

Accommodating Students with Exceptionalities in Secondary Agricultural Education: Experiences During Student Teaching

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Abstract

Contemporary trends in agricultural education demonstrate a need for secondary teachers to obtain more knowledge and skills regarding accommodating students with exceptionalities. As such, the purpose of this case study was to understand the experiences of student teachers (N = 4) at Louisiana State University as they developed inclusive educational environments and provided accommodations for students during their student teaching practicum. As a result of our analysis, participants' experiences were interpreted through Dunkin's and Biddle's model of teaching and learning that included three key variables: (1) presage, (2) context, and (3) process. Presage variables described the role of the student teachers' personal characteristics and professional experience in influencing how they accommodated students. The second theme, context variables, illustrated the various situational elements the student teachers perceived affected their ability to accommodate the learning of students with exceptionalities, such as communication with other school professionals as well as local school policies and practices. Finally, process variables, reflected the participants' specific activities and demonstrated their need for additional professional development and training. Moving forward, we recommend that teacher preparation programs enhance preservice teachers' awareness of the learning needs of students with exceptionalities through early field-based experiences that feature best practices concerning creating inclusive classroom environments and accommodating students before they begin student teaching.

Keywords: accommodations; disability; secondary agricultural education; student teaching

Introduction and Review of Literature

Empirical evidence has demonstrated that over 90% of early career teachers reported being ill-prepared to teach students with exceptionalities (Rosenzweig, 2009). Although a majority reported they had completed at least some coursework regarding special education, Aschenbrener et al. (2010) found that in agricultural education, early career teachers struggled with self-efficacy when accommodating the unique learning needs of their students. To complicate this issue further, educational trends suggest the number of students requiring accommodations could continue to increase over time. For example, data collected during the 2017-2018 academic year reported 14% of public school students in the U.S. had a documented disability – an increase of more than 2% over the previous five years (National Center for Education Statistics [NCES], 2019). Despite this, nearly one-fourth of teacher preparation programs do not require agricultural education majors to complete any academic credits focused on special education (Faulkner & Baggett, 2010). Such students include:

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...children with intellectual disabilities, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance (hereinafter referred to as emotional disturbance'), orthopedic impairments, autism, traumatic brain injury, other health impairments, specific learning disabilities, deaf-blindness or multiple disabilities; and who, by reason thereof, needs special education and related services. (Individuals with Disabilities Education Act [IDEA], 2004, p. 17)

Special education is a service used to create a tailored instructional plan for students in the least restrictive environment. Developing an Individualized Educational Plan (IEP) is often used to facilitate these services (IDEA, 2004). An IEP is defined as “a plan or program developed to ensure a child who has a disability identified under the law and is attending an elementary or secondary educational institution receives specialized instruction and related services” (University of Washington, 2020, para. 2). Accommodating students’ educational experiences with IEPs has been shown to increase attendance and learning outcomes while also reducing exclusion from the general education curriculum as well as increasing students’ ability to integrate into the school culture (Booth, 2005). Further, a key outcome of IEPs is the ability to develop and monitor students’ progress. Because each student is unique, so are their accommodations. Examples of accommodations include: (a) providing an increased font size for materials, (b) printed notes, (c) extended assignment time, (d) verbal presentation of assignments, (e) seating location changes in the classroom, or (f) reduced length of the assignment. However, it should be noted that accommodations evolve because the needs of students change throughout their academic careers (IDEA, 2004).

Although accommodations are designed for students with special needs, Downing and Peckham-Hardin (2007) reported 65% of secondary teachers perceived all students benefit from classrooms that include some general accommodations – a concept known as creating an inclusive learning environment. In particular, the secondary teachers perceived that through fostering inclusive learning environments, students (a) obtain a greater awareness of the needs of others, (b) learn to tolerate differences, (c) exhibit improved empathy and compassion for others, and (d) begin to celebrate individuality (Downing & Peckham-Hardin, 2007). Further, Smith and Rayfield (2019) reported that when instructional practices were adapted to teach experientially based on students’ learning preferences, a positive change occurred in regard to exceptional students’ growth in content knowledge. Despite this, previous research has demonstrated secondary agriculture education teachers often perceive they are not prepared to facilitate an inclusive classroom environment; consequently, they desire more access to professional development opportunities as well as curricular resources that can help them achieve such (DiBenedetto et al., 2018; Duncan et al., 2006; Hoerst & Whittington, 2009; Giffing et al., 2010; Pense et al., 2012; Stair et al., 2016). In particular, secondary agricultural education teachers reported they lacked the knowledge and skills required to write educational goals and objectives for IEPs, adequately accommodate students, and use assistive technology to facilitate learning for students with special needs (Hoerst & Whittington, 2009).

These deficiencies also illuminate critical areas of improvement for agricultural education teacher preparation programs (Breeding et al., 2018). For example, Dormody et al. (2006) found New Mexico agricultural education teachers, who completed more formal coursework in teaching students with exceptionalities, were more confident in navigating the challenges associated with facilitating the accommodations outlined in students’ IEPs. Additional education and training may benefit teachers, but Kessel (2005) reported only 1.8% of student teachers completed content focused on understanding the needs of students with exceptionalities. As a result of these inadequacies, early career teachers in agriculture education often lack the preparation to effectively deliver instruction for students with special needs (Aschenbrenner et al., 2010; Stair et al., 2016). To address this issue, additional programming and academic credit requirements are needed to assist preservice teachers in learning how to teach students with diverse learning needs, as well as specific professional development opportunities for early-career teachers (Dormody et al., 2006; Figland et al., 2019, 2020; Paulsen et al., 2016; Teixeira & Edwards, 2020; Touchstone, 2015). To this point, Morrish (2008) argued that student teaching might be one of the most

influential learning experiences by which agricultural education majors gain the self-efficacy, knowledge, and skills needed to become effective teachers. Therefore, a need exists for teacher preparation programs to provide experiences for student teachers to learn how to accommodate students with exceptionalities better (Aschenbrenner et al., 2010; Roberts et al., 2020; Stair et al., 2012). However, little is known about whether these experiences could catalyze student teachers' growth to help them overcome the challenges associated with teaching students with exceptionalities and facilitate student success for all learners in secondary agricultural education.

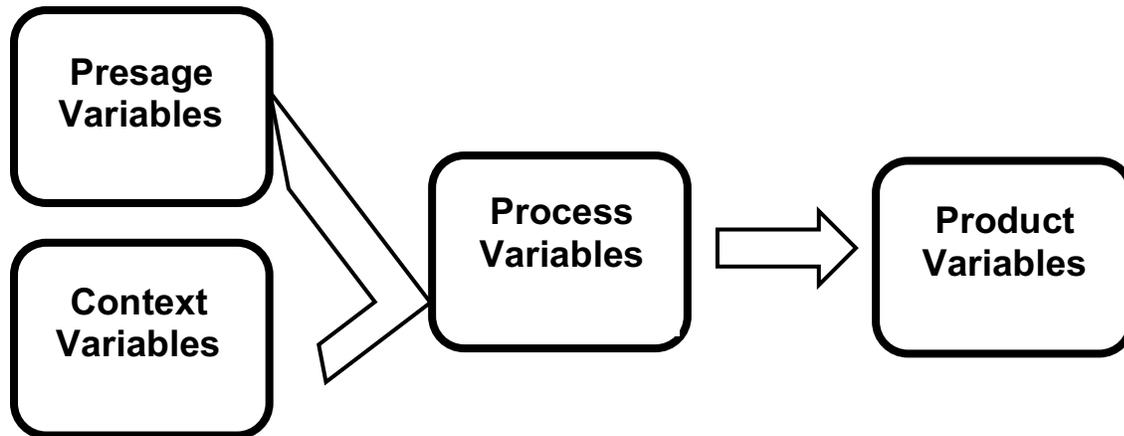
Emergent Conceptual Framework

Through our analysis of data, we chose to ground this study in Dunkin' and Biddle's (1974) model of teaching and learning (see Figure 1). Dunkin's and Biddle's (1974) model refined the work of Mitzel (1960) and consists of four variables: (1) presage, (2) context, (3) process, and (4) product. The first variable, presage, represents how personal characteristics and experiences as well as professional training influence how educators approach teaching, or in the current study's case, accommodate students with exceptionalities in secondary agricultural education.

Meanwhile, context variables reflect the unique circumstances that characterize the teaching and learning environment, such as specialized expectations of instructors and school policies. The third variable, process, refers to the specific teaching and learning methods educators use including classroom management practices, instructional methods, and student motivational strategies. Through the combination of the three variables, Dunkin and Biddle (1974) theorized the development of the final variable, product. Product variables represent how presage, context, and process variables combine to influence *student success*. In the current study, we used this lens to interpret how the factors – presage, context, and process – that most profoundly affect student success in agricultural education influenced student teachers in this study as they accommodated students with exceptionalities in secondary agricultural education.

Figure 1

Dunkin and Biddle's (1974) Model of Teaching and Learning



Statement of Purpose and Research Question

The purpose of this study was to examine the experiences of student teachers at Louisiana State University (LSU) as they overcame challenges to create inclusive educational environments and facilitated accommodations for students with exceptionalities in secondary agricultural education. Because this study focused on the student teachers' development, it addressed the American Association for Agriculture Education's (AAAE) National Research Priority Area 3: *Sufficient Scientific and Professional Workforce*

that Address the Challenges of the 21st Century (Stripling & Ricketts, 2016). One research question guided the investigation: What factors influenced the student teachers' experiences as they created inclusive educational environments and facilitated accommodations for students with exceptionalities in secondary agricultural education?

Reflexivity

To uphold the purpose of this study, it was essential to identify our biases to ensure transparency. Therefore, a brief background of the researchers was warranted to reveal the prior experiences and preconceptions that may have influenced this investigation. The lead researcher is a current graduate student in agricultural education at LSU. As a requirement of her undergraduate degree, she completed student teaching experience at a rural school in central Mississippi at a single teacher program. During her time student teaching, she worked with several students who required accommodations as well as students from diverse ethnic, socioeconomic, and cultural backgrounds. She also worked to create accommodations for a student who had a declining physical handicap. The other research team members previously taught secondary agriculture education in two different states and now serve as faculty in agricultural education at LSU. They have also accommodated students with exceptionalities in their respective states and worked with students from various backgrounds. Before offering insight into our methodological decisions, it is also important to note that because of the COVID-19 global pandemic, participants' student teaching experience was condensed due to school closures. However, the data collected for the current study occurred before the closure of the school systems in Louisiana during the spring 2020 academic semester.

Methodology

Koro-Ljungberg et al. (2009) argued the failure of investigators to align their epistemology, theoretical perspective, and methods result in the research being "random, uninformed, inconsistent, unjustified, and/or poorly reported" (p. 688). Therefore, it is important to acknowledge that we used a constructionism epistemology and an interpretivist theoretical perspective in positioning this study. Crotty (1998) explained some individuals hold the constructionism epistemological position and maintain meaning is socially constructed, and "different people may construct meaning in different ways, even in relation to the same phenomenon" (p. 9). Having interviewed multiple participants for this study, it is clear each one brought their perspectives and biases. Meanwhile, interpretivism, the theoretical perspective grounding this study, "deals directly with issues such as language, communication, interrelationships, and community" (Crotty, 1998, pp. 8-9).

Using these perspectives, we chose to methodologically ground this investigation in Stake's (1995) instrumental case study approach. Stake (1995) described a *case* as "a specific, a complex, functioning thing" (p. 4). To understand the experiences of student teachers in this investigation was to bring together multiple perspectives and explain the complexity of their lived experiences within the bounds of the case. The case was a classically bounded system between two elements – time and place (Stake, 1995). For example, the events described by the participants in this study occurred in the spring 2020 academic semester in Louisiana. Further, each participant was a student teacher ($N = 4$) at LSU and female. We recognize capturing males' views on this phenomenon is important; however, LSU had no male student teachers in the 2019-2020 academic year. As such, the lack of inclusion of the male perspective is a limitation of this study. After Internal Review Board (IRB) approval, data collection occurred through individual interviews with participants. The types of data used for this investigation included: (a) observations, (b) interviews, (c) students' weekly written reflections, and (d) other relevant documents (Emerson et al., 2011). Next, we introduce each participant, using pseudo-names, and provide context into their student teaching site.

The four women completed their student teaching throughout Louisiana in diverse SBAE programs. For example, Abby's student teaching site primarily focused on certifying students with special needs in

industry-based credentials (IBCs) to ensure they had the knowledge and skills needed to obtain employment after graduation. The second participant, Ashley, student taught at a program that used horticulture and carpentry to engage students with diverse learning needs. Meanwhile, Emily's capstone experience was at a rural school district with a high percentage of low socioeconomic students. The final participant, Rebecca, student taught at an active program that was successful in livestock evaluation and showing. The program regularly engaged students with exceptionalities in experiential learning through the use of a large animal science laboratory. Although participants completed their student teaching practicum at unique secondary agricultural education programs, they also shared similar experiences as they created inclusive learning spaces for their students.

Data Analysis

We engaged in first and second coding cycles, as advanced by Saldaña (2016), to analyze the data. Saldaña (2016) explained a code is "often a word or short phrase" (p. 4) that researchers use to assign meaning to data. In the current study, we employed the following first cycle coding techniques: (a) process, (b) emotion, and (c) in-vivo. In particular, process coding, helped capture the specific actions of participants to accommodate students with exceptionalities during student teaching (Saldaña, 2016). As a result of this process, the following codes emerged: (a) communication about accommodations, (b) learning to accommodate, and (c) revision to assignments and teaching. Thereafter, we used emotion coding to understand the student teachers' complexity of emotions as they accommodated students. Emotion coding allowed us to capture a deeper level of meaning, one that was conveyed through more than words through capturing participants' tone and meaning. The final first cycle coding approach used in this investigation was *in-vivo* coding, in which we used participants' words to generate new codes. Through the use of the three first cycle coding approaches, we created 363 unique codes.

Next, we engaged in second-cycle coding to reduce the data into categories and themes of meaning (Saldaña, 2016). In particular, we used two different second cycle coding approaches (1) pattern and (2) focused. Pattern coding was used to "pull together a lot of material from first cycle coding into more meaningful and parsimonious units of analysis" (Saldaña, 2016, p. 236). As such, pattern coding served to create *meta-codes* from our initial analysis and develop categories. Examples of pattern codes included: (a) communication, (b) prior experience, and (c) uncertainty. In this stage, we also noted several discrepant categories spoke to how the student teachers had to modify their communication to various students, voiced doubts, and desired more experiences regarding accommodating students' learning needs. Therefore, we began to explore a range of frameworks to help interpret findings. As a result, Dunkin's and Biddle's (1974) model of teaching and learning emerged as the most appropriate lens to ground our findings. Consequently, we used focused coding to condense the data based on thematic similarities (Saldaña, 2016). After a continuous reduction of the data, three themes emerged.

Building Quality into the Study

When conducting this investigation, we used Lincoln's and Guba's (1985) four standards to build quality into the study: (1) confirmability, (2) credibility, (3) dependability, and (4) transferability. Confirmability represents whether researchers have been transparent about how their experiences and other influences may affect the investigation's outcomes. We upheld confirmability by revealing our biases and were also transparent about our methods and procedures. The second standard, credibility, reflects how researchers should strive to derive findings that make sense in the context in which they originated. We achieved credibility through: (a) an in-depth examination of prior literature, (b) triangulated findings using multiple data sources, and (c) mobilized rival explanations. Meanwhile, dependability speaks to whether researchers conduct investigations in a consistent way. We upheld dependability by establishing and upholding a clear statement of purpose to guide the study and implemented quality checks throughout each phase. Transferability seeks to determine if the study's findings could be relevant to other contexts. To maintain transferability in this study, we provided a thorough description of participants, the bounds of

the case and addressed the study's limitations. We offer our interpretation of the findings of this investigation.

Findings

Through our analysis of the data, three themes emerged. When describing each theme, we used participants' words, written reflections, as well as our observations and field notes to provide a rich, thick description of the study's emergent findings. Next, we offer an interpretation of each theme through the lens of Dunkin's and Biddle's (1974) model of teaching and learning: (1) presage variables, (2) context variables, and (3) process variables.

Theme #1: Presage Variables

During interviews, participants spoke about how their diverse backgrounds and prior experiences, i.e., presage variables, shaped how they accommodated their students' learning needs in secondary agricultural education. In particular, participants revealed several personal factors influenced them in the classroom. For example, Rebecca and Emily shared that because agricultural education was not offered at their high school, they felt less confident about accommodating students' diverse learning needs in this context. Meanwhile, Abby's background in agriculture and experiences in 4-H and FFA appeared to foster a greater sense of self-efficacy as she accommodated students through various curricular topics and experiences.

When exploring the role of previous experiences, participants reported they had all completed coursework and early field experiences focused on accommodating students with exceptionalities. As a result of these experiences, the student teachers described how their views on working with these learners had changed over time; nevertheless, they remained fragmentary. For example, Emily revealed an observation experience at a secondary agricultural education program served as a poignant moment in which she felt conflicted about the boundaries associated with teaching students with special needs. She explained: "During my freshman year [of college]...I went to the bathroom and a [student with special needs] came out and wanted a hug, I did not know if you could do that, so I just walked away. I don't know, I just don't know enough about it to feel comfortable yet."

In contrast, Abby gained confidence during her sophomore year of college tutoring students with physical disabilities. She reflected: "I had three students, and two of them had physical disabilities..." During this experience, Abby worked directly with the students, which enhanced her confidence in communicating expectations as well as her self-efficacy to facilitate learning for students with exceptionalities. Meanwhile, Ashley reported she previously volunteered at a hippotherapy facility where she provided care and assistance for individuals with diverse needs. Through our observations of Ashley during student teaching, we noted how she incorporated attentiveness and care to students with exceptionalities – skills she attributed to her previous volunteer experiences. As a requirement of their degrees at LSU, the student teachers were required to complete a minimum of one course focused on working with exceptional learners in the College of Education. In their methods of teaching courses in agricultural education, they were also required to provide accommodations for diverse learners during micro-teaching assignments. As a result of these experiences, participants noted they often provided mock accommodations for students who were blind or deaf. However, the student teachers perceived the scenarios lacked authenticity and did not adequately prepare them for the field. Ashley expanded: "I felt like it was awkward...I was not getting the real experience..." The student teachers also expressed similar concerns regarding teaching students with diverse learning needs in the agricultural mechanics laboratory. For example, when probed about her level of comfort in this area, Emily explained she was not confident and accommodating student learning in this space was "...not something we really went over in college." The student teachers also reported unique *contextual influences* that influenced how they accommodated students.

Theme #2: Context Variables

The second theme, context variables, illustrated the various situational elements the student teachers perceived influenced their ability to accommodate the learning of students with exceptionalities. First, it is critical to acknowledge that a salient concept that emerged from our analysis was the role of communication in shaping the participants' experiences during student teaching. For example, all student teachers reported open and honest communication with their mentor teachers powerfully shaped how they approached accommodating students with exceptional learning needs. Further, they also reported communication with other local school representatives, including teachers, principals, paraprofessionals, and special education teachers, helped them gain a deeper understanding of ways to meet the needs of students.

As an illustration, Ashley indicated she worked closely with a paraprofessional who attended classes to record notes for several of her students. Further, she also made sure to communicate with other teachers at her student teaching site. She explained: "A lot of teachers tell each other what they did in that class to help the kid," which provided Ashley additional insight into ways to help students with exceptionalities to be successful academically. In accord, Rebecca shared that before making changes to students' accommodations, she also would "consult with other teachers" in her school to understand what worked best for the student in question. Abby also maintained she had similar experiences during student teaching in which she would compare students' success in various courses. She revealed: "I [was] interested in seeing what some of the other teachers who teach [students with exceptionalities] do because I think it's amazing how we can see their grades, some of them come into my class, and they have an A...but they go in another class, and they are failing it."

The role of school policies and practices, or the lack thereof, also influenced the student teachers' approach to accommodating students with exceptionalities. For example, three participants reported no requirements existed at their student teaching site regarding documenting and reporting the performance of students. Abby was the only student teacher required to adhere to students' behavioral plans and document their performance. During observations, Abby and Ashley, as well as their mentor teachers, expressed that a stricter enforcement of school policies would improve student success. Emily also revealed she was not provided with students' IEP's or 504 plans. She explained, "...my [cooperating] teacher just told me along the way, just pointing out [the students that needed accommodations]... we never even looked it up... I guess we should have." As a result, the lack of enforcement of policies concerning accommodating students in secondary agricultural education presented unique contextual challenges for participants at their student teaching sites.

Theme #3: Process Variables

The final theme, process variables, reflected the specific activities articulated by student teachers that they perceived influenced student success (Dunkin & Biddle, 1974). For example, Abby argued that to ensure students with exceptionalities could succeed in her class, she needed to approach lesson planning and delivery differently in the future. She explained, "I couldn't do the traditional classroom session... I had to figure something out...something different." Meanwhile, Ashley appeared to be moderately confident in her ability to facilitate students' accommodations during student teaching; however, she also perceived additional growth was needed. She revealed: "I [need] to think of more innovative ways when making the lessons like in class and shop even... I feel like that would come with experience and time." Similarly, Emily shared she feared that she did not have time to adequately accommodate students with special needs. She elaborated: "if [a student with a disability] just showed up [to my class], I would freak out for a little while, but I would find a way."

The student teachers also reported mixed approaches to accommodating students' needs. For example, Abby revealed that she relied on student feedback to guide her approach. She explained:

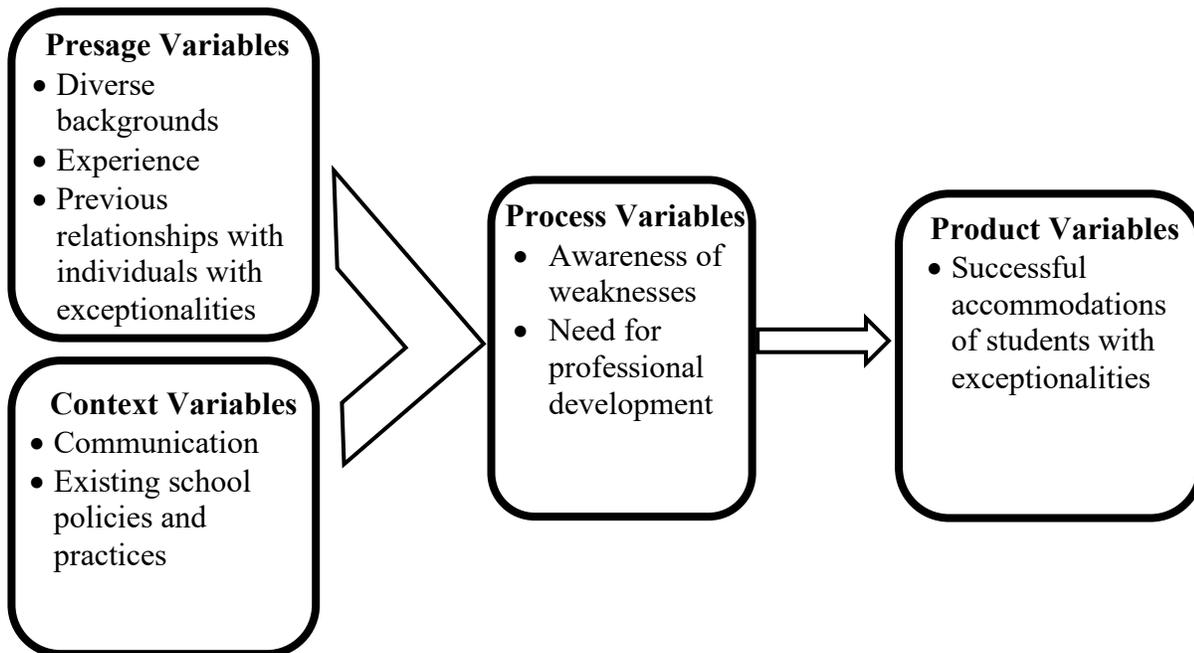
“...because they are in high school, they are practically adults... I ask them what they like and what they don't like... it makes looking for resources a lot easier.” The participants also reported they were largely not confident and needed more practice in regard to accommodating students' learning needs. Emily shared: “I won't be good at it [accommodating students] until I've done it a few times,” Ashley also echoed this sentiment: “the way [accommodations are] delivered or how I explain it, you can definitely tell something is not working... so I [need to] rethink it.” The student teachers also desired additional education and professional development to improve the ways in which they accommodated student learning. In particular, when probed on whether they felt competent to navigate the legal dimensions of teaching with students with exceptionalities, Rebecca responded: “I mean, I need to go to like a specific training just to know about different situations.” Meanwhile, Emily revealed that after her student teaching experience, she “definitely could have had more instruction on working with students with disabilities.”

Conclusions

The intent of the investigation was to examine the experiences of student teachers at LSU as they overcame challenges to create inclusive educational environments and facilitated accommodations for students with exceptionalities in secondary agricultural education. In particular, participants reported their experiences regarding accommodating students were influenced by presage, context, and process variables (Dunkin & Biddle, 1974). However, it should also be noted the dimensions of each theme were also *nuanced* and *diverse* (see Figure 2). A key finding from this investigation was that the student teachers' previous experiences influenced the ways in which they accommodated student learning. For example, participants reported they had several key interactions, both formal and non-formal, during their teacher preparation programs, which influenced their views on teaching students with diverse learning needs. Such a notion does not appear to have been explicitly explored in the literature on agricultural education.

Figure 2

A Visual Depiction of the Case's Findings



Note. Adapted from Dunkin and Biddle's (1974) model of teaching and learning.

In the second theme, context variables, participants articulated that situational factors at their student teaching sites such as communication with school officials and current school policies and practices, or the lack thereof, influenced how they accommodated students with exceptionalities. For example, the student teachers reported they relied on communication with a range of school officials to inform their decision-making – a finding supported by previous literature (Aschenbrener et al., 2010; Dormody, 2006). The majority of student teachers also revealed their student teaching site did not require educators to document and report the performance of students with exceptionalities. This practice appeared to deemphasize the need to accommodate students on an IEP and 504 plan in secondary agricultural education in Louisiana – an issue that does not appear to have been addressed in the broader literature. In the final theme, process variables, the student teachers reported the need for additional guidance and support to accommodate students' learning as secondary agricultural education teachers. As a result, we conclude the participants in this investigation demonstrated relatively low confidence concerning teaching students with diverse learning needs (Aschenbrener et al., 2010; Dormody, 2006). The student teachers also only articulated a marginal understanding of how to uphold existing legal requirements and policies to accommodate students' learning needs with exceptionalities (Faulkner & Baggett, 2010). Consequently, the participants acknowledged they needed additional professional development that featured ways to foster an inclusive educational environment for all students as well as additional mentorship in accommodating the learning needs of students with exceptionalities (Aschenbrener et al., 2010; Dormody, 2006; Faulkner & Baggett, 2010; Figland et al., 2019; Touchstone, 2015; Stair et al., 2012, 2016; Teixeira & Edwards, 2020).

Discussion, Implications, and Recommendations

In recent decades, accrediting bodies for teacher preparation programs have created standards aimed at improving the equity of students with exceptionalities (Council for the Accreditation of Educator Preparation [CAEP], 2019; Interstate New Teacher Assessment and Support Consortium [InTASC], 1992). Teacher educators have responded by revising existing curriculum resources, experiences, and programs to uphold current standards (Keen & Bustamante, 2017; McHatton et al., 2013; Robertson et al., 2017). Through these shifts, the goal has been to ensure that early career teachers enter the profession with a greater sense of self-efficacy in regard to teaching with students with special needs (Moreland, 2014). However, in the current investigation, we demonstrated that a deficiency endures at LSU concerning agricultural education teachers' preparation to foster inclusive classrooms and adequately accommodate students with exceptionalities. Consequently, the study's findings hold critical implications for future research, theory, and practice.

First, it is important to note that at LSU, faculty in the College of Education have historically taught special education coursework to agricultural education majors. Based on this investigation's findings, we recommend that teacher educators place greater emphasis on incorporating such concepts into existing courses in agricultural education. Such a change might provide students with greater insight into the contextual challenges student teachers in agricultural education might encounter as they accommodate student learning. And, although it may appear important to align coursework and early field experiences in ways that foster students' understanding of disabilities, findings demonstrated it is unclear how such practices influence their behaviors during student teaching, and perhaps, thereafter. As such, we recommend future research explore ways to examine program-level outcomes in agricultural education so a greater transfer of knowledge may be achieved regarding teaching students with exceptionalities. We also recommend teacher preparation programs engage in curriculum mapping and alignment efforts to ensure student teachers acquire the relevant experiences needed to accommodate their students' learning throughout their teacher preparation programs. More work should also be done to prepare cooperating teachers to mentor student teachers in issues concerning disabilities, diversity, and inclusion (Kessell et al., 2009). Perhaps it is not enough for students to take one or two courses in special education; instead, we recommend that related content and experiences be embedded throughout teacher preparation programs. We also encourage teacher educators to lead professional development sessions to highlight ways to support

student teachers and early career teachers as they grapple with such complexities (Teixeira & Edwards, 2020).

A dearth of knowledge exists regarding student teachers' experiences as they accommodate students with exceptionalities (Easterly & Myers, 2011). Consequently, teacher preparation programs in agricultural education have appeared to lack access to the empirical-based practices they can use to inform their coursework and related experiences, especially regarding how to mitigate negative beliefs about inclusive educational practices. This has appeared to have hindered progress in regard to accommodating students in agricultural education; or, as Hinders (1995) argued, "...[you] cannot expect teachers to be comfortable and skilled at addressing varying ability levels in the...classroom without experience and training" (p. 206). In response, we call for additional research that seeks to distill preservice and student teachers' underlying biases about individuals with physical and emotional exceptionalities as well as learning challenges. By more intimately understanding student teachers' preconceptions about these issues, teacher educators could alter their students' experiences in ways that elicit critical conversations aimed at encouraging shifts in perspectives and positively influence their self-efficacy to incorporate inclusive practices. On this point, Sokal and Sharma (2017) reported student teachers had higher self-efficacy to accommodate students with exceptionalities if they exhibited greater knowledge of legislation and had a friend or family member with a disability. Similarly, in this investigation, student teachers reported their previous experiences interacting with individuals with exceptionalities positively shaped their views on how to approach teaching individuals with similar challenges in the field. Therefore, we recommend that teacher educators design experiences for student teachers to interact and build relationships with exceptional individuals so they may become more empathic when teaching. Student teachers should also conduct observations in a variety of settings that use varied approaches to accommodate student learning (Touchstone, 2015).

These interactions could help them gain exposure to a range of disabilities and spur innovation as they begin teaching students with exceptionalities. To increase student teachers' exposure to diversity and inclusion, perhaps forums could also be created by which individuals with an exceptionality could be invited to share their lived experiences in education with preservice and student teachers. Hearing others' stories could catalyze powerful affective learning by which they begin to reflect critically and expand their worldviews (Minus et al., 2021; Roberts & Montgomery, 2017; Roberts et al., 2016). Therefore, we recommend that future research explore the role of reflection in helping student teachers process their experiences as they accommodate students with exceptionalities since a dearth of knowledge exists in this regard. A deeper knowledge of how preservice teachers make meaning of their experiences could help teacher educators better understand the supports needed before, during, and after student teaching to enhance their self-efficacy and competence.

Through additional opportunities for structured reflection, student teachers may also make more meaningful connections and begin to rethink their preconceived notions on accommodating students with exceptionalities. Moving forward, additional emphasis should also be placed on helping student teachers understand the implications that legislation and policies may have as they interact with students with exceptionalities in their classrooms (Hainline et al., 2019). As such, we recommend that teacher educators work with professionals from various educational and governmental sectors to create curricular resources focused on special education that is contextualized to secondary agricultural education. After resources are created, they could be diffused throughout the U.S. and embedded in the curriculum of teacher preparation programs. This change could improve the knowledge and self-efficacy of student teachers as they accommodate student learning across agricultural education's comprehensive, three-circle model. Finally, because Dunkin's and Biddle's (1974) model for teaching and learning helped emerge the study's findings, perhaps future research could focus on better understanding how such factors – presage, context, and process – influence the ways in which student teachers across the U.S. accommodate students with exceptionalities in agricultural education.

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