize but to reach data saturation. Although additional participants may have added to our understanding of the research questions, we believe that the current analysis reflects the same information that additional data would yield for these themes.

Limited pre/post alignment was described when relevant to individual domains. Some preservice teachers did not complete either the pre- or the post-journal entries with enough detail, rendering it difficult to align responses from all preservice teachers to complete a more robust pre/post analysis across all journal entries. Efforts to broaden the data pool for analysis are needed to add to and clarify the current results. Methodological changes should also be considered, but may not be necessary, as this analysis follows the standards for CQR-M methods with little variation.

This inquiry followed the Hill and Knox (2021) recommendation, with slight variations, that two auditors be used for researchers new to the CQR-M method. For example, the authors did not designate a single auditor but rotated the auditing role depending on who led the primary analysis of the section in question (e.g., following consensus of the domains, researcher 3 drafted the results for

two of the six domains and served as an auditor for the discussion, while researchers 1 and 2 drafted their own two domains, the discussion section, and served as an auditor for the drafted sections of others). Future inquiry should consider designating one author as the primary auditor for the whole project, as this would not only add to the consistency of the analysis across domains but invite a consistent voice for reporting (Hill & Knox, 2021).

Conclusions

We need classroom teachers who believe students with IDD can be high achievers (Holwerda et al., 2014). Interventions such as service learning that can connect preservice coursework to repeated opportunities to apply knowledge, challenge misconceptions, and build relationships could result in shifting perceptions around the lived experiences of individuals with IDD. Current literature (Ruppar et al., 2017) outlines pivotal skills (advocacy, systematic instruction, academic knowledge, teaching with individualization and adaptations, and relationship building with colleagues) and attitudes (higher expectations, positivity, creativity, flexibility, and growth orientation) for teachers of students with more extensive support needs, but these results suggest that the soft-skills (Clark, 2018) of teacher education (holding and advocating high expectations for students; individualizing instruction with positivity, creativity, and flexibility; and a reciprocal, relationship-based approach to professional growth) should be considered and can be fostered for all special educators in training. Although this CQR-M analysis of journal reflections only seeks to understand experiences and perceptions, this research demonstrates how perceptions can shift, misconceptions can be challenged, and preservice teacher engagement with the disability community can be increased. These outcomes resulted from extended service-learning projects connected to coursework that, unless implemented with sufficient preservice teacher support, could introduce risk. Additional research is needed to further define the circumstances of noted shifts, describe supports designed to avoid the reinforcement of misconceptions, and expand understanding through longitudinal examinations of the relationships formed in service-learning experiences.

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